

**Teaching Buddhism by Understanding the Phenomena of Nature:  
Integrating Dhamma Teaching Methodology into Environment Education Program  
- A New Approach to Comprehend Buddhist-Environmental Teaching Practice**

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**Background - Justification:**

The contemporary formal education methodologies used in developed-European and other countries is known as the cross-subject curriculum, i.e.: an integrated education system in which all subjects taught at the same level of education, comprise similar topics. e.g.: IB (International Baccalaureate School System), Cambridge Schools, etc. In Indonesia, government policy tries to adapt these schemes by transforming some schools into the SBI and RSBI (Sekolah Bertaraf Internasional – International Standard Schools and International Standard Schools on Planning)

The integration system suggests that teachers of same level sit together and decide which particular topic or theme to become the main issue to be taught at least for the semester. Once the main topic was decided upon, other subject lessons will be chosen based on that theme. The students and teachers should then be taken to a particular site which would stimulate the topic. Experimentation, observation, and other planned activities should then be implemented. Teachers and facilitators should assist the learners to find the answers to all the questions prepared before, by themselves.

This is an effective and efficient strategy. With one single outing program, students could learn various lessons and topics observed from different point of views. The students will be motivated to learn more as they find facts on the field, reality in life. They would understand better the subjects' lessons they study, because they have experience it themselves.

The contemporary education method of lessons taught in schools, also in non-formal (public) education is based on experiential learning. As mentioned above, from the experience in the field, people will discover the heart of the matter - in nature's phenomena. Field experiences will have deep impacts on one's idea and transform them to better understanding. It will generate awareness, further if it touches the heart, mind and spirit it will have a good force to act accordingly, which will empower them with an immense force which if used properly, it will strive to a greater goal in their lives.

The present basic education put a focus on the future of the young students. The education provides them with "life skills" which in turn serves as good tools to face the challenges of life. The life skill education teaches them with not only vocational skills, but they can also be integrated with other scientific knowledge. The life skill education for some schools and public education will be based on the knowledge and understanding of nature and human made environment. This is important, because the basic principle is on the good management of natural resources.

All the above-mentioned systems have been implemented in East Java (by the author). It began in the mid-1980s and was developed from simple, basic field-education in nature-conservation. Along with the progress of both the development of the problems and from the strategies to overcome it - contemporary education methods reached the best role model for the present. The best role-model method was finally achieved after long observation, study and modification of problems, ways to overcome them and the results.

With in-the-field experience-based education, every method and strategy will goad people to face and see the reality of life and their subsequent problems, which could be explored both physically and or mentally/spiritually which eventually will lead them into self-discovery. As the old saying goes: seeing is believing, we can also add experiencing is understanding.

It is much easier and less burdensome to learn the Buddhist philosophical aspects, by experiencing it on the field. Particularly if one embarks upon if one embarks upon ecological explorations, one would immediately see the interlinked-ness, interdependency of every elements of the nature, both living and non living. Prior to personally involved in the exploration and study in nature, most people are not aware that humans need the existence and availability of other living beings and non-living matter. In brief, learning from nature will give us knowledge and wisdom towards life and nature.

On the other hand, in schools and other education institutions, Buddhist education programs are taught mostly on a theoretical basis, either by oral (verbal) method. It is true that for specific reason, some lessons should be memorized; but, for the basic understanding and truth: it is easier to learn Buddhist principles from nature and social life.

Close to 30-years of experience in implementing and integrating Dhamma teaching into environment education in theory and practice have shown that it is much easier to understand Buddhist philosophy, ethics and moral conducts from interpreting and learning from natural phenomena and social conditions rather than looking for them elsewhere.

### **Proposed new approach (development of existing methods/implementations):**

It was Buddha Himself who discovered the method of using the surrounding environment to understand life and all its meanings. It was the deep-observations on the Four Encounters (which were actual social condition during that time) that made Prince Siddhartha become aware of suffering and started searching for the meaning of life. The big questions raised by Him after the incidents, lead the Prince into Enlightenment and became the Buddha.

