

Climate Change through Environmental Ethics and Buddhist Philosophy

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Abstract

This qualitative research aims: 1) to study climate change, 2) to study environmental ethics and Buddhist philosophy, 3) to integrate environmental ethics and Buddhist philosophy in solving climate change problems, to present guidelines and create new knowledge. Climate change is mainly caused by natural variation and human activities. In this research, there are three concepts of environmental ethics, namely, Anthropocentric views, Eco-centric views and Buddhist philosophy. The anthropocentric view allows humans to possess and manage unlimited natural resources. It is a major cause of the problem of climate change, and solving the problem is accomplished by using technology, laws and ethics at the national and international level. However, the problems have still not been resolved. The eco-centric view sees humans and all natural beings as being tied together in a web of life. Solving problems starts with ecological consciousness, where deep ecology and land ethics are proposed. Buddhist philosophy sees the problems that arise from humans' lack of intelligence as causing defilements, and solves problems by living the Middle Path or the Noble Eightfold Path, which advocates modesty in consumption in order to supply the four basic human needs, etc. As for an integrated approach, it brings distinctive features of each of these ideas. It combines the application of technology, of law and of international ethics of the anthropocentric view, the eco-centric view that all things have their intrinsic value, and the practice of intelligence and meditation using Buddhist philosophy to achieve cooperative benefits in order to reduce emissions of greenhouse gases into the atmosphere.

Keywords: Climate Change, Environmental Ethics, Buddhist Philosophy

Background and the Significance of the Problem

Humans in modern times are facing many environmental problems, and the problems are becoming more severe. Among these is the problem of climate change, which has global impacts such as drought, which causes a lack of water for agriculture, and a decrease in the abundance from the sea due to the rising of temperatures every year. The problem is mainly caused by human actions, as Gore (2007: 15) observed - the causes of climate change are human activities. Global warming is not caused by natural power beyond control. No meteorite has hit the Earth nor has the Earth moved closer to the sun. Human beings are the main cause of the problem. Since the beginning of the industrial revolution in the United Kingdom in the 17th century, coal, and later petroleum, have been used as fuels for the advances in science and technology that have made industrial plants emit larger and larger amounts of carbon dioxide. In addition, automotive technology for transportation and logistics releases large amounts of carbon dioxide. Human activities such as burning oil and coal, using cooking fuel, electric power consumption, deforestation and some types of agriculture, have resulted in an increase of concentrations of greenhouse gases in the atmosphere. These greenhouse gasses have the ability to absorb infrared radiation, which

maintains the heat level in the Earth's atmosphere, but since the amount of these gases is higher than the suitable level for life on Earth, it results in the rising of global temperatures at an unusual level, causing climate change. Andrew (2012: 118) said that human activities have caused a rapid increase in greenhouse gas emissions since 1960, which has had an impact on the temperature change over the past three decades. The emission of greenhouse gases played an important role in global warming in the late 20th century. This is due to the attitudes and behaviors of human beings who lack moral responsibility for the environment, both at the individual and group levels, thus making the problem more and more severe unless a solution is found.

Most people see the problem of climate change as a scientific problem concerned with utilizing available resources without realizing the consequences that will befall mankind, so they think that it's up to scientists and engineers to find a solution to the problem. However, this notion is opposed to the thinking of Gore (2007), who stated, "...Global warming is not limited to only science or political issues but also ethical issues". To consider this problem, the researcher uses the concept of Environmental ethics to analyze three climate change issues:

1. The Anthropocentric view: According to this concept, humans view themselves as independent from nature. They dominate nature as the conquerors of nature. As Gustafson (1993: 16) observed, Science and technology are tools for exercising human rights to control nature and take advantage of nature for the goals and objectives of fulfilling the insatiable demand, enjoyment and comfort of human beings. Therefore, it can be said that this concept sees nature as worthless if it is not used to serve human beings. Indeed, most national development is based on this concept.

2. The Eco-centric view: According to this concept, all things have their own value. All are interdependent and bound together in holistic relationships. All things in nature are holy. Every life has a soul. All things have intrinsic value. Humans live with nature on the basis of respect and humility. Humans do not separate themselves from things and other people. A human's identity is bound to and indistinguishable from nature, as found in the life philosophy of the Native Americans, who hold that "in the circle of life, no life is higher or lower. We are siblings. Life is to share with the birds, bears, insects, vegetation, mountains, clouds, stars, sun" (Session, 1995: 158).

3. Buddhist Philosophy: This concept focuses on seeing the world as it is. Humans are related to the environment. Viewing life holistically, all things in nature are interdependent. Phenomena in both the physical and non-physical world proceed according to natural law or the five aspects of natural law, where everything supports the existence of each other, called "cooperatives". The Middle Path, or the Noble Eightfold Path, is the principle of the Four Noble Truths in thinking, living and depending on each other according to the rules of Dependent Origination. These ethical principles teach humans to obtain sufficiency in our requisites, to find contentment, to exercise loving-kindness, and to see the value of nature and preserve nature, which leads to sustainable development of life and nature and living happily with nature, as can be seen in the lives of forest monks or in forest monasteries in Thailand.

Therefore, the researcher wishes to study climate change and environmental ethics while including Buddhist philosophy as to how these concepts can be integrated in solving climate change problems and presenting guidelines and creating new knowledge. This research is of benefit as an alternative way to view natural disasters due to climate change. This research may make these concepts more widely known and can benefit the world in supporting the solving of climate change problems and integrating knowledge as a basis for sustainable development.

