

A Manual for Buddhism and Deep Ecology

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Buddha Dharma Education Association Inc.

A MANUAL for
BUDDHISM
AND DEEP
ECOLOGY

Daniel H. Henning, Ph.D.

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A MANUAL for BUDDHISM AND DEEP ECOLOGY:
SPECIAL EDITION BY THE WORLD BUDDHIST UNIVERSITY

(With permission of author.)

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“To the spiritual protection of trees and forests worldwide”

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Preface

by the World Buddhist University

Practicing Buddhism is sometimes described as like walking through a forest on a misty day. Eventually you “get wet” and come to a deeper understanding of the teachings. The same might be said about environmentalism. Eventually, hopefully, it moves from manipulating or even saving the environment and becomes the environment. “Getting wet” in this sense is incorporating a spiritual perspective in working with and in the environment. This is called Deep Ecology.

Buddhism and Deep Ecology belong in the same title because at their core they are both talking about how to be at home in the universe. The original meaning of ecology goes back to the Greeks who saw the earth and the gods and spirits who inhabited it, as our **home**. Thus we have Home Economics and Economics referring to activities and transactions in the home. Being at home for a Buddhist suggests teachings about how our mental conditioning and the delusions of our impermanent self can be let go of so we can be one, or at home, with the universe. This state of oneness is called Nirvana or Enlightenment. The teachings of The Buddha also portray a total inter-connection with everything that is also part of Deep Ecology.

It is in light of this close relationship that the World Buddhist University welcomes the opportunity to support the research of a Buddhist scholar, Dr. Daniel H. Henning, who has brought these two types of teachings together in his ground breaking book, “Buddhism and Deep Ecology”. At their core both these streams of human insight are spiritual. There are other uses of ecology, such as in Human Ecology, but our relationship to all the other life forms that share this common home with us is so basic that it needs to be more

widely studied and applied to programs in every community. In order to help more people combine the teachings of The Buddha with the principles of Deep Ecology, we have published the book in a MANUAL format that will focus on key comments in the text, suggest questions and rearrange elements of the book for easier use. We hope students of Buddhism and experienced practitioners will incorporate a study of Deep Ecology into their Buddhist practice.

Is there a Buddhist method of the study of the environment? Dr. Henning, who has been associated with the World Buddhist University for several years, has taken a deductive approach in his book. He builds up his case step by step so the reader can follow his reasoning about how Buddhism is related to Deep Ecology. His is a very scientific, but value-oriented/consciousness approach and aids the reader in building up to an integrated understanding of the subject. It could be said that Buddhism takes a more inductive approach to the understanding of our relationship to the universe. A general teaching, like impermanence, is described and the consequences (cause and effect or Karma) are the focus of practice and understanding. How does the teaching affect our lives and how we live from day to day? After studying the deductive step by step reasoning in the MANUAL, the reader or a teacher may need to ask these larger inductive questions about impermanence, the impermanent self, Karma and other questions and follow the affects of experience for each person. These two processes complement each other.

There are ways that another author could write about these subjects including different definitions, use of Pali words and the emphasis placed on certain concepts. However, the World Buddhist University respects the right of Dr. Henning to his own approach and except for some minor changes and

adjustments presents it as his work that can be judged on its own merits. We hope that by republishing the book as a MANUAL, it will be helpful to more people in practical ways. After the retreats and purification of intention, for lay practitioners especially, there is the daily work of promoting the earth as our home and taking care of it. Beyond the caring and compassion there is the celebration and Oneness that can be sensed if we enter the spiritual nature of the total environment, our home on this earth.

The World Buddhist University hopes you enjoy reading and using the MANUAL. There are experiential exercises described in Chapter IV that will help you put into practice the teachings in the MANUAL. This MANUAL is part of a larger program of ecological education that the University is creating with hopes that you will be part of it in the future. Please send us your suggestions and information about the programs in your community so “Buddhism and Deep Ecology” will have a positive Karmic affect throughout the world. Dr. Henning offers workshops on this topic. For details about their availability see the back of the MANUAL.

May all Living Beings be happy! As long as we consider ourselves as “Human” Beings and, consequently, arrogant and separate from other living Beings or life forms, we cannot follow the true teachings of The Buddha or of Deep Ecology.

