

## **Implementation of Buddhist Principles for Improving Environmental Quality and Humanity's Welfare**

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Human knowledge and expertise may reach its highest points at the moment, but without true direction from the *inner* light as taught by Buddha, they might go astray. While implementation of correct actions based on scientifically proven knowledge, could take humans to a better life - in the experiences done so far (which will be detailed in this paper), these actions are easy, fun and also economically benefiting. These actions can be done and implemented by anyone, at any place. Therefore, it is suggested that it could become the tool-medium for *Dhammadutas* [missionary-monks] during the spreading of the Buddha's messages. There should be proper training for *Dhammaduta* during their study - to learn deeper on environmental practical-actions, for environmental preservation and restoration which reflects Buddhist philosophy, ethics and proper moral conducts.

### **Importance of Ecological-Training for Dhammadutas, Upasakas and Upasikas:**

#### **-Buddhist teachings on love to nature and other beings**

*Sabbe Satta bhavantu sukhitata:* May all beings be happy. This popular phrase of the Buddhist's teachings shows basic ethical-conduct of Buddhists towards other beings and nature. Buddhist expects that other beings and creatures: big and small, visible and invisible to have harmonious life and be happy individually.

It is among important Dhamma teachings, which reflects Buddhist ethics on human conducts to other creatures. This will lead into other Dhamma guidance: showing and implementation of *Metta*, *Karuna*, *Mudita* (love and care for other beings) and also on *Kamma*. The *Dhammapada* shows the basic ethical injunction proposed by most world religions, the difference in the Buddha's teaching they are freed from theistic moorings and grounded upon two directly veritable foundations concern for one's integrity and happiness and welfare for other beings.

*Metta bhavana* suggests people to think deeply about all the effects – impacts of hatred and evil thoughts towards others. As long as people do not understand the effect of hatred, he is still conquered by this evil deed. If he can overcome it, he will not go astray to evil life which will cause *dukkha* and sufferings. As *metta* softens one's heart, it is defined as the sincere wish for the welfare and genuine happiness of all beings without exception. It is also explained as the friendly disposition, for a genuine friendship sincerely wishes for the welfare for others.

The *Dhammapada* states that one should start from one's self, he should gradually extend his *metta* towards all other beings, irrespective of creed, race, color, or sex, including dumb animals, until he has identified himself with all, making no distinction whatsoever. He merges himself in the whole universe is one with all. He is no more dominated by egoistic feelings. He transcends all forms of separation. He can regard the whole world as his motherland and all beings in the ocean of life.

We should develop love and care towards others, particularly if they are in sadness, poor conditions and sufferings; we should our love and care, and develop *karuna bhavana:* love and attention towards others. It is the virtue that sublimates man in compassion. It is defined as which makes the heart of the good quiver when others are

subjects of suffering, or that which dissipates the suffering of others. Its chief characteristic is the wish to remove the woes of others.

The hearts of compassionate persons are even softer than flowers. They do and cannot rest satisfied until they release the suffering of others. At times they even go to the extent of sacrificing their lives so as to alleviate the suffering of others. It is compassion that compels one to serve others with altruistic motives. A truly compassionate person lives for not himself but for others. Compassion embraces all sorrow-stricken beings, while loving-kindness embraces all living beings, happy and sorrowful.

By *mudita* we will have empathy and can also join the happiness and joy of others. It is not mere sympathy but sympathetic or appreciative joy which tends to destroy jealousy, its direct enemy. The chief characteristic of *mudita* is happy acquiescence in others' prosperity and success. *Mudita* embraces all prosperous beings and is the congratulatory attitude of a person. It tends to eliminate any dislike to the happiness of others, on the other side it encourages and supports the happiness of others.

The view on other living things is clear as Buddhist teachings clearly state that life is not an isolated process commencing with birth and ending in death. Each single lifespan is part of a series of lives having no discoverable 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 a higher level we meet heavenly worlds of greater happiness, beauty and power and on a lower level we find infernal worlds of extreme sufferings. *Kamma* is the cause of rebirth. *Kamma* determines the sphere into which rebirth takes place, wholesome actions bringing rebirth in higher forms, unwholesome actions bringing rebirth in lower forms.