Literature Review

The ethics of climate change is not all about the horrors. It has more to do with the fact that science alone cannot help us with the answers we need (Garvey, 2008). This book is a start toward these sort of thinking. It is not exhaustive or comprehensive, not the last word but a few first words. It is an introduction, in plain language, to the ethics of climate change, to where the moral weight falls on our changing planet and how that weight on our societies and our lives has to change, and the role of values in the changes ahead. Strona and Bradshaw (2018) described how climate change risks causing an 'extinction domino effect'. This research reveals that the extinction of plant and animal species from extreme environmental change increases the risk of an 'extinction domino effect' that could annihilate all life on Earth. This would be the worst-case scenario of what scientists call 'co-extinctions', where an organism dies out because it depends on another doomed species.

Similarity et al. (2018) mentions that up to half of plant and animal species in the world's most naturally rich areas, such as the Amazon and the Galapagos, could face local extinction by the turn of the century due to climate change if carbon emissions continue to rise unchecked. Even if the Paris Climate Agreement's 2°C target is met, these places could lose 25 percent of their species. Hotter days, longer periods of drought, and more intense storms are becoming the new normal, and species around the world are already feeling the effects. Thus, Suwan (2018) stated that ecological consciousness is deleterious to nature when humans are considered superior over nature, as anthropocentrism refers to the concept in which humans are held to be most important, regarding nature as a slave, existing only to serve human beings and their needs. Conscience with nature is a conscience that realizes the value of life, and self-realization is a holistic paradigm perceived as self-reliance with nature, where one aims to conserve more than to take a lot from the environment. This research reflects on the natural and environmental crisis taking place in the Mekong River Basin, as it's affected by the realization and action of human beings seeking to benefit from nature and the environment. This article attempts to change the paradigm of human consciousness. To stop the invasion on nature beyond the necessity, and turn to the care of nature and the environment in order to live together in a sustainable way. So, the concept of eco-centricism means giving most importance to the whole of the universe, which is a complex web of relations in which each individual human being is interlinked with others, with animals, and with the ecosphere.

In Buddhism, there are principles supporting the ecological system in both the biological and physical systems. Man is not the center of all things, so other things have the right not to be destroyed by humans. Human beings should maintain, restore, conserve and be ecologically friendly. Thus, Buddhism offers the principles supporting the ecological system. There are seven principles on this matter: (1) mutual livelihood, (2) practical actions, (3) conservation, (4) reconstruction, (5) moral development, (6) mutual dependence, and (7) Dhamma conditions in the ecological system. As the Buddha said, "Monks, you shall lay down in the forest, but you shall not cut off the tree". The tree is one of the elements in the ecosystem. (Bumrungsak and Kumpeerapanyo, 2018). In solving climate change problems, Tansuwansopon (2017) stated that many kinds of methods for trying to solve global warming given by social sciences, science, ethics, religions and other alternatives are still full of defects because of their lopsided aspects. Since the problem of global warming has been chiefly caused by human activities, then the solution also lies in this manner; human behavior of over-consuming various kinds of food should be limited. By virtue of this, the over-consumption of energy will be considerably reduced and thereby lead to non-damage to all nature, this can be done through the principle of Ahimsa and non-possession in Jain philosophy.

The present research work, therefore, intends to see, analyze, examine and investigate climate change, environmental ethics concerned with the concept of anthropocentric views and eco-centric views, and Buddhist philosophy concerning man's responsibility to climate change.

Research Methodology

This research was applied using qualitative methods for compiling the analyses of documents and interviews gathered from Buddhist scholars and specialists of environmental ethics to create new approaches and knowledge, as follows:

Data used in the research: This research will collect information from Tipitaka texts and their translations, as well as secondary sources of commentaries, sub-commentaries, textbooks, research works, environmental journals, internet sources such as websites, audio, and E-books which relate to the contents.

In-depth interview: Interview Buddhist scholars consisting of 5 persons, and specialists of environmental ethics consisting of 5 persons, in order to gain contemporary viewpoints. The criteria for selecting these key contributors are as follows: 1) Being an expert in the branch/field according to the researcher's determination, and 2) At least 15 years of experience and expertise in that field.

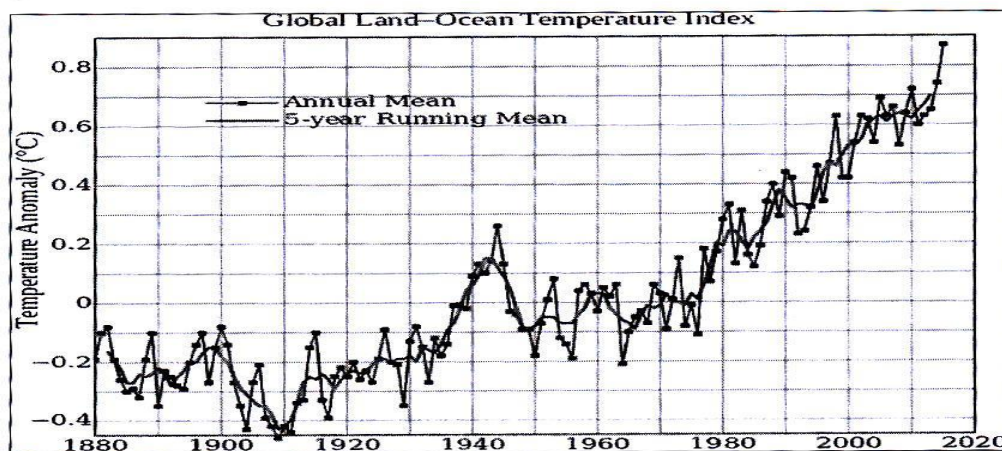
Data analysis: Put the data from documents and the data from the field study into analysis, synthesize the contents in order to see the facts within and be able to answer the questions in accordance with the objectives. After that, the results of analysis are reported in accordance with the structure of the contents and summarization.

