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The Man - Nature Relationship and Environmental Ethics

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ABSTRACT

This research paper is determined to explore the relational concept between "human" and "environment" in the Buddhist philosophy based on "value" (ethical value) of environmental ethics. It is found out the intrinsic value of environmental ethics, not existent in Buddhist philosophy is considered unimportant. For that reason, the environment in Buddhist philosophy does not have a mental component (*Citta*), which is different from some Western environmental philosophies, viewing life or living as the center of value and the idea of a pure spirit exists in nature and in the general environment. This conceptual framework is based on the value of the materialistic environment (*rupadhamma*: materiality) and with life (*arupadhamma*: immateriality). It is the interpretation of the values in the environment who should humans be related to? What to do with the environment? This is to find the ethical framework so that human can treat the environment in the right way.

The interpretation of values in Buddhist philosophy, the concept of ethical values must be transformed from the five precepts (*panca-sila*) into a system of states (*dhamma*) that is a natural law called causality of conditionality: the state of genuine existence and definite unavoidable, must be as it is, or it may be called "natural law," which will help us understand the intrinsic value in the Buddhist philosophy, things going on based on the rule of nature such as the Three Characteristics (*Tilakkhana*), namely, impermanence (*Anattata*), suffering or stress and non-self and the dependent origination (*Paticcasamuppada*) such as the relationship or factor of one another in both the occurrence and the extinction, determining to view the value of things through the view of nature equally and comparably.

KEYWORDS: *ethics, relationship, environment, Intrinsic, Buddhist, Philosophy*

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INTRODUCTION

The developments of science, technology and industry using the concept of capitalism among the Western world promotes naturalism as the only "object" that humans must occupy, manage, and use for human intentions so human looks at natural resources as a source of wealth in pursuit of benefits and comforts. The problem above is the current natural environmental problem, taking a look at the cause of environmental problems in the present world: human attitudes over the natural world. The way to have this problem solved is to correct the human worldview against the natural world. Man has a wrong view on nature because it is based on a result of the learnt religious doctrines or theories of the Western world, so it could be said that only human has value on this earth, the rest are merely the natural resources for serving human needs, or only human has value, other things in this world have no values because they are objects¹.

Natural resource is very important to the organism, no matter it is a plant, animal, forest or other organism because they are useful for maintaining the balance of the environment such as soil, water, air, and as a source of the four necessities: food, clothing, housing, and medicine for human². If the environment is destroyed, it will affect other related environments such as wildlife, soil, water, air, etc. When the forest is destroyed, it will affect soil and water resources. When the forest is burnt or cleared, the ground will be cleared of vegetation. When the rain falls, it will wash away the soil and soil fertility. In addition, when lacking the trees to absorb water, then water will run over the house and the lowlands in the water season. Until the dry season, there is no underground water to nourish the upper reaches, so there is less water in the river, affecting the socio-economic system, such as the lack of water for irrigation leading to ineffective farming, the lack of water for generating electricity and the global warming, etc. It can be said that these current environmental problems around the world are mainly caused by the impact of the environmental and forestry destructions.

Various academics have raised questions how to cope with the critical environmental problems caused by the environment and the forest? How to help the natural world of the environment and the forest to regain its resilience to the quality of human life? One obvious answer that is perceived to be the main cause of these natural environment crises is the human worldview that looks at relationships between themselves and the natural world, from the attitude that looks at the relationship between "self" and "environment" and includes "forests" in the appearance of their own intrinsic value (human) and "environment", the practical relationship between "human" and "environment" that extends to the society or community of the environment separating mankind and nature from each other decisively. Humans classify themselves as supreme "masters", dominating

nature while the environment and forests are included and served as "servants." We call this aspect as "relationship" between man and the environment.

Considering the relationship between "human" and "environment" in the environmental ethics in the western world, it can be divided into three groups as follows:

Human-centered ethical concepts hold the key assumption believing that "human is the center of value. Human is the only thing that has ethical value. Other natural environments have no ethical value. The concept of relationship between human and environment is in a mechanical and power of relationship separated from each other decisively³.

Life-centered ethical concepts hold the key assumption believing that "life or living is a center of value," not only human being having ethical values, all creatures, no matter they are humans, animals or plants, all of them are valuable intrinsically, valuable as an organism as well. This concept of relationship between "human" and "environment" is in a relationship of "friend" in the way of other beings⁴. These are all adventures in the flow of evolution. Humanity's position and role must be changed from the nature conqueror to become an ordinary member of the community in nature⁵.