It is clear that in the Buddhist's teaching, all forms of living beings are interrelated, particularly as they are the same individuals of being in different forms. Therefore, care and love for other beings and creatures is basic and important in Buddhist ethics and morals.

In the implementation of daily moral-conduct: Buddhists should observe the ethical code of conduct (*sila*). Depending on the pledge of each individual, *upasaka*, *upasika* and lay persons, on which and how many *sila* they observed, this *sila* has two major target objects of the conducts: one's own daily conducts, actions and privacy; while the other target objects are other creatures and natural elements.

Implementation on daily life of these basic principles are shown in various forms of conducts and rituals; such as: vegetarianism, *fang shen* (to free caged animals back to nature), regulations to respect the growth of nature during certain months, particularly during the rainy wet seasons, as during these months many creatures are breeding, growing and developing. We should respect and give the chance to the other creatures to live accordingly.

On the other side, the *adhamma* which should be avoided according to Buddhist ethics are *lobha*, *dosa* and *moha*. These are the deeds that are associated with attachment, ill will and delusion. They are important to understand as they have a big influence on humans' actions towards other creatures and nature. People should avoid these acts of attachment, not only to free themselves, but also to care, love and be compassionate. Avoiding the attachments acts certainly will lead us to better *kamma*.

There are lots of actions that exploit nature and the environment because of these *adharma*: *lobha*, *dosa* and *moha*. Materialism and deep consumerism are forms of ill-will and attachment. People's needs become greed, fulfilling the needs only is not enough because of human's greed. The impact of this will be *dukkha*, leading to worse *kamma*, as it is the law of cause and effect. Bad thought, word and deed surely will lead into astray and bad life.

The bad *kamma* starts by ignorance and no-knowledge of wisdom (*avijja* – *avidya*). This will lead into wrong actions, which brings into bad *kamma*. Ignorance of the truth of sufferings, the cause and the end, and the way to end it, is the chief cause that sets the wheel of life in motion. In other words, it is the not-knowingness (ignorance) of things as they truly are, or as oneself as one really is. It clouds all right understanding. When ignorance is destroyed and turned into knowingness, all causality is shattered.

Buddhist ethics at the *Vinaya Sutta* give guidelines on good actions on the *sila s*. No bad thought, word and deeds are put in clear guidance under the light of the Noble Eight Fold Middle Paths. In brief, there should not be actions, even thoughts and words of hurting others, worse is killing and destruction.

All the above explanations are the basic moral and ethics that will lead and guide us for clear actions to environment preservation and restoration. Base on the universal love and care as lead by the Buddha Himself, human should avoid the *adhamma* actions, on the other way *metta*, *karuna* and *mudita* implementation on the environment will improve and guard the whole life and earth to be sustainable.

### **The ecology; the basic principles:**

Ecology, ecosystem and food webs, matters cycles, interdependency  
biological pollutions, stranger species domination, endemic species, ecological disaster

*“The goal of ecology is to find out how everything in the biosphere is related.”* - G Tyler Miller – 1982

According to Buddhism the earth, an almost significant speck in the universe, is not the only habitable world, humans are not the only living being. Indefinite are world systems and so are living beings.

As written above the *Dhammapada* states that one should start from one’s self, he should gradually extend his *metta* towards all other beings, irrespective of creed, race, color, or sex, including dumb animals, until he has identified himself with all, making no distinction whatsoever. He merges himself in the whole universe is one with all.

From the ecological view 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, and into space as low quality heat.

The basic principles of ecology are about the interdependency of the organic / biotic factors with the non organic / a-biotic matters. The organic elements are:

- plants
- animals
- human

While the non organic matters are:

- soil / earth (including: stone, sand, mud and other minerals)
- water ( fresh and salt water)
- air (Oxygen, Co2, Nitrogen and other substances)
- energy (sun light, fire, electricity)

The interrelations of these elements are complex, and ideally should be in balance, so that the living organism could live in good state. Should there be any unbalanced situation of whatever degree to either elements, it creates problems; pollution, erosion – land slide, flood. The relations of all factors are in the form of cycles; some important cycles are:

- water cycle: water from water bodies (lake, river, sea), vapor, clouds, rain, springs into river
- oxygen – carbon cycle: oxygen – animals and human – carbon dioxide – plants - oxygen
- nitrogen cycle: nitrogen (by process of sun light) – plants – animals – decomposition – nitrogen
- other cycles: phosphorous, sulfur, organic substances cycles; food chain, producers – consumers pyramid, decomposition

All forms of life depend for their existence, on a multitude of materials that are composed of:

1. solid lithosphere: soil, sandstone and minerals, the upper surface or crust of the earth
2. the gaseous atmosphere: the air above the earth surface
3. the hydrosphere, water, ice, snow, on all earth' s surface
4. the biosphere: parts of the three above in which living organisms can be found... The biosphere contains all water, mineral, oxygen, nitrogen, phosphorous and other nutrients that living organisms need.

All living things, human life and other forms of life also depend on the **culture-sphere**; as human with its' intellect, the use of human ingenuity and knowledge are able to extract, produce, and manage the use of matter, energy, and biological resources to enhance human survival and life quality. A major input of ecology into the culture-sphere is that all forms of life on earth are directly or indirectly interconnected. In order to prolong human survival and life quality, we must not blindly destroy other plants and animal life – human must learn to work with and not against nature.

In scientific term all living creatures is called an organism. There are microscopic organisms, which can be seen only with the help of a microscope, and there are also big – giant animals such as whales and elephants. All individual organisms of the same kind constitute a species, which can be interbred. World wide scientists estimate there are more than 10 millions species of living beings: plants and animals.

When a species live together as a group in small units, it is known as the population. Each organism and population has a habitat: the place or the type of place where it naturally or normally thrives. A community, in ecological terms, is made up of all the populations of plant and animal species living and interacting in a given habitat or area at a particular time. Examples include all the plants and animals found in a forest, pond, aquarium, desert or the sea.

The above mentioned elements of nature form what is called the ecosystem. Ecosystem is a link of all elements: alive and non alive – air, water, soil/minerals, energy; created a complex interdependency, a have a specific characteristic as they are depend also on the geological – geographical situation and conditions.

Ecologists classify ecosystems according to their general similarities in structure. There are three major types of large terrestrial ecosystems, they are: deserts, grasslands and forests. Each has a characteristic set type of plants, animals, climatic conditions and also general soil type.

There are several types of ecosystems, terrestrial, fresh water aquatic and sea-marine ecosystems:

- Tropical rain forest is the most rich and diverse in biological forms /living creatures. They are located in tropical area, the plants and trees are also heterogeneous, rich with various different forms and types.

- Deciduous forest is the forest which is located in the temperate, mid-latitude with moderate average temperatures that change significantly during four distinct seasons. They are dominated by a few species of broad leaves of deciduous trees.
- Coniferous forests are found in high altitude mountain areas and northern cold high latitude area such as subarctic regions with subarctic climate. They are also called as taiga or boreal forest, consist of mostly needle leaves trees. In this ecosystem biodiversity is low.
- Grassland – tundra: they are found in regions where there is moderate average precipitation, great enough to allow grass to prosper yet so erratic that periodic drought and fire prevent large trees growing. There quite few animals, particularly who can live on grass. Tundra is located close to the arctic, just below the arctic region with bitter winter cold. Yet the ground is still covered with thick spongy mats of low growing plants such as lichens, grass like plants.
- Desert: containing little vegetation or widely spread mostly low vegetation. The low precipitation and almost no rain drops makes this area has poor amount of living creatures.
- Wetlands, rivers, ponds, lakes. They belong to the freshwater aquatic ecosystems. They have particular kinds of plants and animals that live in the water, but there are also plants and animals that need to be in the water although they are terrestrial or even arboreal. They differ from marine and coastal ecosystems because of the salinity and minerals contents amount.
- Coastal and marine. Oceans play key roles in the survival of life on earth. As the ultimate receptacle for terrestrial water, they dilute many human produced pollutants -wastes to less harmful or harmless substances. Oceans also provide rich ecological niches with about 250,000 species of marine plants and animals. Humans used to think of the earth in the term of land. It is more accurately described, however, as: the “water planet” because 71 % of its surface is covered by water and 97% of the water is in the oceans.