Research Results

Climate change is the result of human activities that change the composition of the Earth's atmosphere, directly or indirectly, and is further enhanced by the variability of natural weather conditions, including temperature, humidity, rainfall and seasons. Scientists believe that the burning of fossil fuels during industrial development over the past 200 years is a major cause of the increase in GHG (greenhouse gas) concentrations in the atmosphere, causing global warming. The increase in temperatures may cause some areas to become desert, some to lack adequate food and drinking water, some to have heavy flooding problems due to severe rainfall, and the melting of polar ice and glaciers, causing sea levels to rise. Coastal areas that are directly affected may permanently disappear. As Hoanh (2015) observed, responding to climate change and the increase of the greenhouse gases will lead to negative effects for the entire ecosystem, both directly (the increase of carbon dioxide gas) and indirectly, (affecting the temperature, rainfall, and ecological systems in various fields). The actual response depends on the sensitivity of the ecosystem in each system and the relationship of changes in controlled factors.

Therefore, the problem of climate change is a major problem where humanity must cooperate in order to prevent and enhance its ability to handle changes that will occur as the world's average temperature increases each year. This should not exceed 2 degrees Celsius because that will be a critical point, according to Fulton (2001), who said that climate change is probably the greatest threat to global ecosystems that humanity has ever faced. In this current year of 2019, it is at 0.87 according to the graph shown below:

Table 1 NASA's Global Land-Ocean Temperature Index graph provides a clear view of the steep rise in global temperatures since 1880 and particularly over the past three decades. The graph is a line plot of the index, 1880 to the present, with the base period being 1951-1980



Source: NASA Goddard Institute for Space Studies (2019)

Regarding change in the average weather in one area, average weather characteristics include all aspects related to air, such as temperature, rain and wind. While climate change may be due to natural changes or human activities, global warming is largely caused by human activity. Dessler and Parson, (2007) said: In the 1950s and early 1960s, it was quite clear that actions of humans that emit carbon dioxide in the atmosphere quickly and significantly to the atmosphere were more than the emissions of the previous 1,000 years. Humans began to use natural resources greatly, such as energy from fossils (oil and natural gas) since the industrial revolution in the 1800s. The global warming was due to the amount of greenhouse gases in the atmosphere causing more severe greenhouse effects than it should naturally, which results in higher surface temperature called global warming.

Important greenhouse gases from the result of human activities include carbon dioxide, methane, nitrous oxide, etc. These gases, especially carbon dioxide, are released from the industrial processes of burning coal, natural gas and oil for electricity production in power plants (Vinod Kumar, 2000), from vehicles, from raising livestock for consumption, and from constant heavy deforestation. As Andrew, (2012: 122) explained: It is the most obvious thing that the amount of greenhouse gases released by our society is determined by the number of products and services that are consumed because everything we eat and use every day, whether cars, mobile phones, computers, etc., need energy from fossil fuels in the production process. Therefore, the amount of consumption of people in the society determines the release of greenhouse gases. The main factor is the population, the wealth of the population and technology.

The energy that comes to the earth from the sun, plus the average energy caused by greenhouse gas emission to the atmosphere from various activities of human beings, is greater than the energy released back into space by Earth. With this imbalance, the world is heated up by an average of about half a degree in order to balance the released energy with the incoming energy. If we stopped releasing greenhouse gases today, we would continue to live with the average heat that has been increased by half a degree over the next several decades. Climate change is a time-consuming change, as Ji-Sun Kim (2013) explained, the heat generated by the release of greenhouse gases today will appear clearly in the second half of the 21st century. The reduction of greenhouse gas emissions today will not be fully reflected in these decades but will affect people in the next generation.

The impact of global climate change due to global warming is something that cannot be avoided, for it includes such things as the El Niño phenomena, tsunamis, polar ice melting, more frequent and more violent storms and health problems, all affecting the survival of living things. There are many ways to solve the problem. Some focus on technology development, especially the development of energy sources. Others focus on international cooperation. The Kyoto Protocol is the only international climate convention that aims to stop climate change using a mechanism that allows the global community to help towards reducing the amount of greenhouse gas emissions as much as possible and also tries to invite the governments of developed countries to certify this protocol using environmental legislation or environmental standards.

However, because research on climate change is a part of environmental ethics that is deeper than environmental science or environmental law, therefore the environment or natural world turns out depends on the concept of human belief. In considering climate change the researcher will examine the problem using the conceptual framework of three theories.

Anthropocentric View

The anthropocentric view bears an aggressive attitude towards nature. It believes that since humans are rational and are able to think, this differentiates them from other animals, so humans can conquer nature and therefore use the resources in this world without any fear. This is very different from the view of people in prehistoric times, which was more spiritual and more respectful of nature concerning the consumption of resources. According to the initial attempts to explain the world in Greek philosophy, and the emergence of Christianity which believes in a monotheistic God, mankind can dominate what God created, as stated in Psalm 115:16: "The heavens belong to the Lord, but he has given the earth to all mankind."

Therefore, human beings who follow these religions are more aggressive towards nature than those who follow other religions that do not have a God or gods (polytheism), because the belief of the creation of the world and creation of things provides comfort to humans. God created resources to make human life comfortable. The attitude of the religions in this group is clearly anthropocentric. Man was created in the image of God, but other things were not created in the image of God. God has given many qualities to humans, as stated in the Bible (Genesis, 1: 26, 28), Then God said, "Let us make man in our image, after our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the earth, and over every creeping thing that creeps upon the earth". This has been understood not only by Jews but also Christians and Muslims as man's charter, granting him the right to subdue the earth and all the creatures inhabiting it: "So God created man in his own image, in the Divine image, he created him; male and female he created them." And God, according to Genesis, also issued a mandate to mankind: Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth. And God said, Behold, I have given you every plant yielding seed which is upon the face of all the earth, and every tree with seed in its fruit; you shall have them for food (Gen.1:28-29). So Genesis tells men not only what they can do, but what they should do - multiply and fill the earth and subdue it. These verses (Gen. 1:26-29) provide the essential clues to the way in which the relationship between man and nature developed in the Western world-view. In making a distinction between God, man and nature, the natural world has been accepted to be the condemned world. In this concept, man will conquer the natural world after the fall from the Garden of Eden.