Deep ecological concepts hold the assumption believing that pure spirit exists in nature and in the general environment. What do men do, they have to take into account in regards of those spirits? Actions should not be used to destroy other spirits. In terms of value, human being, organisms and the environment are considered valuable intrinsically. From this concept, the relationship between "human" and "environment" is "balanced" and "equal" to human being and the environment holds similar rights as humans⁶.

It is evident that environmental ethics have given precedence to the foundations of value, assuming that a value-based foundation will determine what type of relationship between the "human" and the "environment" should come up with. Buddhist philosophy is one of the major religions of the world and also a fundamental religion ideally, culturally, and socially when the global society is confronted with environmental problems. The environmental ethics is likely to be in line with the aforementioned environmental concepts. The point is that how Buddhist philosophy will have concept and attitude towards this environment? So, here, we focus on the relationship between the "human" and "environment" that appears in the main Buddhist teachings and express such relationships how are values and relationships based likewise the environmental ethics.

The Intrinsic Value of "Human" and "Animal" in Buddhist Philosophy

In Buddhist philosophy, when considering lives of human and animal, the five precepts (*panca-sila*), the first precept is to abstain from killing animal. A deliberate killing of man and animal is against this precept (*sila*). And in terms of dharma, this is also considered as "sin".

"Why the killing of human and animals is immoral in Buddhist philosophy?" The main reason is that both humans and animals have the same mental abilities: they have the ability to think and to use intellect. And most importantly, it is because of this mental ability, The Lord Buddha regulated this precept hypothetically: "We want to live, we don't want to die, we love happiness and we loathe sorrow, like other people or animal"⁷.

Spirit is an immateriality element, in which human and animal must have in both materiality and immateriality that is called the "phenomena". The immateriality element is the four essential characteristics of the mind: the perception of the emotions that affect the eyes, ears, tongue, body, and mind (spirit). We can recall mood (promise), thinking about decorating such mood (physique) and the feeling of happiness, sorrow or neutral (*vedana*: sensation) about the emotions⁸, the ability to think, ability to use intelligence as well as love in these lives. These are "the nature of the mind", so human and animal based on Buddhist philosophy are considered that "ethical value" or "intrinsic value" is the value of attribute of human and animal life in nature, not being determined by others⁹.

Intrinsic Value of the Environment

The study of relationship between "human" and "environment" in Theravada Buddhist philosophy, we must first understand the ethical values of the environment in Buddhist philosophy. As mentioned above. "Ethical value" defined as "intrinsic value" is the potential that exists in every life. And in other words, the value that is devoid of human valuation. In this respect, all beings are entitled to live and grow in the right way according to their own causes. When it comes to Buddhist philosophy, it seems that Buddhist philosophy does not directly address this value but it may be interpreted from various teachings.

The intrinsic value of the environment is based on two key concepts from Buddhist research and those thinkers specified as follows;

First, the environment has no mind or soul. The "environment" is in the same state as the "germ" that does not have souls so "the injections by the physician are not considered as destroying other lives because those germs do not have souls. The reason why germs can move, it is from the power of the wind element (*vayo-dhatu*: element of vibration). And the germ is growing because of the power of the element of heat (*tejo-dhatu*) in the states (*rupa-kalapa* is a category or group of *rupa*) so the states grow more like trees and plants that have been heated and cooled will then grow up with branches. The definition of life above is that life must have two basic components: materiality and immateriality. Vegetations have no mind or soul or in the nominative part, there are

only *rupa*, so it is not classified as human and animal “life” that must be consisted of the complete materiality and immateriality. The vegetative growth of plants is the power of the materiality components of the *vayo-dhatu* (element of vibration) and the *tejo-dhatu* (element of heat)¹⁰. Secondly, the environment (tree, vegetation) has mind or soul, that is, "all living things have the same basic elements as the six elements: earth (*pathavi-dhatu*: element extension), water (*apo-dhatu*: element of cohesion), wind (*vayo-dhatu*: element of vibration), fire (*tejo-dhatu*: element of heat), space (*akasa-dhatu*: the space element) and sense (*vinnana-dhatu*: element of consciousness). From these 6 elements, earth, water, wind, fire and air are classified as materiality, while the soul is immateriality so it is the materiality in corporeality, which needs to depend on immateriality or the soul to control then they are able to move and manifest behaviors. Only the soul in Buddhist philosophy, there are four meanings: 1) it is the power of life as energy and a factor for birth and existence, 2) It is a factor for all four elements to form together, 3) It is a factor for immateriality element to show behaviors, and 4) It is a factor making the organism behavior so meaningful¹¹.