### **Good or bad virtues:**

Buddhist traditions on love to nature: *fang shen*, replanting – reforestation as the implementation of *metta*, *karuna*, *mudhita*

One of the various ways guidelines shown by Buddhist’s code of ethics to implement the *Dhamma* actions: *metta*, *karuna* and *mudhita* are the implementation of *fang shen*. It is done by releasing caged animals back to the nature: particularly birds and fish; as they are the handy ones to obtain. It is one of the expressions to show our compassion towards other living being. It is part to train the compassion, *metta* inside us ourselves and to live in harmony with other beings.

At present, with the big problems of nature exploitation of almost every components of nature, it cannot be denied that it makes it creates sufferings of many other creatures, visible and non visible. Ecosystems are polluted and destroyed, because of human greed and unwise ways of using and exploiting nature. From the top of the mountains to the depth of the oceans, it seems there are no safe havens for living beings.

For many Buddhists *fang shen* is one of the important actions for nature – environment preservation and rehabilitation. Not only releasing caged animals including birds to the nature and fish back to the rivers, many programs including replanting and reforestation. Surely they are good deeds which will bring good *kamma*, avoiding further environmental disasters for humans ourselves.

Environment and nature rehabilitation is mostly done by implementing replanting

and re-forestation. Over-logging of forests and tress brings various kinds of disasters that cause suffering to people in various countries and areas: with floods, land slides, erosion. They bring great calamity and sadness to people and to others. Therefore, many people think that the best way to over come the problem is (among other) by the implementation of re-forestation and replanting trees.

Unfortunately, without proper, good knowledge, these good intention actions are causing worse conditions: **the ecological disasters**. Instead of nature and environment rehabilitation and restorations, worse situations are created, causing ecological disharmony, making bad impacts and bring many beings into suffering and sadness.

It is very true, that for what ever actions done by humans, Buddhists in particular, right – true *vijja* (*vidya* – knowledge) and the Noble Eightfold Noble Path - Eight Noble middle ways is needed to be implemented. It is very true, that without proper knowledge of the field into which we are going to do actions, it will not bring good *kamma*, but on the other side: *bad kamma*

### **Case study 1 - Fishzilla: Snake-head fish terror:**

In November 2010, the National Geographic television show their documentary film on the Snake-head fish attacks at the rivers, lakes and other water bodies in Eastern USA: Lake Crofton, River Potomac and others. The word Fishzilla is a mock word after the commercial film Godzilla; a film about a dinosaurian monster – a kind of Tyrannosaurus that attacked and terrorized USA. The snake-head fish belongs to Channa family in zoological term. It is known in scientific name as *Channa asiatica*, *Channa argus* and many other species. Originally these fish species found in the River Mekong and all of the branch rivers in mainland Southeast Asia (such as Chaophraya in Thailand)

In the original habitat, there is nothing wrong with this fish. The fish is caught and becomes delicious meals for many people in Southeast Asia, it is also known as a fish with medical effects, and the protein is good for diseased people. The fish also lives in harmony in its' ecosystem, plenty of food for their life, and also have predators that eat them.

But in USA eastern rivers, the fish becomes scary animal, threaten not only fishes and other animals in the river, but also human and their pets. The snake-head fish can live on land for many hours as they have a pocket of water at their gills, to be able to have oxygen out side the water. As they are carnivorous fish, in the water they eat almost any fish and other animals. While to local fishes and animals, not knowing about the snake-head fish, as it was not part of the local river ecosystem, they do not have any way to protect themselves. They become easy prey for the snake-head fish.

Sometimes the snake-head fish also cross the land to look for other waters and prey. During on land, it was also reported they attacked people and their pets. They look scary as the head looks like a snake with many sharp teeth. They caused severe ecological disaster in the Eastern USA rivers.

When investigations were done by experts, on how this monster fish could pollute the USA rivers, they found out the original habitat of the fish is in mainland Southeast Asia rivers. The fish is known as Asian delicacies and also good for sick people. For the commercial needs, the fish is exported to the USA, sold in Asian food stores all over USA.