H.E. Phan Wannamethee
Acting Rector
The World Buddhist University

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I wish to personally thank the many people who have contributed to this book over the past 12 years, but who cannot be acknowledged in this brief note. They would include Buddhist Monks and Nuns, particularly those from various Buddhist Forest Monasteries, as well as Deep Ecologists and Environmentalists from Asia and worldwide. A work like this could not have been possible without the consultation and literature from a wide spectrum of institutions and people who are involved in some way with Buddhism, Deep Ecology, tropical forests, environmental affairs, environmental education, forestry, and public participation, including the United Nations and the World Fellowship of Buddhists and the World Buddhist University. The author also wishes to express his gratitude to the Foundation For Deep Ecology, Sausalito, California, for providing a grant during the initial stages and for permission to quote from their Deep Ecology policy statement.

On an individual basis, however, I would like to express my deep gratitude and appreciation to the following: To H.H. The Dalai Lama for his environmental responsibility conference invitation (India), interest, and talks. To S.N. Goenka, Vipassana International, India, for his meditation and *Dhamma* teachings. To Ven. Ajahn Sumedho, Abbot of Chithurts Monastery, England, for his encouragement during difficult periods. To (now deceased) Ajahn Buddhadasa, Ajahn Santikaro, and Sister Dhammadinna, all of Wat Suan Mokkh, Thailand, who provided teachings, contributions, and encouragement on *Dhamma* and ecology. To Buddhist scholars Ajahn P.A. Payutto (Phra Devedhi), Abbot of Wat Phra Phirain, and Dr. Rawi Bhavilai, Director, *Dhamma* Centre, Chulalongkorn University, Thailand, for their early reviewing of the manuscript. To Ajahn Phra Prachak, International Network of Engaged Buddhists, for his leadership and teachings on Buddhism and Deep Ecology in talks and jungle trips.

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Polson, Montana

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Mr. Alan Oliver
Programme Manager

INTRODUCTION



Buddhism and Deep Ecology explores the ecological and environmental teachings of Buddha, particularly *Dhamma* (nature) and their relationships with Deep Ecology as well as with effective public participation. In the context of this book, *Dhamma* (also known as *Dharma* by many Buddhists) is nature, natural truth, natural law and the

teachings of Buddha. Lack of effective communication and citizen participation in environmental affairs, especially between Westerners and the peoples of Asia, has been the cause of needless environmental, societal, and economic problems and costs. Buddhism, especially through *Dhamma* and Deep Ecology offers a means to secure that participation in the decision-making process in both Buddhist and non-Buddhist nations.

Technical experts offer countless opinions, pro and con, on developments that may change forever a stream, stand of rain forest, or other fragile ecological setting. But although technical comment abounds, it is, unfortunately, for sale or hire by the highest bidder. Public opinion is scarcely heard over the cacophonous chorus of vested interests. The Author trusts that *Buddhism and Deep Ecology* will bring some harmony to the discordant voices of all those concerned with the life on this planet.

The World Community declared at the United Nations 1992 conference in Rio de Janeiro,

Environmental Issues are best handled with the participation of all concerned citizens, at the relevant level. At the national

MANUAL

Comments & Questions (Quotes (in bold) are from the adjacent text)

“Dhamma...is nature, natural truth, natural law and the teachings of Buddha.” This is a key concept. That we learn from the whole universes everything has a lesson to teach, not just the teachings of a spiritual leader. Can we listen to learn the lessons? Do you listen deeply? Do you take the time to listen?

“Vested interests” Who are the vested interests in your environment? Is there a network of environmentalists who organize and speak up, who are they?

level, each individual shall have appropriate access to information concerning the environment . . . including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Much of Buddhism and its *Dhamma*, along with Deep Ecology, contains values, awareness, and concepts which could be incorporated into public participation efforts. Buddhism and its *Dhamma* is a spiritual, philosophic approach based on acceptance and compassion for all living things. Deep spirituality and deep ecology are philosophic sisters. Those who shy from the notion of “spirituality” should note that the enemy is a secular and anthropocentric religion of never-ending technological progress, unlimited materialism, and uncontrolled development which pays only lip service to the health of this planet and welfare of all living things.