In the other creation myth (Genesis chapter 2) man is created first and then the Garden of Eden with all the plants and animals and then finally woman. But in this myth, too, the animals are created for the benefit of humanity and it is Adam who gives them their names.

Then God nearly destroys the world in a great flood, but in a new contract with Noah and his family as the only human survivors, God once again, this time in even starker terms, gives them and their descendants dominion over the world; "Every moving thing that lives shall be food for you; and as I gave you the green plants, I give you everything... The fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea; into your hand are they delivered." Therefore, in the concept of praising the supernatural in this Judeo-Christian tradition, White (2016) said that, the originated fundamental causes of the ecological crisis are the result of biblical interpretations. Christianity from Judaism. Slow integration of power and love of God created the bright and dark side. In having given names to animals and ruled them, God has defined everything for the benefit of mankind. A wonderful look consisting of the world, trees, animals, birds, fish, and finally, God created a man named Adam, and in order not to be alone God created another, a woman named Eve. On this subject, Hoffman and Sandelands (2016) noted that this study offers a reading that avoids both literalism and sociological reductionism through a study of the Bible's intricate patterns of imagery. It will appeal to thoughtful people dissatisfied with the religious status quo and looking for a new intellectual starting point.

It has been said that the entire universe was created for human beings, like Aquinas (2003): "The less perfect things exist to serve more complete things. And when the order of perfection is complete, humans are classified as living creatures with the highest status, so nature, being less complete, therefore exists to serve mankind, which is more complete." This concept is deeply rooted in Western culture and has a great influence on various ideologies and philosophies in which the role of humans is to overcome and control the natural environment. This concept is also a cause for the quest for scientific knowledge, technology, and industry which developed in Europe in later periods. However, Hoffman and Sandelands (2016) argued that this article explores tensions underling these two views and finds that neither adequately reconciles us to nature. This article offers an alternative, theocentric view of our relationship to nature, founded upon Catholic Christianity, that reconciles in God our value for resources and nature and establishes a divine order of man and nature apart from human egoism and intentions. This article concludes with a discussion of the implications of this theocentric view for environmental policy and practice.

The science concept results in a very aggressive nature. Because of the fact that humans began to explore nature through occupation, it has had a wide impact on natural behavior. The scientific awakening has resulted in humans inventing various technologies to make it more comfortable than before. Humans can produce more products twice as fast, and this production has had a tremendous impact on the environment. This increase in human production can consume a lot of resources, as Ferkiss (1993: 47) said, "Nature cannot be ordered. Except by being obeyed".

Therefore, this attitude leads to the following things: 1) human beings are rational animals and able to reach the attainment of a supernatural end, which is largely conceived in terms of individual salvation and is not contingent on or even responsible for the welfare of future generations, 2) the industrial revolution in Europe, 3) a capitalist economic system seeking benefits from animals, plants and other natural resources, 4) humans force nature to adapt in various ways to meet their needs. 5) The entire universe is created for humans. 6) Human beings try to overcome and merge. 7) The natural environment is viewed as less than human. Nature exists to serve humans. Humans have the right to adapt, to control, and take full advantage of the natural benefits for their comfort. As a result, environmental problems have intensified in this century.

Eco-centric View

The concept of eco-centricism originated in the 18th century from seeing human error in the environment because of the belief that humans tried to occupy and encroach on nature until it affected the environment, or climate change, as is currently the case. The main characteristic of this concept is that it holds ecology to be central and is therefore expressed as nature being holy life. Every being has its own spirit and this is all its value. Humans therefore live with nature on the basis of respect and humility, and humans do not separate themselves from others or from nature. Human identity is bound to all things in the dimension of samsara. And reincarnation after death occurs, so the purpose of life is to integrate with nature, God, spirit or universe, which refers to the manifestation that his identity is bound to be indistinguishable from nature. Likewise, having direct experience with nature, or living with consciousness, is a way of remembering this unity while being physically united with the mind.

This ecological concept therefore has as its purpose - humans living with simplicity, in harmony with the environment and refusing to use various technologies to deal with the environment. As Naess (1993) said, the basic concept of environmental ethics in this deep ecological theory is the important concept that human and living environments all have their own values or intrinsic value. Humans cannot measure the value of the environment in this way. Things are evaluated with business or in economic values. No being, whether an animal or tree, should be destroyed because of the narrow interests of humans. The basic idea for humans is to provide ethical values to the environment. In this deep ecology, there are five important philosophies according to Naess (1993: 69):

1. Nature or the environment is valuable in itself, and nature or the environment does not exist as a tool for other purposes or for the benefit of anyone.
2. The law of ecology, or the law of nature, is a form of morality and ethics for human beings. The thoughts, feelings, and actions of all men will focus on the nature of things, such as - Do any actions have a negative impact on the environment? If it causes harm to humans, it cannot be done.
3. Environment, nature, plants and wildlife have the right to live without being disturbed, without being affected or destroyed by human skill. This type of rights is called biological rights.
4. Humans should not adhere to modern large-scale technology, and at the same time, should reject all forms of power system and centralization.
5. Cults or ideas that promote popular objects are extremely undesirable. Economic prosperity must meet the basic needs of the poor people.