A man in New York area of Southeast Asian origin bought a couple of the fish to serve his sick sister. It was to help to heal the sister illness, he planned to prepared meal made from the snake-head fish. But he found the two fishes were still alive, and the sister was getting better. To push a faster better *kamma*, he made the *fangshen* ritual, releasing these two aliens – non local fish into American river. It did not bring good *kamma*, on the

other way it created big ecological disasters to American nature. The snake-head fish does not have its natural enemy and predator in the American waters.

### **Case study 2 – Replanting/Reforestation with *Pinus Mercusi*, and others:**

As mentioned above, the natural forest in the tropical areas is tropical rain forest, rich in biodiversity. There are various species of plants, from the shrubs, bushes to tall giant hard wood trees. It created complex, diverse and heterogeneous living structure interlinked with each other, The integrated link of these rich ecosystem components are not only among and for living creatures, but also with the a-biotic nonliving elements such as: water, air – wind, energy: sunlight, heat and macro and micro climate.

The dense tropical forest, because of the various varieties of plants and tress, becomes the main factor for (water) springs to emerge. The thick plants and trees' leaves function to catch and filter water: from the rain, and also dew. They collect water in the soil with their dense root, and come out as springs.

The various plants and trees are also providing food and shelter for many various kind animals, big and small. The animals create the food chains, starting with plants as producers, herbivorous up to the predator animals and the decomposers. Without human interference, the forest and all its components are in harmony.

To fulfill human's need, there are enough resources if human could manage the forest wisely. But to satisfy *lobha*, *dosa* and *moha*, people exploit the forest without any considerations. They clear out everything to use just some of forest products, mostly forest. This action already created disasters and difficulties, for all beings: plants, animals and human who depend on the forest.

Some efforts to avoid desertification were done, among others by re-planting with tress. But it would not be easy to bring back the natural forest with its' biodiversity. Also it will take long time, for more than 25 years according to some research. Also to fulfill further human need: in re-forestation, the once natural diverse natural forest was turned into a production forest. The production forests are planted with one type of hard wood tree, such as: Teak wood (*Tectona grandis*), Pine tree (*Pinus mercusi*), and others.

This mono culture planting method created bad ecological system. As it is mono type – homogeneous plant, it is too poor in biodiversity. One kind of tree only, can not precede the natural ecosystems cycles mentioned above; particularly the food chain, water cycle and animal habitat. Only few animal species could live in the homogeneous plantation, created no food chain. It also cannot filter and absorb water into the land's soil. The old springs available before, are now lost and gone forever.

Surely, without water and springs, no food chain, this creates suffering and difficulties for many kinds type of living being. Also the mono culture plantation cannot absorb water, it was reported that during heavy rainfall it caused strong flood and erosions. At the end it will give misery to people.

### **Other cases - Problems on water, land (soil), and air:**

The above mentioned elements: water, soil, energy and air are essential factors without which no living being could survive. But, people keep forgetting it. So consciously or not we are polluting the water, air and soil. We throw away our refuses, the solid garbage, soiled water and poisonous gases into the water bodies, soil and air.

Eventually, it creates various global environment problems: desertification, geological upheavals, climate change, global warming, hazardous waste etc. People must realize that the roots of all these problems were initiated at local issues, so it must also be solved with local actions. We can see in Indonesia various high scale disasters which have occurred and are still happening: tsunami, typhoon, landslide, mass scale flood, drought,

earth quakes, volcanic eruptions and many others, all of which lead into disasters and brought miseries: diseases, hunger, poverty, malnutrition, social unrest.

The vastness of these problems should not discourage us into lethargy and apathy because we might feel and think they are too large a burden to solve. Therefore we should be conscious about all our actions, and the effects caused by them since by now we should realize that the sole victim of all these are human actions which cause and create that devastating effects/impacts. This clearly shows that *kamma*, cause and effects are initiated by human conduct.

### **Multiplication of environmental preservation – restoration the Buddhist way, through environmental education training for upasaka and upasika:**

Young Dhamma intellectuals should grasp the Vision, knowledge and horizon of the global environmental problems. As mentioned in the *Dhammapada*, especially in the Noble Eightfold Paths, we have to have the right thought, right conduct – action, having good knowledge (*vijja - vidya*) which will lead us to freedom from *avijja*, ignorance and not knowingness because these three will bring us into wrong actions and create bad *kamma*, and causing multiply miseries and sufferings.