### **Basic Buddhist view on the nature and the environment:**

*Sabbe Satta bavantu sukhitata:* May all beings be in happiness. This main phrase of the Buddhist's teachings shows the basic ethical conduct of Buddhists towards other beings and nature. Buddhists expect that other beings and creatures: big and small, visible and invisible should be allowed to have harmonious lives and be happy, individually.

One's view toward other living things are as clear as Buddhist teachings which states that life is not an isolated process commencing with birth and ending in death. Each

single-lifespan is only one tiny part of a series of lives having no definite beginning in time and continuing on as long as the desire for existence stands intact. Rebirth can take place in various realms of human beings and animals, on higher level we will find heavenly worlds of greater happiness, beauty and power and on lower level we find infernal worlds of extreme sufferings. *Kamma* is the cause of rebirth. *Kamma* determines the world into which rebirth would take place, virtuous actions will bring rebirth into higher form, bad-evil actions rebirth into lower forms.

It is clear that in Buddhist's teaching, all forms of living beings are interrelated, particularly as they are believed to be the same individual of beings in different forms. Therefore, compassion for other beings and creatures is basic and important in Buddhist ethics and morals.

The bad *kamma* starts by ignorance and the absence of the knowledge of wisdom (*avijja – avidya*). This will lead into wrong actions, which in turns bring bad *kamma*. The ignorance of the cause of sufferings, and how to end it, is the main reason that sets the wheel of life [Karma] in motion or, in other words, it is the not-knowingness (ignorance) of things as they truly are, or as oneself - as one really is. This ignorance clouds right understanding. When ignorance is destroyed and turned into knowingness, all causality will be shattered.

Buddhist ethics in the *Vinaya Sutta* give guidelines on good actions through *sila*. Never bear bad thought, words and deeds are put in clear guidance under the light of the Noble Eight Fold Middle Paths.

The *adhamma* which should be avoided according to Buddhist ethics are *lobha*, *dosa* and *moha*. These are deeds that are associated with attachment, ill-will and delusion and it is important to understand these principles because they have big influence on humans' actions towards other creatures and nature. People should avoid these acts of attachment, not only to free them from the wheel of *kamma* which will cause them to be reborn but also to make them able to care, love and have compassion which will rewards them with good *kamma*. Avoiding the attachments acts certainly will lead us to better *kamma*, to end the cause and effects of suffering (*dukkha*), and to have better ethics and moral conducts.

### **Principles of the environment and socio ecology:**

Basic principles of ecology and the environment involves the following elements: hydrogen, oxygen, nitrogen, and chemicals which are components of natural food chains; and from their interactions: it would be easy to start to understand and accept basic Buddhism. The ecology views of life on earth depends on two fundamental processes: matter cycling and the one-way flow of high [quality] energy from the sun, which penetrates through matter and living things on or near the earth's surface, which in turn will be reflected into space as heat. The basic principles of ecology are about the interdependency of the organic/biotic factors with non-organic/abiotic matter. The organic elements comprises of: plants & animals (including humans); while the non-organic matter, includes:

- Soil/earth (including: stones, sand, mud and the various minerals)
- Water (fresh and salt water)
- Air (Oxygen, CO<sub>2</sub>, Nitrogen and other gaseous-substances)
- Energy (sunlight, fire, electricity)

The interrelations of all these factors are in the form of cycles; some important cycles are:

- Water-cycle: water from water bodies (lake, river, sea), which turn into vapor, clouds, rain, then back into the rivers and springs.
- Oxygen-carbon cycle: oxygen absorbed by animals (and humans) exhaling carbon dioxide which is absorbed by plants exhaling oxygen
- nitrogen cycle: nitrogen (by process of sunlight) into plants & animals which after decomposition replenished nitrogen
- other cycles: phosphorous, sulfur, organic substances cycles; food chain producers – consumers pyramid and the subsequent decomposition

The interrelations of these elements are complex, and ideally should be in balance, so that all living organism could live together in perfect harmony. Should there be any imbalance or disturbance to whatever degree with whichever element, it will surely create problems: pollution, erosion (landslides, floods, earthquakes, tsunamis, and/or other geological disasters). A balanced harmonious nature would give fulfillment to human needs. Nature provides everything, enough for all human needs. With proper balance in nature, *the Eight Noble Middle Ways* – their implementation - would make it possible for humans to live in happiness and be integrated in harmony with nature.