In the essence of nature and the relationship of things, there are many niches in which Naess (1984: 84-85) proposes principles of manifestation in himself. Self-realization levels that all human beings have the potential to develop, to call this ecological characteristic Ecosophy and the principles of manifestation in one's self. There are three stages of developmental levels:

1. Ego-realization is a state of general awareness of humans. It is a state of self-existence separated from all things. This is often referred to as ego.
2. self-realization (with a small "s"): This kind of manifestation began to develop for our attention, or is the view that other things are the same as ourselves, called identification. When this manifestation occurs, identity or ego will gradually transform into consciousness in the unity of all things. If the term self-realization is applied, it should be kept in mind that "I", "me" and "self" have shifting connotations.
3. Self-realization (with a capital "S"): This is an extension of the manifestation of identity from the middle level, self-realization (with a small "s"), which differs from the self-expansion, or ego, at the family level, social level or national level that still exists, but this manifestation is intuitively aware that the true self (self) is the same thing as all things,

whether it be friends, humans, plants, animals, the environment, the world, or the entire universe. Such manifestations are also called the ecological self, which is a manifestation of relative identity, which is what is called the identity. Indeed, this is a result of various factors that are deeply interrelated, complex and delicate, both between ourselves and fellow human beings and other living things, including climate, places and other things in the universe. For access to this great identity, human beings must develop themselves, as must society as a whole.

The manifestation of these three levels of self-identity, social identity and the self, which is the same thing, makes humans behave differently toward the natural environment. However, Naess (1993) admits that religion can cause this manifestation to a third degree. He said that deep ecology is an important element of religion.

Buddhist Philosophy

The concept of a Buddhist philosophical view of nature, as a whole, is the truth of nature. There are four conditions: earth element, water element, fire element and wind element. The components of these elements are assembled into various kinds of things, and Dhamma thus denotes the law of nature. Man's body falls under the rule of decay. The law of impermanence enunciated by the Buddha is equally applicable to the human body. As living in nature, Buddhist philosophy views unity in nature. Such similarity has been explained as three common characteristics, as the Buddha states, "All component things are impermanent, all component things are suffering, and all Dhammas are non-self." (Anatta). (A.IV. 100.) A condition appears only temporarily because even the four elements are always moving, and may change from one place to another. Sometimes it may be the soil composition of the water of the plant, which occurs and persists and decays. However, the distinction between the self and the sense of self, which Albahari (2006: 17) explained, states that self enables us to articulate and explore a possibility that will be of central importance to Buddhism and this project in general.

In this law of nature according to Buddhism, changeability is one of the perennial principles of nature. Everything changes in nature and nothing remains static. Everything formed is in a constant process of change (S.IV. 52). The world is therefore defined as that which disintegrates; this is because the world is dynamic and kinetic, it is constantly in a process of undergoing change. In nature there are no static or stable 'things', there are only ever-changing, ever-moving processes. This change has been explained as follows: "When this is, that is, this arising, that arises. When this is not, that is not, this ceases, that ceases" (S.II/144).

From this message, it confirms that the principle shows the natural process of interdependence of things that must always be related. Which is the result of the evolution that comes from being a living factor forever in the same way, the relationship between man and nature, the environment proceeds according to the process of factors. When humans destroy nature, environmental problems, such as climate change, will occur. Everything happens, is located and extinguished according to cause and effect. The truth about the true nature of all things will see that the image of the world is a picture of the changing tide. There is nothing that is still or eternal. Buddhist philosophy points out that the ego that we claim is ours, in fact is not ours, because it flows according to the laws of nature. There is no real ego at all, not even at the apparent level.

Moral Responsibility for the Climate Change Problem

The moral concept on the side of the Anthropocentric view has been occurring for a long time, since the Greek period beginning with the idea of explaining goodness. The meaning of goodness continued until the era of prosperity ethics. Interpretation has not changed in any way, just added more ethical judgments. At present, climate ethics has been proposed that emphasizes justice and moral responsibility, as Broome (2012: 49) said, "Some countries like

the Pacific nation of Tuvalu that have a low population use less energy because of their simple lifestyle and they hardly make any contribution to global warming at all. Nevertheless, climate change has affected them, for sea water has swallowed their home island, although the cause of this lies in the developed countries. It can be said that this is not fair to the people of Tuvalu.

Therefore, the consequences of economic development toward more climate change from developed countries is inevitable. In terms of the number of deaths from weather and natural disasters such as storms, floods and droughts (Encyclopedia: 2014) Pittock (2009) argues that from the same statistics showing that developing countries have greater damage from natural disasters than developed and wealthy countries due to climate change, it shows that there is a tendency of damage caused by increasing climate change ...There is evidence that human society has been affected more and more by natural disasters due to the bad weather, such as the victims of storms in the United States, Australia, etc.

As for the Eco-centric view, it is important for changing philosophical concepts. It can help in solving environmental problems quite well by replacing the belief that humans are more important than anything else with the conviction that human beings are part of nature and deep ecology, which Lier, 2004 (cited in Naess, 1993: 29) agreed with as principles called the 'Deep Ecology platform':

1. The flourishing of human and nonhuman life on Earth has intrinsic value. The value of nonhuman life forms is independent of the usefulness these may have for narrow human purposes.
2. Richness and diversity of life forms are value in themselves and contribute to the flourishing of human and nonhuman life on Earth.
3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.
4. Present human interference with the nonhuman world is excessive, and the situation is rapidly worsening.
5. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease.
6. Significant change of life conditions for the better requires change in policies. These affect basic economic, technological, and ideological structures.
7. The ideological change is mainly that of appreciating life quality (dwelling in situations of intrinsic value) rather than adhering to a high standard of living. There will be a profound awareness of the difference between big and great.
8. Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.

Among other points, the richness of life on the planet is greatest when the diversity of life forms is greatest. Principles 5 and 7 would be important in developing an energy policy that would address such issues as resource conservation, pollution growth, consumer demand, and nuclear energy.