Plants are living organisms with both materiality and immateriality elements. If there is materiality, there must be immateriality. The joint behavior of the materiality and immateriality is derived from the materiality as controller, while the immateriality is just a follower. The materiality forcing the immateriality is the soul since it is served as forcing command so the immateriality has shown behaviors meaningfully because the soul has intention (intention, willfulness) as attribute. For this reason, the behavior of the plant is caused by the interaction between the materiality and the immateriality, when referring to the cause based from *Paticcasamuppada*: the dependent origination, it is also obtained from the soul, so it is considered that the plant is spiritually like people and animals.

Based on the basic concept, it shows that plants or the environment have souls similarly to human and animals, but the soul of plant or the environment is the "subconscious soul", not existing in the nervous system because the Buddhist philosophy classifies the soul into two levels: (1) Spiritualism is a soul that perceives emotions through the nervous system including eyes, ears, nose, tongue, body and mind, and (2) Subconscious soul is the soul that are not in the nervous system as the basis for the soul emergence in the nervous system and there is an important function: it is a cause of life emergence. So human and animal have both levels of the soul in complete while the plant only has subconscious soul. If the plant has soul, it is considered that plant has intrinsic value or ethical value as human and animal. The action of environmental destruction or deforestation is then considered unethical.

The researcher agrees with the first point that the environment (trees, vegetation) in accordance with Buddhist principles contains only the materiality, there is no immateriality component: mind or soul. The main reason is;

Firstly, if the plant has mind or soul, it must be classified as animal with both materiality and immateriality elements outright once abstaining from killing in *panca-sila* (the five precepts), it would cover the plants, but it appears that abstaining from killing does not cover to plants.

Secondly, if the plant has mind and soul, it must appear that the reproduction of soul from plant to other worlds must be seen as reincarnated as human, animal, the goddess or God Brahma etc., or it must appear to the succession of the human, animal or goddess humbly reincarnated as the plant.

Thirdly, if the plant has mind and soul just like human and animals, in Buddhism, the *bhava* (existence) of plant should be apparent, one of the worlds in which deceased human and animals are born. When we consider it in the mental level, the mental level or life that will be born is divided into four major worlds or **31** sub-worlds¹². There is no world for plant. It means that there is no world for plant so there is no mind to reincarnate in the world of plant meanwhile plant-based spirituality is no longer inherited in other worlds as well.

Fourth, if the plant has mind and soul, their behavior must have intention. When it is intentional, it becomes karma because Buddhism considers "the intention is sin"¹³. That is, the tree can do good deeds and evil deeds. The man who cuts the tree is guilty of sin from slaughtering animals and being sinned but according to the principle of Karma, it does not appear that the tree cutter must be sinned from destructing the tree life. Therefore, it shows that the plant has only materiality element without mind or soul. As such, it is considered that all plants and trees have no intrinsic value, only an extrinsic value apparently seen as the benefits to human.

Relationship between "Human" and "Environment" in Buddhist philosophy

When considering value, it is found that environment based on Buddhist philosophy has no ethical value or intrinsic value but only the extrinsic value that is determined by the human or human centricity. When taking into account based on the Western environmental ethics in regards of the relationship between "human" and "environment", the issue is raised: "What kind of it should look like?"

The concept of Buddhist philosophy does not separate the relationship between "human" and "environment" clearly and it is a single-way relation: the beneficial relation of the environment is used by human but Buddhist philosophy looks at the relationship between "human" and "environment" in two important aspects:

Positive or a good side, it is considered that the relationship between "human" and "environment" is "patronizing," "supportive," "encouraging," and "benefiting" each other in the way of living which is in line with the dependent origination (*Paticcasamuppada*):, "Thus: 'this' being, 'that' becomes; from the arising of this, that arises; this not being, that becomes not; from the ceasing of this, that ceases."¹⁴

The negative side or the bad side is that the relationship between "human" and "environment" is blamed on one another, for example, if the environment is scarce or badly destroyed, many forests will have the same effect on human and animals according to the *Paticcasamuppada*: the dependent origination principle, "Thus: 'this' being, 'that' becomes; from the arising of this, that arises; this not being, that becomes not; from the ceasing of this, that ceases." When human destroys the environment, the environment will be gone or becoming less. When the environment is less, it will affect other natures such as soil, water, air, etc., and it is also a major cause of natural disasters such as global warming, floods, drought, pollution, etc., which affect the lives of human and animals.