In his book, *Earth in Balance: Ecology and the Human Spirit*, Al Gore states, “The more deeply I search for the roots of the global environmental crisis, the more I am convinced that it is an outer manifestation of an inner crisis that is, for lack of a better word, spiritual . . .” But what other word describes the collection of values and assumptions that determine our basic understanding of how we fit into the universe? Buddhism is a spiritual approach which emphasizes ecological values through a reverence and compassion for *all beings or all forms of life*. This approach, along with Deep Ecology, points toward the development of a spirituality, a higher consciousness or awareness (*Buddha* means “the awakened one”) which would recognize and integrate spiritual values toward nature. The formulation of positive ecological and environmental values as the basis for assuming a wise stewardship role toward the earth is

Comments & Questions

“...access to information”...”participation in decision making”...” judicial and administrative proceedings leading to redress and remedy”

Are these present in your community, state or province? What can you do to increase their presence?

Both Buddhism and “Deep Ecology “contains values, awareness and concepts.” Survey and understand your and your community’s values and awareness so they become part of the conscious interaction.”

“Deep spirituality and Deep ecology are...sisters.” The essence of this book is their interrelationship and their place at the centre of the environmental issues.

“Reverence and compassion for all being or all forms of life.”
This refers to the teaching about interconnection in Buddhism

Important point:

“Recognize and integrate spiritual values toward nature.”

becoming increasingly important, if not critical, especially between peoples of diverse cultures.

Buddhism and Deep Ecology focuses on the Buddhist view of “One” world that is home to all known life. While living with Buddhist Forest Monks in Thailand, the author found a strong concern among them for nature and forest protection . The monks translated that concern into action that included holding regional conferences on protecting rainforests from illegal logging and poaching and ordaining trees. While Buddhism is an ancient and complex belief system, consciousness of the threat of global environmental destruction is relatively new. The author hopes this volume will stimulate discussion of a new consciousness in the light of an ancient wisdom as well as integrate it with Deep Ecology.

At this point, it is appropriate to examine Buddhism’s diversity. It has been called the most mystical and the least mystical of all religions. Some seekers call it the most spiritual religion. Others insist it is a philosophy and not a religion at all. In fact, Buddhism does not lend itself to a precise, unequivocal and unified definition in Western terms. There are many schools of Buddhism, all of which stem from the original *Theravada* School. All accept the basic teachings of that school, yet they differ in various ways and interpret the original inspiration by their own lights. While *Theravada* Buddhism (the Old Wisdom School) is basically ethical and non-mystical, *Mayahana* Buddhism (the New Wisdom School)has a different complexion with its numerous divisions. It is considered to be more speculative, more cosmic, and more mystical. Some writers consider *Mayahana* Buddhism more responsive to society and nature (Badiner, 1990).

But much of the direction of both *Theravada* and *Mayahana* Buddhism on the environment is subject to varied interpretation in differing local situations. For example, the International Network for Engaged Buddhism, an NGO active in social and environmental

Comments & Questions

“The Buddhist view of ‘One’ world that is home to all known life.” Do you experience this ‘oneness’ directly? How? How do you expose youth to this ‘oneness’?

You can approach this spiritual ecology or Deep Ecology from any of the Buddhist schools or traditions. *Theravada* is more **“orthodox and non mystical”** while Mahayana Buddhism is **“considered be more speculative, more cosmetic and more mystical.”**

How does your school, tradition or Buddhist Centre view the environment?

concerns, contains members of both schools from a number of countries. *Theravada* ('School of the Elders' or 'Lesser Vehicle'), that is, orthodox Buddhism, is followed in Thailand, Myanmar (Burma), Laos, Cambodia, and Sri Lanka. *Mahayana* ('Greater Vehicle') developed relatively later and is followed in China, Japan, Tibet and Mongolia. Although these schools differ in certain beliefs, practices and observances, they agree upon the most important and basic teachings of Buddha. The Dalai Lama has said the basic teachings of Buddhism should remain culture- and country-free.