A significant point is that the platform also reflects the ways in which the science of ecology influences Deep Ecology. In some sense, ecological science would provide direct support for principles 4 and 5. Ecology would also be relevant in explaining and defending principles 1 and 2. But ecology is also important for eco-philosophy in that it provides a model for a non-reductionist, holistic worldview. The deep ecology platform allows humans to "reduce" bio-centric richness and diversity in order to satisfy vital needs. Deep ecologists are committed to promoting lifestyles that "tread lightly on the Earth", this means that humans ought to live in simple, relatively non-technological, self-reliant, decentralized communities. Moreover, Leopold (2002: 253) proposed land ethics, which is an Eco-centric view of emphasizing that the ground is just a treasure or an object. We should give more respect to the land than it gets today. Being seen as a treasure is wrong because the ground should look like a living thing

because there is a chance that good and bad health can happen to the land, like other living things. Land ethics is like an extension of the normal moral system and includes not only the land but also incorporating various natural resources as well.

The main principle of the ecological concept is central to the disagreement that the pursuit of objects is wrong, and believing that economic prosperity must provide benefits to meet the basic needs of the poor and focusing on nature conservation, not for human benefit, but for nature itself, including ecological rules and natural laws to determine human morals or ethics and giving high priority to biological rights. Plants and animals have the right to a life and existence that will not be disturbed by humans. All things interact with each other in a holistic manner that is related to the network or the system that is a biological organism (Living Organism), as explained with the system theory called the Gaia hypothesis.

Therefore, this eco-centric view needs to change the way of life in accordance with the natural environment. At the same time, the social structure must be changed in many ways, including economic, political and cultural, in order to live with nature in peace, not in a crazy way of unlimited progress, which often means just increasing wealth and power of the kind that is hostile to the ecosystem and harms humans.

The Buddhist philosophy on ethics or discipline is a foundation for organizing the relationship between people, society and nature or the environment, with the principles of Buddhist metaphysics providing the foundation. Both parts rely on one another. Buddhist metaphysics is a base for Buddhist ethics. Meanwhile Buddhist ethics also confirms to Buddhist metaphysics. The criteria are visible at the precepts level, which is a discipline or ordinance as a standard for prohibiting or blocking the intention to abuse and became a problem or conflict in coexistence with humans or other worldly animals, such as a prohibition against monks taking part in agriculture and not destroying small animals.

For their survival, mankind has to depend on nature for his food, clothing, shelter, medicine and other requisites. For optimum benefit man has to understand nature so that he can utilize natural resources and live harmoniously with nature. By understanding the workings of nature, for example the seasonal rainfall patterns, methods of conserving water by irrigation, the soil types, the physical conditions required for growth of various food crops, etc., man can learn to get better returns from his agricultural pursuits. But this learning has to be accompanied by moral restraint if mankind is to enjoy the benefits of natural resources for a long time. Man must learn to satisfy his needs and not feed his needs. The resources of the world are not unlimited, whereas man's greed knows neither limit nor satiation. Modern man with his unbridled voracious greed for pleasure and acquisition of wealth has exploited nature to the point of near impoverishment.

Buddhism tirelessly advocates the virtues of non-greed, non-hatred and non-delusion in all human pursuits. Greed breeds sorrow and unhealthy consequences. Contentment (*santutthi*) is a much praised virtue in Buddhism (Dh.V.:204). The man leading a simple life with few wants is easily satisfied and is upheld and appreciated as an exemplary character (A.IV, 2, 220, 229). Miserliness and wastefulness are equally deplored in Buddhism as two degenerate extremes. Wealth has only instrumental value; it is to be utilized for the satisfaction of man's needs. Hoarding is a senseless anti-social habit comparable to the attitude of the dog in the manger. The vast hoarding of wealth in some countries and the methodical destruction of large quantities of agricultural produce to keep market prices from falling while half the world is dying of hunger and starvation is really a sad paradox of the present affluent age.

Buddhism commends frugality as a virtue in its own right. Once Ananda explained to king Udena the thrifty economic use of robes by the monks in the following order. When new robes are received, the old robes are used as coverlets, the old coverlets as mattress covers, the old mattress covers as rugs, the old rugs as dusters, and the old tattered dusters are kneaded with clay and used to repair cracked floors and walls (Vin. II.129). Thus, nothing

usable is wasted. Those who waste are derided as “wood-apple eaters” (A.Iv. 283). A man shakes the branch of a wood-apple tree and all the fruit, ripe as well as unripe, fall. The man would collect only what he wants and walk away leaving the rest to rot. Such a wasteful attitude is certainly deplored in Buddhism as not only anti-social but criminal. However, De Silva, (1998) said that the excessive exploitation of nature as is done today would certainly be condemned by Buddhism.

Buddhism advocates a gentle non-aggressive attitude towards nature (Koslowski, 2001). According to the sigalovada sutta, a householder should accumulate wealth as a bee collects pollen from a flower (D.III. 188). The bee harms neither the fragrance nor the beauty of the flower, but gathers pollen to turn it into sweet honey. Similarly, man is expected to make legitimate use of nature so that he can rise above nature and realize his innate spiritual potential.

In the Vinaya, the disciplines and instructions that sangha members follow, several rules specify the ways in which the non-violence (Ahimsa) doctrine must be followed. It is an offense for a monk to use water that could contain living beings (that is, micro-organisms) or to pour water “onto grass or earth” as it contains living creatures. For the same reason, monks are required to have a water strainer as one of the eight basic needs for ordination. Monks are not allowed to travel during the monsoon season because of potential injury that might result to insects or other small beings that would be exposed at that time, ‘the same concern for non-violence prevents a monk from digging in the ground’ (De Silva, 1992). Similarly, ahimsa rules encompass treatment of vegetation as well: if a bhikhu removes any part of a growing plant so that it is broken away from its place of growth, it is a pacittiya (offense) (Vajira:15). The path recommended by the Buddha consists of the eightfold path, which is a middle path in nature and in harmony with nature. The eightfold path can be used as a guideline for correcting climate change, that is, having right view (McCown, Reibel and Micozzi, 2010), right resolve, right speech, right conduct, right livelihood, right effort, right mindfulness, and right concentration.