Because of the two relationships mentioned above, it shows that if we consider it in terms of ethical values, Buddhist philosophy will see that the environment has no intrinsic value but it does not make the Buddhist philosophy look at the relationship between "human" and "environment" as "boss" and "slave.", where boss has dominion over slavery, they can do whatever they want to do without paying attention how slave would be? This relationship is a "dependence" relationship because human life can't live separately from the environment. At the same time, the environment is depended on humans as well. When something changes, whether it's good or bad, it will affect each other. The Buddhist philosophy has its doctrine in the *Tipitaka* expressing that human being should have a relationship with the environment in a friendly manner. "Where do people sit or lie in the shadow of any tree? Even the branches of the trees should not be broken because those who commit an offense to friend are villains"¹⁵. This proverb reflects the Buddhist philosophy of environmental importance.

Treating shady trees as one friend, destroying branches or even leaves is named as destroying friends. It is the one who harms friend or gets friend into trouble. In this proverb, tree is compared in two ways: the first appearance is human, the second is friendly or friend but a tree in this proverb is not a common environment, it is the environment human lives in or it gives advantages to human.

Buddhist philosophy sees that the environment and plants are important as a basic source of human life, called "*Paccaya*: the four necessities of life". There are four basic necessities of life: clothing, food, shelter and medicine. No matter it is human in those days or in modern times, they all depend on the environment, vegetables and fruits as important factors in living. In terms of the economy, forests are a source of income for human being. In terms of society, the forest also

contributes to people's way of life and the pattern how they live in the jungle as well as all civilizations relying on forests.

In addition, the forest also influences the mind as a pleasant natural environment. It is one of the factors of happiness so human can live happily with nature or they are happy to be in the midst of nature. And with the environmental attributes that affect the human psyche itself, nature and the environment help to refine and enhance the quality of the mind, beginning as a force to induce the soul to calmness, with inclination to mercy and a gentle and exquisite feeling. It also helps us to concentrate and use wisdom to understand the truth of nature, knowing the world and life¹⁶.

Meanwhile the value system (based on Western ethics) that do not appear in Buddhist philosophy, the interpretation of the abovementioned values from the "*Panatipata*: to abstain from killing" is an attempt to interpret and derive the meaning of the value based on Western ethics. It is to show that if you study Buddhist philosophy through a concept of value in terms of environmental ethics, then you can do it but it clearly shows the limitations and differences since the *panca-sila*: the five precepts, to abstain from killing can be said as a reflection of the value through human viewpoints, or human society, which is called human-centricity so we call these "five precepts" as "humanity" or dharma of human or dharma that makes a man a human being, the human right" or "virtues to be observed uninterruptedly is the norm that the layman should maintain regularly. Interpretation of the concept of values from the five precepts is a human-centered value through human viewpoints and society. Therefore, the concept of moral values is not considered and it is not important in Buddhist philosophy.

When the concept of ethical values has not existed in Buddhist philosophy, it is also considered as unimportant thing but if you want it as a thinking base in Buddhist philosophy, the concept of ethical value must be transformed from *panca-sila*: the five precepts into a natural dharma system called "*dhamma-niyama*: orderliness of nature, the exact rules of realism that is inevitable and certainly unavoidable. It must be as it is and we call it as "rules of nature. There are 2 categories in Buddhist philosophy in which the Lord Buddha had presented in the form of natural law: "*Tilakkhana*: the three characteristics" and "*Paticcasamuppada*: the dependent origination).¹⁷" These two categories are considered to be the same rules but it shows in different views or different viewpoints to see the same truth: *Tilakkhana* or the three characteristics representing nature of thing as it is. When those things are based on dependent relationship due to the following factors in the dependent origination: (1) *Aniccata* (impermanence), things are impermanent. (2) *Dukkhatta* (state of suffering), suffering or being not persistent, and (3) *Anattata* (not-self)¹⁸.