The teachings of Buddha also have "Oneness," egocentric, and spiritual orientations with loving and compassionate concern for all living beings. These teachings are very correlated and compatible with Deep Ecology and its orientations. Thus both teachings can contribute to each other for holistic and deeper approaches toward various ecological and environmental issues. This book will deal with Buddhism and Deep Ecology on a general and overall basis so that both Buddhists and non-Buddhists with ecological and environmental interests will find it a refreshing, valuable, and insightful approach to their labor of love.

Comments & Questions

Can basic Buddhism **"remain culture and country free?"**

Does the Bodhisattva ideal extend the **"loving kindness and compassion to all living?"** If you believe that, how does it change your attitude in practical ways towards all living creatures?

Common approach:

"holistic and deeper approaches towards various ecological and environmental issues."

List the major ecology issues you and your community are faced with.

- 1.
- 2.
- 3.
- 4.
- 5.

CHAPTER ONE

BUDDHISM AND VALUES

The immortal British naturalist Charles Darwin hiked with a friend through an English countryside.

“There’s an abundance of clover here,” observed Darwin. “This district must have many widows.”

The two strolled on, Darwin enjoying the country air, his friend lost in deep contemplation. At last, the friend tugged the great scientist’s sleeve.

“What has clover to do with widows?” he asked. Darwin smiled and explained,

“An abundance of clover needs many healthy swarms of bees to pollinate it. Thriving bee hives mean there are few rats to raid and ravage them. A scarcity of rats spells an abundance of cats. Who keeps and feeds packs of cats? Widows, of course.”

Darwin, who shook Christendom with his discoveries, would have made a good Buddhist. He understood and explained to the Western world the interconnectedness of nature’s realm.

Centuries before Darwin, sages of the Orient found this truth self-evident. They knew nature to be part of humanity and humanity a part of nature. Unfortunately, Darwin’s truth was relegated to the narrow realm of biological study. His 19th Century homeland and the other burgeoning and aggressive Western Industrial nations shared a different view. Infected by the doctrine of Manifest Destiny, capitalists and adventurers, politicians and pioneers joined in a



Comments & Questions (Quotes (in bold) are from the adjacent text)

Darwin’s scientific mind connected five levels of interconnection (clover-bees-rats-cats and widows). What connections, perhaps two or three levels, can you find in your own environment?

Major point of this manual, **“the interconnectedness of nature’s realm.”**

And

“nature to be part of humanity and humanity a part of nature.”

How does your culture view nature? Who are the folk heroes and how do they treat nature?

brotherhood that viewed Nature as the enemy and themselves as those chosen by God to conquer her. The legendary Paul Bunyan, slayer of trees, became the model of American heroes. America's folk heroes were deer slayers, bear killers, tree fellers and the Indian fighters who waged genocide on natives living in harmony with nature. At the height of its hubris, America created a Bureau of Reclamation to dam its free flowing rivers. Thus, a Christian nation set out to "correct" God's errors and alter a vast portion of the North American continent.

The same evangelistic spirit swept the rest of the industrial world. Conquerors and colonial powers marched to the beat of a new theology, "taming" rivers, clearing forests, breaking prairies, claiming the Earth for "God's chosen few." We find ourselves in the 11th hour of this technological, materialistic fanaticism. Moderating this self destructive, earth-devouring dogma will not suffice. Only a new world view can save us and the planet we share with all known forms of life. Buddhism's ancient wisdom may prove to be post-industrial man's salvation.

The following is a brief introduction to Buddhism's application to the environment and ecological concerns:

Buddhism is the teaching of the Enlightened one. A Buddha is an individual who knows the truth about all things. A Buddha knows "what is what" and how to behave appropriately in respect to all things. According to Ajahn Buddhadasa, a famous master teacher/scholar of Thailand, Buddhism is based on intelligence, science, and knowledge. Its purpose is the extinction of suffering and the source of that suffering. Liberation from suffering requires examining things closely, understanding their true nature and behaving in a way appropriate to that true nature. (Buddhadassa, 1989).

Buddhism views people as a part of nature. If the environment is destroyed or degraded, people cannot survive or have a quality

Comments & Questions

Who do you know who lives "in harmony with nature." Do you?