In applying this to eco-ethics, right livelihood means one does not indulge in pursuits such as logging, poaching, or producing chemicals that harm the natural environment. Right effort means that, while logging may be beneficial in earning one's livelihood, and there is forever a temptation to go back to resume it, right effort will strengthen him to maintain his resolve to pursue the right path. Social context is important and plays a significant role to weaken or strengthen this right effort. While the government must be strong in legalization and enforcing the law, individuals must also confirm the message of conservation by their speech and action, and most importantly by transforming their own mentality. In right mindfulness, a person must constantly remind him/herself of her/his rightful path, realize its good, and strive to move forward with every possible effort. A key concept to conservation is the realization of the holistic nature of the world, and to be mindful of this important understanding which will be the actual mental force in guiding our actions.

The middle way can be applied to addressing the climate change crisis that is facing mankind because it is a principle that allows humans to face everything in the right way, both in mind and wisdom, by starting with correct opinions, which are the first wise parts, because Buddhist philosophy considers that in changing the way of life of human beings to be in harmony with nature, the mind must be changed to reduce greed and anger and to control life using the principle of meditation, beginning with the belief that there is a correct opinion about the nature of the environment.

In conclusion, the eightfold path in Buddhism may be applied to reduce the ecological crisis the world is now facing. Buddhism explains suffering and prescribes a method to remove that suffering. It clearly explains the problems in detail and emphasizes the inter-relatedness of everything on earth.

Solving Climate Change Problems

The study found that change is caused by human actions. An Anthropocentric view is caused by internal causes from past to present. Humans should adjust to a new perspective to solve this problem based on an eco-centric view, which is significant. They must see that all things in nature are related to each other in a way that is called a network, which is consistent with the principles of Buddhist philosophy, which sees that all things are based on each other in a rational way. Therefore, we can apply environmental principles, ethics and Buddhist philosophy in order to be integrated and solve the problem on two levels:

1. A short-term correction is to use various technologies such as conservation, the media and the control of basic human behavior in order to reduce the consumption of energy and destruction of nature through compliance of the law, moral rules and intellectual principles. When humans follow the law or have precepts, it will reduce consumption of natural resources. For preservation of the existing natural environment, or to create a new one, therefore, humans must have eyes and have gratitude and compassion to develop life in harmony with nature. This would result in solving current climate change problems and would provide a sustainable solution so that climate change will not occur faster.

2) Long-term solutions involve the use of technology and communication, eco-industrial development, strict compliance with the law, having ecological consciousness, and using moral principles to improve the quality of life of people in society, namely via physical development that includes a complete, good environment living in a self-sufficient society (Phaya Phawana). Developing precepts means developing self-discipline behaviors, including making people aware that they are dependent on nature through religion because religion is an ancient, basic institution.

Learning to live with others in a friendly manner, respecting the rules of society, developing the mind to control the thoughts and not let the mind be distracted or become overcome by defilements (Kilesa), developing wisdom, meaning to study and learn to understand the truths of life and the world with intelligence and right knowledge, discerning what is wrong, what is right, what is good, what is bad, what is useful, what is not useful, how to reduce defilements, and what is the ultimate goal of development (intellectual development).

Criticism

1. The anthropocentric view has a solution by inventing and producing new technologies to solve problems, such as carbon dioxide emissions from burning, or the emergence of a global environmental protection organization, or providing hunting reserves. The highlight of the anthropocentric view is the development of technology, which must start from a scientific perspective, science can only be developed when humans see the problem and therefore seek a solution.

The disadvantage of developing too many science concepts is excessive consumption. Science tries to make human beings have a better life, but instead of using more resources, looking at problems with human interpretations makes understanding the problem not deep enough to change most human thought. In addition, the anthropocentric view does not give nature the value that it should have, but sees nature only as important in the production and consumption process.

2. The eco-centric view focuses on sustainability when changing human concepts to solve problems. To achieve harmony with nature, we must change the human perspectives of nature. It emphasizes viewing the environment as a whole, not giving value to only one thing. It focuses on sustainable development and careful consumption of resources. It supports technological advances in order to provide appropriate and sustainable solutions to environmental problems. It changes all the old ethical concepts that were too focused on the human body and made humans less able to see value in the environment less, changing

philosophical concepts in order to lead to a new understanding of the environment. The solution to environmental problems must begin by changing the perspective and the person.

The disadvantage of this concept is that it causes slower development of technology. If we understand that we are part of a large ecosystem, some consumption or action will have a wide impact, causing the ecosystem to lose balance. However, humans still need to consume continuously, and therefore, we are unable to stop consumption that affects the environment.

The way to solve this problem starts with changing the perspective, focusing on looking at the environment as a whole, and not giving value to just one thing. Focus must also be given to changing philosophical concepts in order to lead to a new understanding of the environment in which all things have intrinsic value and value is given to diversity.

3. Buddhist Philosophy: There is no way that humans can destroy other lives, including humans, animals or plants. Humans should treat their fellow humans, animals and plants as friends and have mercy on the environment. Beings should not destroy each other, for according to Buddhist philosophy, all human beings and animals are born equally and subject to pain and death. Each individual being loves happiness and hates suffering. All living things must be seen as related or intertwined so that if humans destroy or encroach on the environment they themselves cannot live. However, Buddhist philosophy considers that human beings, just as the environment, have changed as well as other things.