### **Learning Buddhism concepts from Ecological phenomena (simplified version):**

#### **Reflection on water and the banyan trees**

Understanding the physical matter – (simple) food cycle: producers (plants) – herbivores – carnivore 1 – carnivore 2 – decomposers – non-biotic elements – herbivores: would lead us into a discussion of where and how the *jiva* would also cycle. From this bio-physical view, it is clearly proven that all creatures – living things, will decompose and disintegrate into basic matter: the chemical forms of the non-biotic factors. It won't be too long before these non-biotic elements will be absorbed, either by the old reproductive plants, or a just-newly germinating-seedlings. The same elements now are incorporated inside the new living thing.

There should be a big question asked to pair the cycle of matter; that is what will happen to the *jiva*? From the mentioned above ecological explanation, it would not be difficult to understand *kamma*: the cycle of *jiva*, as *jiva* will always take different physical forms of life depending on the *kamma* the *jiva* obtained. Science (Einstein) has explained that matter – energy, is eternal, it will only change its form. Buddhism has the reasonable explanation about the *jiva*: where it will go and what will and can happen to it.

By a simple action such as visiting a spring with a banyan tree on its' edge, there are lots of things to reflect towards. It seems that water gushes from nowhere, yet it comes out from the ground. It follows the natural law of water cycle: from water bodies (lake, river, and sea), vapor, clouds, rain, and springs into river. It gives power to the life of the myriads creatures, to many living things including the banyan tree that stands tall, magnificently on the edge of the spring.

Upon the banyan tree, there are myriads of creatures, plants and animals, both visible and invisible, living their lives on the tree. Everything is interlinked and inter dependent to each other, as they also are with other non-biotic elements: oxygen – carbon dioxide cycle, nitrogen cycle and other minerals cycles too.

It is obvious that delusion has clouded our spiritual eye on these matters, as man is busily occupied with other things that he thinks are his main important needs. It is *avijja* (*avidya*) that leads human into ignorance, thinking that the spring and banyan tree are not part of human's life and *kamma*

For reasons based on *lobha*, man would carelessly cut the banyan tree and pollute the springs. They are totally ignorant on the great loss and sufferings it would later create for the community, caused by man's *lobha*. What we should really do is to reflect on the interlinked-ness and interrelation of the spring and the banyan tree and creatures and creatures living on it, physically and also spiritually.

### **Social problems related to ecological imbalance:**

Basic simplified examples are: learning the conditions of a ruined forest, it's cause (*lobha*: excessive deforestation, greed of exploitation etc.) and the impacts: land slide, flood, desertification, hunger, famine, extinction of various species etc. creating *dukkha*, suffering of all creatures.

There should ideally be a harmonious balanced life between the human community and nature, i.e. the spring, the banyan tree and their whole natural surroundings. Caused by man's *lobha*, it could turn into disaster for the whole community. The cutting of the banyan tree and other trees not for local need will cause imbalance *to the forest*, water retention will decrease and could even entirely stop. Trees and food supplies for the villagers will also diminish. It will create poverty, sufferings, hunger and desertification.

Once that kind of thing is allowed to happen, others will follow suit to log illegally and took whatever they could find and want from the rest of the forest. They will leave nothing for their own future, let alone for other beings. Ignorance blinds people and leads them further to worse *kamma*. From supposedly small scale ignorance, it will go on and on to a larger scale and up to cause desertification. In the end, man will not be able to stop the climate change that will eventually lead into global warming, flood and longer dry seasons - as was shown by reports on TV and other media.