"A new world view"-

Old view: **"tame, clear, break, technological, materialistic...destructive, earth-devouring".**

What is your world view? What is your community's world view?

Buddhism: An old view which can be used as a new world view.

This new view: **"knows the truth about all things", "respect to all things."**

"Liberation from suffering requires examining things closely, understanding their true nature..."

Buddhism: **"people as a part of nature"**. Abuse of the environment means abuse of all of us and our descendents.

life. By abusing the environment, people abuse themselves and their descendants as well as future generations of all life. This basic Buddhist concept bars “unskilled” behavior which is inappropriate, incorrect, and abusive toward the environment and its variety of living things. The environment can be defined as the aggregate of all surrounding things (biotic and a biotic) and conditions that influence the life of individual organisms or populations, including humans. It is the sum of all external things (living and nonliving), conditions, and influences that affect the development and, ultimately, the survival of an organism.

Buddhist teachings recognize that all things are interdependent and conditional upon each other. Every condition follows another and all are part of an orderly sequence of cause and effect. A tree falling in the forest changes the life of a banker in the city. As the English poet John Donne wrote, “No man is an island, entire of itself. Every man is a part of the Continent, a part of the Maine; If a clod be washed away by the sea, Europe is the less.” Like his countryman, Darwin, Donne understood. The Western world view, which considers humans separate and superior to the rest of nature, can only lead to environmental crisis and destruction.

Aldo Leopold, pioneer ecological philosopher, said, “a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” Noting that environmental awareness dawned slowly and apart from the ethics of society, he continued, “There is as yet no ethic dealing with man’s relation to land and to the animals and plants which grow upon it . . . the land relation is strictly economic, entailing privileges but not obligations.” People afflicted with the Western disease of “progress” find it difficult to accept ethics that might limit their pursuit of materialism and techno-scientific advances. They seek only technical solutions to environmental problems with no thought of ecological morality. At the root of our environmental problems is an ethical dilemma: To conquer or coexist.

Comments & Questions

Define the environment in your own words:

Basic Buddhism:

“...all things are interdependent and conditioned upon each other.”

What is the Western world view that the author feels will lead to **“environmental crisis and destruction”**?

The Ethical problem: **“the land relation is strictly economic, entailing privilege (taking and earning money from it) but not obligations.”**

“To conquer or coexist”

Attempting conquest can lead to the kind of logic expressed by a U.S. Army officer during the Vietnam war after leveling a hamlet with artillery and flame throwers: “We had to destroy the village to save it.”

We have a choice. We can wait until the last hectare of rain forest is cleared, the last river polluted, channelized and dammed, the last tract of virgin prairie plowed. Or, we can learn to live in the Eden in which *Homo Sapiens* evolved. Buddhism offers a spiritual solution, a life of harmony with nature. Western materialism and blind faith in technology is the cause of the current global environmental crisis, not its salvation. Only an elevated consciousness can save our planet from unregulated technology. Buddhism offers a direct path to harmony with nature. Technology, coupled with greed and ignorance, is the beast bent on destroying our home planet in its fervor to improve it.

Chatsumarn Kabilsingh, scholar of Buddhist environmental philosophy, notes that Buddhism is not a dogma that binds all adherents to a single regime. Buddhism encourages individual perceptions, even questions and challenges on the part of each practitioner. But the braided paths of individual seekers wind in a common direction. Teachings emphasize the importance of coexisting with nature, rather than conquering it. Devout Buddhists admire a conserving lifestyle, rather than one which is profligate. (Kabilsingh, 1987)

Over 2500 years ago, Buddha was born in a forest. As a youth, he meditated under Jambo trees, studied among the Banyans, and found enlightenment beneath a great Bodhi tree. A denizen of the woods for the next 45 years, he died beneath a pair of Sal trees among his disciples. Buddhism budded and was born in the company and protection of a great life form: the forest. Buddhist teachings give rise to an environmental ethic with a concern for nature of which man is a part.

Comments & Questions

What is the choice we are faced with?

“Buddhism offers a spiritual solution, a life of harmony with nature”...“elevated consciousness”...“a direct path to harmony”...“coexisting with nature, rather than conquering it”...“a conserving lifestyle”.