Buddhist ethics: Ecology has principles and methods of behavior that arise from accessing the truth that is presented by the accessor. Truth (Buddha) is having faith in the enlightenment of the Lord Buddha. Ethical principles, including Buddhist discipline and precepts, have value and meaning for Buddhist companies who study and follow Buddhist philosophy: 1) Buddhist teachings for monks and principles for conservation of aquatic plants, etc. 2) The Middle Path (threefold) in ethical principles. 3) Practical threefold training consists of precepts, concentration and wisdom. Right speech, Right livelihood and Right action are the precepts. Right understanding and Right thought fall under the category of concentration, and Right effort, Right mindfulness and Right concentration constitute wisdom (Sammathitthi and Samaramkamppa).

However, Buddhist principles lack the compulsory measures to follow through. But if the person is educated and has right intelligence refined from the family, the strengths of the three concepts can be used to solve problems together and adjust the weaknesses of the concept. We will be able to come up with the most effective solution to the problem, using technology to solve the problem by looking at the suitability of the ecosystem, because in each region environmental problems are not always equal. We study all the ecosystems first, and then make the technology to improve on it as appropriate. We ought to change the way of consumption and the use of human resources, we must consider more common elements than before, in order to reduce consumption more than necessary by pushing for environmental protection and emphasizing new ethical concepts which understand the environment rather than just looking out for humans. Humans must correct the concept using in-depth ethics. To see the value and importance of the environment more than before. Humans are also living creatures, therefore humans should certainly not think of harming other living creatures as well. Human beings ought to apply Buddhist philosophy, Buddhism, metaphysics and Buddhist ethics.

Applying these three concepts to suit social and environmental conditions will result in less natural destruction, which will cause the problem of climate change to decrease as well. But the human occupation of nature over a long time, and its resulting environmental problems, are becoming more severe every day. Therefore, solving these problems will take a long time and we need to lay a new foundation in order to achieve the most sustainable environmental solutions.

Conclusion

Climate change caused by human actions, which cause the average global average temperature to rise, or "Global Warming", started from the industrial development that began in the 17th century. An increasing volume of greenhouse gases has resulted from fuel combustion, cutting down trees, electric energy usage, etc.

The Anthropocentric view is important to human beings. It believes that human beings are above all things. The concept of problem solving focuses on the development of science and technology (Daniel et al., 2015). The solution must therefore be solved by applying natural resources, which has resulted in new innovations that help reduce environmental problems. Even though the current climate has been especially troubling, this problem has intensified the eco-centric view that promotes a holistic view of nature and starts solving environmental problems by promoting a holistic concept - change the natural perspective into a new understanding of the environment, from one of human beings being above all things in nature, to one of human beings residing in the same ecosystem. Changing the concept affects the ethical concept as well. This creates a new interpretation that leads to sustainable environmental ethics.

Buddhist philosophy has a gentle position on nature. Especially the important doctrine of non-self (Anatta) that considers all things without identity, where everything is the same and humans are not the Anthropocentric center of the world. Buddhism is the religion of the Middle Path, not too tight and not too slack. Humans must consider consuming in moderation, both when eating and consuming natural resources. The contemporary world is experiencing many environmental problems because human consumption of natural resources is too great. Humans should realize that "nature is limited, but human desires are not limited". Humans should live life appropriately and in harmony with nature. Real nature conservation is conservation of humanity itself.

New Knowledge from Research

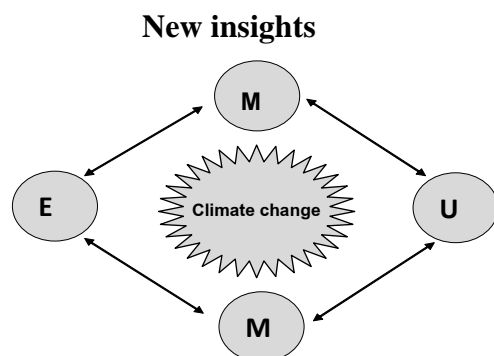
New knowledge from research of the synthesis of environmental concepts and ethics through Buddhist philosophy is called the **MUME Model**, which has the following meanings:

M = Management means managing the use of technology for conservation and the management of human behavior through strict enforcement of international law, so that people live with moderation and fit in with nature, using natural benefits as necessary and preserving nature from deterioration.

U = Understanding means the correct understanding that human life is related to nature and the environment, such as having a sense of wisdom, reason, understanding the truth, a holistic living in social life, nature and the environment, a relationship based on living together.

M = Morality means to live with integrity and morality based on Buddhist philosophy, such as the five precepts, nonviolence, intellectuality, the Eightfold Path, etc.

E = Eco-consciousness means having a sense of ecology and looking at human beings as part of the biological world system. All things have their own rights and value based on each other.



Recommendations

Policy Recommendations

1. In amendments to climate change, we need to cooperate in order to solve problems at the individual, family, societal and national levels. Therefore, the state should formulate strategic long-and short-term plans and promulgate laws, rules and regulations for order in society in a continuous and more concrete manner.
2. The Ministry of Education should set up training courses for teachers and students to get to know and understand the challenges together, by cultivating consciousness and implementation, starting from the teaching business at the kindergarten level to the tertiary level. In order to create a good immune system for itself, by emphasizing the principles and public minds that are needed towards oneself and society.
3. All public and private media should disseminate clear knowledge to foster an understanding of nature and consumption so that the physical needs of human beings are satisfied with mindfulness and wisdom.
4. The Buddhist authorities should support this way of life and belief by allowing the monastic institutions to participate. By propagating these principles it provides an example of how to follow the way of life using the Middle Path and Theravada Buddhist beliefs.

Suggestions for Future Research

The researcher considers that extensive research on the following issues should be encouraged:

1. Analysis of authentic eco-centric views and Buddhist philosophy.
2. Analysis of the concepts that hold Anthropocentric views with deep ecology and sustainable development.
3. There should be education and analysis of Thai cultural concepts in sustainable development.
4. Analysis of environmental ethics, religions and environmental conservation.

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