### **Environmental preservation and restoration based on Buddhist principles**

Various environmental good practices are the implementation of *metta*, *karuna* and *mudita* which lead people to have better lives: increase of income from different alternatives ways such as using the principles of: reuse, reduce and recycle. It is also becomes a sustainable way of life, as it creates complete cycles of matters.

In the modern contemporary environmental education methodologies developed up until this date, there have been quite similar concerns over environmental disasters caused by human actions, such as: education of Agenda 21, Education for Sustainable Development, education of human welfare, concerns about animal welfare and others - all talk about ways to understand the causes, the impacts, ways to solve them up and how people should behave towards others and the environment. Yet they lack the spiritual side and basic principles: the rights of other creatures, which are the meanings of nature's phenomena.

### **Implementation and development of the innovation**

Currently there are various contemporary environmental education programs and methods. Mostly were developed as result of the 1992 UNEP's Rio de Janeiro's Summit and other United Nations programs such AS MDGs of the UNDP, Agenda 21 of UNEP, and others: Education for Sustainable Development, Education for human's welfare. International and national communities also developed various education programs, such as: Education of Global Warning and Climate Change by the British Council Indonesia office, the Foot Prints created by international teachers network ICCE and others.

There are non-human based activities, such as the programs developed by WWF (World Wide Fund International), PETA the animals' advocacy group, and other various

species based activities: orangutan, gorilla and other primates, birds lover groups, also forest defense groups. Most of them develop their own education programs, intended both for general public and formal education systems.

From the names and themes of the various systems mentioned above, we can see the concerns, aims and targets they wish to reach. All of them have created their education programs both for general public and school students. They developed creative and innovative ways, using various methods and media to promote and let people understand the basic ideas, to make them aware of the problems and accept to participate on the programs.

In general the aims and targets of these programs are to raise awareness on the challenges human will have to face in the (short and long) future caused by the complex problems the earth and the world suffer today. They let the audience to understand the problems and interlink with human life and welfare. The ultimate is to invite the audience to have an active participation towards the problems' solutions, however small it could be.

Each of these programs has their own characteristic and specific model. Agenda 21 educates people with a democratization style, i.e.: every one, every group of community, regardless who they are whether young or old, from whatever level of social background, education, profession, religion, location etc., will participate to plan their environment and life in the future. The ESD – Education for Sustainable Development emphasizes on the availability of renewable natural resources and on how people should manage them wisely. It aims to have an everlasting prosperity with this model.

The others have their own approaches and different emphasis on the main concerns. The wildlife and animal protection movements seems to have the **only concern** on the welfare and the conservation of animals. Actually the ultimate target is human welfare, as without animals and their habitat humans cannot survive. Some of these movement might have strong liaisons and motivations with animal protection which have gone too far, as they have put the animals concern up too high above human level. Therefore it is not popular and easily accepted by the public.

Somehow, these new methodologies still miss something a most important point: the understanding of *kamma*, culminated into the principle that other beings have the same rights as humans, even though humans might have higher status. The lack of spiritual understanding concerning these matters makes these modern environmental education systems unable to reach the goals they have aimed for in the first place, supposedly because almost all of these contemporary environmental-education methods were initiated and spurred on by the anthropocentric human ego.

The integration of Buddhism and environmental teachings is an idealistic combination. The Buddhist middle way offers a balance of logic and factual reasons on environment equilibrium. It would not take the human or other living things side only, but aim for higher targets which encompass all components of the planet. Buddhist teachings understand well the balance, harmony and position of the various elements and aspects of nature, including humans.

### **The methodology and its process; The development of the idea.**

According to Howard Gardner (1993) from the psychology pedagogical point of view there are many things of intelligence: verbal-lingual intelligence, musical-artistic intelligence, visual-spatial intelligence, kinesthetically intelligence, logical-mathematical intelligence, social-interpersonal intelligence, intrapersonal intelligence and natural intelligence. However, it is at the field practice where natural intelligence plays the leading part, the whole intelligences can be trained and integrated properly.