Contrast the spiritual approach in the words above with **“materialism...technology...greed...and ignorance”**. Do you see these contrasts in your own community?

What is your relationship to trees and the forest? How can you develop this relationship more closely?

Buddhism begins with reverence for life and its recognition of the interdependence of all life. The Buddha taught that all sentient beings might attain Nirvana, the cessation of suffering and the liberation from the wheel of birth and death. *Mahayana*, a radical reformation movement in Buddhism around the beginning of the Christian era, stressed the possibility of liberation to greater numbers of beings. In the *Gaia* view, the earth itself is considered as a sentient being. Silva quotes Gauthama Buddha, “Just as with her own life a mother shields from hurt her own, her only child, let all embracing thoughts for all that lives be thine.” Protection of all life is a Buddhist tenet. A Buddhist Monk’s first vow is, “I abstain from destroying life.”

One of the most illustrative influences of Buddhist thought on nature conservation is its doctrine of rebirth and reverence of special trees. This doctrine holds that a human being after dying can be reborn as an animal, or an animal upon dying can be reborn as a human being. In reverence for special trees, Buddhist literature lists 21 species of tree under which 25 Buddhas attained enlightenment. Veneration and protection of these species is a natural consequence of this belief. Kabilsingh notes, “Wherever Buddhism is influential, studies will usually show some direct benefit for the natural world. In Sri Lanka, for example, Buddhism has had the largest single impact on the conservation of flora and fauna with conservation measures beginning in the third century. Formal government measures for protection of nature required acceptance by the people, with the recognition that effective conservation needs to be based on deep value convictions.”(Kabilsingh, 1987)

Without public acceptance based on deep value convictions, many governmental measures to protect the environment cannot be successful. Studies of national parks in Thailand revealed large amounts of poaching and illegal logging might be stemmed only through an appeal to the values of Buddhism. Buddhist forest

Comments & Questions

What is the definition of “**Gaia**”? How is the “**Protection of all life**” in Buddhism related to Gaia?

Buddhism and conservatism are linked because of “**deep value convictions**”. Explain why rebirth, reincarnation and veneration of the natural world are helpful to preservation?

monks in Thailand, with their strong concerns for nature protection are the strongest voices for conservation in these areas. Buddhist forest monasteries (or *Wats*) are naturally more concerned with forest protection than monasteries in urban areas. There are approximately 700 Buddhist forest monasteries in Thailand. These monasteries are often located in the last remaining forest lands in their area. Some are located near national parks and wildlife refuges. Without the influence of these monks over the centuries, there would be no forests to preserve in many areas.

The Buddhist forest monasteries have a strong concern for the welfare of the residents of nearby villages. The villagers, in turn, revere and respect the monks. The monks, by example and teaching, influence all aspects of the villagers' lives. More understanding of Buddhist environmental teachings and values is generally needed by many monks at this point. Thus there is a great potential for environmental education through the monasteries which can also serve as a communication "bridge" between national parks, wildlife refuges, and villagers.

The main concern of Buddha was to find a reason and remedy for the suffering involved in the corruptibility of all living beings. He regarded all abstract philosophical and theological speculations as sterile on the grounds that no satisfactory and demonstrable answers were possible. Thus it was not necessary to enter into them in order that his main purpose of extinguishing suffering might be achieved. On religious and philosophical issues, he maintained a "noble silence" or answered in paradoxes when questioned. Buddhist doctrine's acute analysis of the world promotes tolerance, compassion and love for all creatures. The Buddhist goal is the realization of *Nirvana* and cessation of *Dukkha* (trouble) through the Noble Eightfold path. The teachings are subtle and filled with paradox.

The basic principles of Buddhism can be summed up in the

Comments & Questions

How have Buddhist forest monasteries and forest monks helped preserve the forests in Thailand?

How is the "**welfare of the residents of nearby villages**" linked to forest preservation?

How can you build a "**communications bridge**" between the natural world and human beings in your neighborhood, town, city or province?

"Buddhist doctrine's acute analysis of the world promotes tolerance, compassion and love for all creatures".