The rule of impermanence is aimed to focus on the symptom of what is connected to each other as a course. We can see it as *Tilakkhana* under an important rule: "When having this thing, so has this thing, because this thing happens, so this thing has happened, because when there is none of this thing, there is no of this thing, because this thing goes out, this thing is no longer to be alive."¹⁹

It can be said that *Tilakkhana* or the three characteristics are natural laws that represent the inner qualities of things that are always equal and balanced. The rule of law is a natural law that expresses the fact that all things are the cause of each other, having interrelationship or affecting each other in two ways: positive and negative, not having or being destroyed or extinct, causing natural disaster. Both human and environment including living things and non-living things have fallen in the general law of cause and effect which is an inner attribute divided in three elements: the rule of uncertainty or changing all the time; the rule of sorrow, one is not able to stand unchanged at all and the rule of *Anattata* or not-self, does not exist, has no essence, has no permanent nature and the general law of cause and effect, the interrelationship attribute of all things in positive way. If the environment exists and is abundant, it is a positive sign for the weather and other natural surroundings, including human and animals. But if the environment runs out, it will negatively affect the weather and other natural surroundings, causing severe natural disasters that affect the existence of things in the natural world. When considered in Buddhist philosophy, it is found that the "spirit" in nature is the 2 important of natural rules: *Trilakkhana* is the natural rule that expresses the intrinsic qualities of things that are equal and balanced, namely, impermanence or constantly change with motion (*aniccata*; impermanence), suffering, unable to live in unchanged conditions at all time (*Dukkata*: state of suffering) and *Anattata*, not-self, no essence, no permanent essence. Second, *Paticcasamuppada*: the dependent origination is a natural law that expresses the fact that all things are one factor of each other, having interrelationship or affecting each other. The intrinsic value in Buddhist philosophy is the rule of nature or the general law of cause and effect: *Trilakkhana* such as impermanence, suffering and not-self and *Paticcasamuppada*: the dependent origination such as the relationship or factor of each other in terms of occurrence and extinction. This is the way to view the value of things through natural view of nature in equal and balanced terms. It is not the view through human and animal life such as in the five precepts. This means that all things, whether a living or non-living thing, are intrinsically valuable according to the laws of nature. This value is the value that all things have like the value in Deep Ecology and Biocentrism.

Summary

The analytic study in the mention above shows that both human and environment have intrinsic values and this intrinsic value is the "psyche" of nature, so it can process the relationship between "human" and "environment" as follows;

- 1) Humans and the environment are in the same state in the natural world as a member of the existing and ongoing natural world.
- 2) Human and other natural environments including living things are secondary to the overall well-being of the world.
- 3) The membership of the natural world is not a decisive separated member but they are interrelated as cycle or chain, even between what the human called "living things" and "non-living things" interact to create self-sustaining systems reacting to the continuing life.
- 4) The change in any part of the system affects the whole of the larger system: the natural world. Thus, the relation between "human" and "environment" is equally as a member of the natural world with interrelationship. Human being and the environment are all entitled to exist, grow and flourish naturally. For human being, nature should be respected and accepted by humans in equality. For Buddhist philosophy, it looks at the world in a way that is consistent with Deep Ecology and Biocentrism, as interpreted by natural law and teachings in Buddhist philosophy²⁰.

In Buddhist philosophy, *Tilakkhana* or the three characteristics, it is considered that all things, no matter it is "human" or "environment" as well as other natural surroundings, have the inner attribute in the same law of nature: occurrence, continuation and extinction. In this principle, the existence of things in the ontology is at the same level. Although humanity has the potential to reach some of the highest (human) goals, but it does not mean that anything else exists to serve human goal. At the same time, the Buddhist philosophy accepts the distinction between the Dharma current, so-called "human being" with "plants" and "other things" with no life because these things have some different causing factor based on *Paticcasamuppada*: the dependent origination. All things in the natural world are members of the natural world that are interrelated to each other. When looking at the relationship of things in the natural world, according to the dependent origination, it is like a cooperative, a world or cosmic existence like cooperatives, man and beast with the environment or with the land as well as other things in the world are living together cooperatively, so life can survive. From this viewpoint, it is apparent that human is a cooperative, living as member or in smaller scale of the large cooperative: the world and the universe. Both the living and the non-living things, the Buddhist philosophy calls these things in the sense of "sankhara (conditioned things)"

which is the cause of the addiction or something caused by factors so there is nothing that exists as a center being served by other things. When you look at the overall picture, all things or all Dharma currents are responsible to support and prop the existence of each other in the natural world.