So, essentially, all Buddhists, intellectuals, upasaka, upasika, sramanera and even simple laypersons should have proper knowledge on nature and the environment. Right knowledge will take us into right thoughts and good conducts. By combining all those principles with the Eightfold Noble Paths will give us wisdom, which in the end will bring *good kamma*.

As sure as every Buddhists should be a *Dhammaduta* (ambassadors of Dhamma), it is just too much to expect them to be environment experts, but basic knowledge and skills on practical applied actions on how to solve environmental problems are needed. So, particularly young intellectuals should study and learn deeper the environmental science: the cause and effect / impacts of human behaviour to other living being and non living things. And that is still in line with Dhamma teachings which are molded into a real, tangible rule that is applied directly to everyday life.

The implementation of the integrated *Dhamma* messages with real applied actions, can lead people to change their view and attitude towards others and to nature and other living beings. Caring for all nature elements, even the non living – a biotic: soil, water, air and energy, even so to other living things; plants and animals, not only will reflect *metta* of Dharma, but will also improve the quality of life for all.

The knowledge on the quality of water, will guarantee a good conduct to do *fang shen* of releasing fishes into the water. The quality of water can easily be seen by observing the diversity of lives found in it. Even if the water looks clear, but there is only few lives there, it surely indicates that the water is of a poor quality. The worst quality of polluted water can be noted if there are only some simple organisms or worms which live in it. Knowledge about the geography of the river, its source are also helpful to make us certain whether the water body is the right habitat for the fish so, we will not make the mistake of creating ecological disaster and suffering for the fish and the local people.

A proper suggestion is that we should organize and conduct a good training of nature and environmental knowledge to Buddhist intellectuals at the earliest moment possible. It should be in the form of **training of trainers (ToT) because as** professional trainers in environmental knowledge, they will have a better leverage to effectively, faster and easier spreading of the Dhamma messages on *metta*, *mudita* and *karuna*. They will also present tangible results of environment and nature preservation and rehabilitation the correct ways.

It is not necessary that the participants to the training of trainers have extensive



environmental science background. It is meant for everyone, lay people, to make them have proper knowledge on nature and the environment. The training would be idealistic if it could be combined with the training on Dhamma teachings so in the field both are supporting and complementing one another, in a tangible way.

We then can expect that in the field, even a young novice, a lay person, children of young age will find the truth of Dhamma teachings because they will discover the implementation of the theoretical *Kamma*, the interdependency of all creatures, the implementation of *metta*, *karuna* and *mudhita*. On the other hand they can also learn the impacts, positive or negative of human 's conducts on the environment, on living beings, and then learn how to avoid ignorance, *lobha*, *dosa* and *moha*.

### **Methods of environmental preservation – restoration, the correct, easy and simple ways:**

Actually, the way(s) to preserve and restore the environment is (are) not complex and difficult. It should start with the right – correct knowledge and understanding of *Dhamma* and basic environmental knowledge. Begin with a global way of thinking, since all global environmental major problems issues, could be traced back to the impact of our /everyone's actions, directly or indirectly.

Therefore, the restoration and preservation ways should also be started locally, on individual basic actions. Planting trees, releasing caged animals, proper waste water treatments are all good actions; even if the reasons and the ideology behind these actions are different one person from the other. Without true understanding and proper knowledge, those good actions will be meaningless and won't last long. Most people do this nowadays without any considerations and wisdom, but for ceremonial acts only, so they will have no good impact on the environment.

Implementing *Dhamma* teachings of *metta*, *karuna* and *mudita* in the field with good knowledge on nature and environmental matters, will be appropriate and will have true, long lasting good results on nature and environment restoration and preservation. Whereas from nature and the environment we learn the *Dhamma* teaching alive.

After having basic knowledge on the environment and nature, namely the ecology, the participants should practice it on the fields, doing some experiential learning process on nature elements, both the living and non living components, and their interactions, interlinkedness and interdependency. On field participants will realize that humans and other living beings depend very much on the non living components: good water, good soil, fresh air and good energy – sunlight, as well as to other living creatures: plants and animals. No human could live without interacting with other living beings: plants and animals.