Three Signs of Being, the Four Noble Truths, and the Noble Eightfold Path or Middle Way to Nirvana. The Three characteristics of Being are suffering, impermanence, and *Anatta* (no soul). The doctrine of *Anatta* is particularly difficult to interpret. The doctrine holds that a person consists of the Five Aggregates: matter, sensations, perceptions, mental formations, and consciousness in a perpetual state of flux. This view leaves no room for “soul” or “self.” There is, consequently, no “I” or “Me” which is a doer of anything. It is the senses that move among various objects. The deeds are there, but there is no doer. It is merely aggregates in process without a self or soul. This world-centered view regards man as part of nature, not the conquistador born to subjugate it.

First of the Noble Truths is the impermanence and insubstantiality of life, its suffering, sorrows, its imperfections and dissatisfaction. In brief, it is a doctrine of acceptance of suffering. The second is the Origin of *Dukkha*. The Buddha taught that *Dukkha* is “desire,” or attachment, the source of all passions, suffering, and defilement. The third is the realization of the Cessation of *Dukkha* which is found through non-attachment or release from all attachments. The fourth is the Noble Eightfold Path, which leads to the realization of *Nirvana*. Buddhism is the light to wither the greed and ignorance that drive the engines of mindless development. Buddhism teaches that the desire which cannot be sated can be extinguished. It assures its adherents that detachment is joy.

Finally, it leads the seeker down the Eightfold Path to: (1) Right Understanding, (2) Right Thought, (3) Right Speech, (4) Right Action, (5) Right Livelihood, (6) Right Effort, (7) Right Mindfulness, and (8) Right Concentration. The detachment that is incomprehensible to a materialistic mind becomes a comfort to the Buddhist who believes attachment is the cause of suffering. Greed cannot thrive in a cosmos where nothing is permanent and self does not exist.

Comments & Questions

A deep understanding of “**impermanence, suffering (Dukkha) and Anatta (no soul) or emptiness of self along with how our “self” is in “a perpetual state of flux”** helps us to be “**part of nature, not the conquistador (human conqueror) born to subjugate it**”. Have you adopted a “world-centered view”?

Despite that, the whole world is impermanent and subject to suffering, humans desire, attachment, and live by their “**passions**”. These lead to misuse of the environment and all living beings and results in “**mindless development**”. How much detachment, letting go and joy have you achieved?

Check out your awareness of how each of the eightfold path steps can help you achieve a balanced relationship with the environment. Watch your materialistic mind reduce in importance as you realize the impermanent self and its place as part of creation.

The Four Noble Truths are based on the fundamental Buddhist doctrine of dependent co-arising or dependent origination. The doctrine teaches that existence of any single thing is conditional to the existence of all other things. This concept does not permit the division of nature into creatures that have instrumental or intrinsic value. In contrast, the notion that things have independent existence leads to the false idea of a real self that can attain its fulfillment by appropriating real things which, in turn, is the cause of suffering or *Dukkha*. If nothing exists as an independent entity, nothing can possess intrinsic value by itself or be ecologically isolated.

Values are essential to environmental perception because they influence an individual's objectives and behavior. Much of the *Dhamma* teachings of Buddhism dwells on what we recognize as environmental values. Solving conflicts and problems associated with the natural environment requires sacrificing some values for the sake of others. Further, no one can realistically be expected to assume a role of value-neutrality or of a "value free" approach. Even physics, along with other sciences, now recognizes the role and influence of values and biases held by researchers in their subject matter and investigations. Values are conceptions of worth, importance, or desirability. Values also include judgments and degrees of what is "good" or "bad", "right" or "wrong".

The Western pursuit of happiness through consumerism and materialism and Buddhism's trek toward Nirvana are not the same, but this ancient philosophy of the Orient can illuminate the dilemma of Western materialism. The answer begins with the simple principle of detachment. Westerners will be happy with what they have when they stop chasing what they do not have. This may sound tautological. Westerners could be happy with their lot if they were only happy with their lot. However, we need not be trapped by circular reasoning if we realize that our addiction is both the cause of our unrest and the monster that threatens any chance of finding the happiness we seek.

Comments & Questions

“existence of any single thing is conditional to the existence of all other things”.