In the relationship between "human" and "environment", the Buddhist philosophy considers that humans should treat the environment humanly equal with respect and honor to one another. The principle of this relationship is consistent with the concept of Biocentrism, which accepts the environment as "friend", "companion" or "pal", as well as raising the environment equally important as human but there is one different point: biocentrism concept accepts the environment at this state because the environment is beneficial to humans: the relationship of the "giver" and the "taker" or "the one who is gratitude" and "the recipient", despite it is dependency but this relationship is also a human utility relationship where the Buddhist philosophy is more in line with this concept. The Deep Ecology theory is considered that the environment should be respected and accepted by human with equality. This equality is a dependency-based equality that is not grounded on beneficial basis but according to the role and function of nature, things are members or one unit of the world or the universe. As such, the relationship between "human" and "environment" is one and this relationship has appeared in Buddhist philosophy.

REFERENCE

1. Nuangnoi Boonyanate. *Environmental Ethics: Worldviews in Buddhist and Western Philosophy*. Chulalongkorn University Press: Bangkok; 1994. 1-2.
2. I.B. Horner, M.A. The Book of The Discipline (*Vinaya-pitaka*) Vol. IV Trans. The Pali Text Society: London; 2007. 75
3. Leopold, Aldo. *A Sand County Almanac*. Oxford University Press: New York; 1966. 217
4. Joseph R. and Desjardins. *Environmental Ethics: An Introduction to Environmental Philosophy*. Wadsworth: Boston; 1997. 10
5. Taylor, Paul, "Bio centric Egalitarianism". *Environmental Ethics: Readings in Theory and Application*, Edited by Louis P. Pojman, Boston: Jones and Bartlett Publishers; 1994. 72
6. Charoen Chaikaew. *Ethical approaches to environment: A comparative study of Western theories and Theravada Buddhism*. Mahidol University Press: Bangkok; 1998. 35
7. I.B. Horner, M.A. The Middle Length Sayings (*Majjhima-Nikaya*) Trans. The Pali Text Society: Oxford; 1999; 3: 249-250
8. Saeng Chantrangam. *Theology*. Thai Wattana Panit Publishing House: Bangkok; 1988. 3

9. Kanmanee Phoophakdee. *Meaning and Value of Life in Deep Ecology through Arne Naess's Perspective*. Chiang Mai University Press: Chiang Mai; 2004. 34- 35
 10. Phramaha Tawee Thanavaro (Onpussa). *The killing and ethical Problems in Buddhist Philosophy*. Mahachulalongkornrajavidyalaya University press: Bangkok; 1991. 57
 11. Banjob Bannarujj. *Mind! Consciousness! Spirit!*. Sukkhapabjai Group: Bangkok; 1986. 144-145, 154-155.
 12. Phra Dhammapitaka (P.A. Payutto), *Dictionary of Buddhism*, 9nd ed. Mahachulalongkornrajavidyala University Press: Bangkok; 2000. 316-320
 13. Mahachulalongkornrajavidyala. (In Thai Script). Trans. Mahachulalongkornrajavidyala Press: Bangkok; 1996; 22: 577
 14. Mrs. Rhys Davids M.A. The Book of the Kindred Sayings or Grouped Suttas (*Samyutta-Nikaya*), part II Tran. The Pali Text Society: Oxford; 2000. 23
 15. W.H.D. Rouse, M.A. Stories of the Buddha's former births (*The Jataka*) Vol. IV Trans. The Pali Text Society: Oxford; 2005; 4: 222
 16. Phra Brahmaganabhorn (P.A. Payutto). *Human love forest & Forest love Human*. Panyaprateep Foundation: Bangkok; 2011. 87
 17. Phra Brahmaganabhorn (P.A. Payutto), *Buddhamma*, 23nd ed. Samnakphim Phali Tham: Bangkok; 2012. 175
 18. F.L. Woodward, M.A. The book of the Kindred Sayings (*Samyutta-Nikaya*) Part IV Tran. The Pali Text Society: Oxford; 2005. 1
 19. F.L. Woodward. The book of the Kindred Sayings (*Samyutta-Nikaya*) Part III, Trans. The Pali Text Society: Oxford; 2001. 20-23
 20. Piyamas Jaifai. *Satish Kumar's concept of spiritual ecology*. Chiang Mai University Press: Chiang Mai; 2009. 49
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