The next step after knowing – understanding this matter, one should learn further on how to take care of other nature components, both the living and nonliving elements. We have to be able to take care not to pollute the water; we should use water with much consideration. We – humans cannot avoid not to make the water dirty, we shall pollute them after using it, but we have to realize that appropriate science already found the simple and easy way to care for the polluted water.

It is the same case with other environment elements: there are various easy and simple ways to take care of them, to avoid pollution and also to treat them well. With proper treatments pollutions can be much reduced to a minimum degree, and we can leave the rest to nature to balance thing up. Basic knowledge on chemistry will help to increase soil quality to be suitable to be planted.

Integrated knowledge and skills on ecology and the environment, combined with understanding of *Dhamma* teachings, will together create great positive impact,

sustainable and everlasting environment problems solutions. As during the implementation, good conducts which are based on the right correct philosophy, ideology, will have positive results and appropriate for the people and the environment.

It is not difficult to do activities to preserve, restore and/or rehabilitation on nature. Some of the easy, simple, fun and interesting things to do are:

- on soil treatment: waste and bad soil could be restored by mixing it with neutralizing elements. If the soil pH is too low (acidic), we should add base (alkaline) substances such as lime soil. And so vice versa, if the soil is too alkaline, we should add acidic substances. Then to make it even better, mix it with natural fertilizers: compost, animal dung etc. To preserve soil, we can plant nitrogen fixing plants, such as legume plants (Leguminosae). These plants can put lots of natural nitrogen into the soil, while their fallen leaves are good fertilizer.
- on water problems: we should save water. It is a precious substance, needed by all living creatures. We can help nature to preserve and restore the water by using better natural cleaning products which produce less polluted water. We can also set simple water purifiers, and set a simple physical, chemical and biological water treatments.
- on air problems: the easiest way is to plant as many plants and trees as possible. There are plants and trees known for their capability to purify air better than others, such as: *Sansivera* sp. We should also reduce the use of cars, motor cycles – all toxic gas emitters will help make the air quality better.
- for energy solutions, the best way is to save energy. The use and efforts to develop (new) renewable energy forms are the best. There should be more information and better technology to use fire wood, as the trees will always be available if we plant them regularly.
- for living creatures: the best is just to restore and keep the natural forest and other natural ecosystems intact. For the cleared land, we can re-forest them with as many diverse plants and trees as possible, known as local species, and not with strange and alien species. We should also consider wisely about the food availability and shelter for all animals inside the reforestation project. We should make sure that there would be enough food for the animals before we release them back to nature during *fang shen* rituals.
- organic farming programs are one of the best ways to have a good life for people and other living creatures. Some of us will have to consume animals beside plants, but we have to make sure, that at least there is an ethical treatment before slaughter, and the animals have proper welfare during their lives. Fresh organic vegetables are not only good for health, it will be also good for the soil, nature and other living things because these methods do not use any harmful chemicals for fertilizer and biocides – pesticides which kill other harmless living creatures.

Training of trainers for these skills and knowledge will enrich one's understanding on various present time problems on the environment and the capability for possible solutions. Particularly for those whose main task is to spread *Dhamma* teachings, it would be appropriate to learn more on the ecology and environmental matters. The skills and knowledge on these topics, along with implementation skills expertise, will be needed by many people to improve their life's quality. This would be a good entry-point to spread Buddha's teachings.

### **Summary and conclusion:**

For a proper and appropriate solution to the environmental matters, for the

preservation and restoration, good knowledge and skills on the ecology and environment are needed. As Buddha said, good understanding, and good thoughts, would take us into good actions; which at the end would result in good *kamma*. The true, good and correct conducts should be done only with the right understanding and knowledge.

Integration of *Dhamma* teachings and the knowledge on the environment and ecology would make one have the correct understanding to lead him into proper way of implementation Buddha's teaching in nature restoration and preservation. One way to make it come true is by organizing a particular TRAINING of TRAINERS on the integration on *Dhamma* and environmental science.

The training should be organized as often as possible to as many people as possible, so that we have plenty of experts on these topics who would conduct more and more an extension and public education programs. With the implementation of this suggestion, it could be calculated for sure that environment preservation and restoration the Buddhist way would be on the right track to make a better earth and world to live in.

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