On education model strategies, Bank, Henderson and Laurel Eu (1981) wrote that there are five models: concept analysis, creative thinking, experiential learning, group inquiry and role playing models. These models are strategies used to reach the aims set on the learning process (Joni, 1980). The term ‘teaching model’ is defined by Joice, Weils & Showers (1992) as a plan or pattern which is developed for teaching person to person in a classroom or tutorial settings and to shape instructional materials – including books, tapes, films, computer mediated programs, and curricula (long term course of study)

The present international schools standards might be based on the above theories. The experiential learning model is combined with the natural intelligence, to become a practical procedure to guide them on the field. The combination seems perfect to explore other intelligences, and other strategies could be included further. This might be the logical reason that modern school system uses the experiential learning method, particularly when working on natural surroundings.

With this kind of education strategy, each person’s main/major intelligence(s) will be challenged to produce maximum result, exposed optimally and maximal exploration can be done. The minor intelligences of the same individual will not be suppressed; they will still be possible to grow as a supplement skills for the person. The person’s competence will come out at the peak it could be exploited to the utmost.

Compare to the above mentioned strategy, the present education teaching system mostly employs only parts of the whole scheme, which teaches each subject lesson individually and separately, without conjunction to a mutual target. At the end, the result is that students cannot analyze things integrally. They would see things separately. It becomes difficult for them to link topics about a forest with physics, chemistry and mathematics. For them, forest is a biology topic, and could only be linked to sociology.

In nature all the multiple intelligences could be simultaneously practiced, and from the experiential learning strategy it would be possible to use and explore other strategies to obtain the optimum result. It just needs a proper planning on the procedures of how these integrated strategies should be used, and that applied to the media and the equipments too.

The Buddhist teaching is based on philosophy, moral and ethics education principles. For many beginners and young people, these are quite abstract concepts, which are not easy to absorb and to understand; that makes it the more reason to consider that the appropriate model to implement the Buddhist education would be the experiential learning model based on the natural intelligence. It is from the nature and the daily social life, that Buddhist teaching could be explored to the full.

As the practical implementation of Buddhist values in the universal teaching is very important, so is tangible and real field actions. It might appear very insignificant, but practical actions imbued with spiritual meanings would be the right way to make Buddhist teaching easily understood, particularly for beginners and young people.

Programs and projects on environment restoration and rehabilitation will not only benefit for the nature, but also for humans and all other living things. Some activities will support the communities to develop the life quality. A good example is the project on water recycling. From a dirty low quality polluted water, with just a simple way of using water plants, rocks, stones and sand as filter, better quality water will be produced. This water is valuable; it can be used to water vegetables and also to keep some fish (such as eel, catfish and others). The harvests resulted from that action will certainly improve the people’s life quality.

Such an example of treating polluted water with a scheme to improve life quality, can be analyzed from Buddhist point of view; on the ethics and moral actions of polluting

and recycling the water, so too, our *jiva* could be filtered and cleaned; while the tangible actions of this project are certainly a good *kamma*,

There will be many more of such environmental restoration and rehabilitation programs which are fit and suitable for both community empowerment – development and factual forms of Buddhist teachings. In fact environmental concepts and actions could be interpreted as the realizations of Buddhist philosophy. Caring for the environment is equal as to care for others: humans and visible and invisible creatures. They are the direct implementation of *metta*, *karuna* and *mudhita*. All these environmental activities could be interpreted from Buddhist perception.

From the other angle of some Buddhist based activities, proper knowledge on the environment is essential. Without good knowledge it would not be good *kamma* that we gain, on the other side it brings bad *kamma* for all humans and creatures. According to Miller (1988, p. 592) integration of environmental and Buddhist knowledge is among the best answer to the today's world environment problems. While many other philosophies are anthropocentric – human centered, which believes that people are in charge of – not merely a part – of nature. These attitudes are dominant all over the world, even in the countries with Eastern beliefs and ethics as well.

If this innovative idea of the Integrated Buddhist and Environment Education (IBEE) is accepted and then developed further, it could become a big contribution both to the world and Buddhism. Nevertheless a proper inspection, try outs and analyzes are much needed. Some basic training of the pioneers should be organized after a proper plan is laid down.

Experts on this matter should gather and make more details on the possible curricula, strategies, modules, the media and other needs related to specific target groups. It would be interesting and necessary to create a kind of IBEE Club. The members are those who have the interest, knowledge and skills on the topics mentioned above. It is better not to limit the membership to experts only, lay people could also give their contribution on the analyzes whether this method were appropriate and suitable or not. They can give objective evaluation on all the aspects, based on local wisdom and tradition.

### **The process / steps of a good IBEE action:**

There should be good preparations on the topic, materials, target group(s), media, equipments, location/site, other supporting factors; accommodation, transport. The first thing to do is to create a good plan. The plan will consist of the factors mentioned before. The creator (planner) should have proper knowledge on the topic, both the environment and the Buddhist principles that would be discussed.

The main facilitator would prepare the Terms of References; there are details on the activities from time to time, the aim(s) of this particular activity – the target(s) it aims to, media, facilities and equipment needed; the site and name of the person in charge: resource person, tutor(s), assistants and the role they act upon.

As this method is an outdoor activity based, the atmosphere should be in a much relaxing condition. It might be scientific, but it could be fun too. Some care should be noted: particularly for youngsters about the possible accident that could happen on the field. The site / location preparations certainly are among the important things to be set, it should be done several times, and evaluated whether it is appropriate or not.

On the field there are three major activities as the main basic activities; which are: observation, comparison and (simple) experiments / actions. With observation, whether it is on a tangible in hand object, or a view or a social condition, member of the target groups should observe the object as detailed as possible. It would be easier if the



facilitator / tutor create good guidelines questionnaires. On the active learning process, the teacher as a good facilitator should be able to stimulate the student to ask and find the answer by himself after doing good observation.

During this phase the analogy on the topics could be raised; that is, on the Buddhist philosophy and principles. On the same action, questions on the factual physical situation / condition and on the philosophy could be raised together, this is critical but the appropriate way to learn deeper on the meanings of the Teachings.

The next form of field activity is comparison. As the meaning of the word denote itself, it is actually a combined observation of a couple or more objects. This activity would reveal more factual facts or conditions of the objects. It is easier for many people to understand the circumstances or phenomena after comparing objects; besides, this activity will give the observer a wider horizon.

The third form of activity is (simple) experiments. Some people will easier understand matters if they have done or experiencing themselves; even though experiments might be unpleasant. They will never forget the lessons after experiencing this special activity. These experiments could be in positive ways too; such as re-planting plants, recycling wastes and many others. The difference of the IBEE and other common environment education programs is on IBEE'S specific point of view which conforms to Buddhist principles and teachings. The point of view and how to see things would be different from Buddhist way.

Close to the end of the program, future action plans should be set to ensure the continuity of the whole program. It is an indirect way to evaluate whether the program's targets are achieved. There should be also a direct evaluation to know whether there are things that are not appropriate or not suited to the participants. It is useful for the organizers to improve the programs quality.

### **Further actions plan**

A proper and well-planned training for such future *Dhamma* trainers is much needed. There should be a good systematical training done by experts of the fore mentioned knowledge on the field, to develop a good program on IBEE (Integration of Buddhist and Environmental Education) methodology and the module. The tryout of the new method should be carried out formally in so far the method has been developed on experiential basis with various groups only.

Sessions to share experiences on this (new) approach among *Dhamma Duttas* and others would increase its quality. There should be a kind of IBEE (Integration of Buddhist and Environment Education) club. It is much expected from IABU to follow up with a Workshop on Implementation of Integrating Methodology of *Dhamma* Teaching with Environmental Education.

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