“If nothing exists as an independent entity, nothing can possess intrinsic (separate) value by itself or be ecologically isolated.”

“Environmental values” and your values are not separate. Study and list your values that you consider **“good or bad”, “right or wrong”**. Be conscious and aware of what is important to you.

“The Western pursuit of happiness through consumerism and materialism and Buddhism's trek towards Nirvana are not the same...”

“...addiction (to things) is...the cause of our unrest”. What are you addicted to?

Unfortunately, the West has done a better job infecting the East with its disease than the East has done in teaching the West a better way. As old values crumbled and new were formed in the headlong rush toward materialism and what Westerners thought would be a “world made better through science,” a snobbery of “progress” was born. The conquest, at first by arms, then through dollars, pounds, franks and marks, continues. It is difficult for conquerors to accept that subject peoples have anything to offer. Is a culture that produces a million electric washing machines better than one that treasures children and has no word for “orphan?” Is the culture that produced the harried businessman superior to the one that provides children with a father who is friend, teacher and spiritual instructor?

In the Amazon rain forest a Cofan Indian elder conversed with a “gringo” from the “world beyond the forest.” The elder’s knowledge of the rain forest surpassed that of biologists holding PhD’s who came to study there. His was a practical knowledge. He is able to find and identify more than 140 plants his people used for medicinal purposes. He knows where the peach tree grows and when its fruit attracts the brilliant blue gold macaw. In addition to his knowledge, the elder has access to a great research library. Each volume is a friend. That woman over there, she knows all there is to know about marital discord and how to insure a household’s harmony. That old man walking beneath the trees, he talks to the God of Creation. The brothers fishing along the strand, they are the heads of a family that has built the best boats on the river for many generations. The elder’s material possessions are scant and include a machete from upriver and two cloaks from the city. His wife owns several spoons and a metal pot.

Aware of the village school, run by a Jesuit priest, the visitor asks,

“Do any of your children go on to high school in the city? Do any seek a university education?”

Comments & Questions

The addiction to **“progress”**. How do you define progress in your cultural understanding? Is it different from your culture?

Survey your environmental knowledge. What do you know a lot about? What do you want to know more about? Maybe you are cut off from the natural world around you. Who do you know who knows more?

The old man shakes his head. There is too much to be learned at home.

“It takes many years to learn to be a Cofan,” he says. His gaze drifts across the river, then returns to the gringo. “My heart aches for you,” he says.

“For me?” replies the gringo. “Why?”

“Because you are so poor. We in the forest have all we want. You gringos want for so much you do not have.”

The Dalai Lama says, “If we develop good and considerate qualities within our own minds, our activities will naturally cease to threaten the continued survival of life on Earth. By protecting the natural environment and working forever to halt the degradation of our planet we will also show respect for Earth’s human descendants—our future generations—as well as for the natural right of life of all of the Earth’s living things.” (Badiner, 1990).

The Dalai Lama continues,

“It is important that we forgive the destruction of the past and recognize that it was produced by ignorance. At the same time, we should re-examine, from an ethical perspective, what kind of world we have inherited, what we are responsible for, and what we will pass on to coming generations . . . We have the responsibility as well as capability, to protect the Earth’s inhabitants—its animals, plants, insects, and even micro-organisms. If they are to be known by future generations, as we have known them, we must act now. Let us all work together to preserve and safeguard our world.(Badiner, 1990)

Many values, like wildlife and scenery, are intangible and therefore difficult or impossible to define or assign monetary values. Consequently, they are not given proper weight. Tangible values such as board feet of timber or tons of a given mineral can be

Comments & Questions

“There is too much to be learned at home” How can we help youth learn more about their own environment?

How do you **“show respect for Earth’s human descendants...as well as for the natural right of life of all of the Earth’s living things.”**

What can you do to develop this **“respect”**?

Why does the Dalai Lama ask us to **“forgive the destruction of the past”**?

Why must we **“act now”**?

quantified, described, and equated to money benefits, and therefore often will be given more emphasis and weight in decision making for the natural environment. Intangible values also recognize that a given species of plant or animal has a right to life for its own sake, to carry on its struggle for survival.

In considering these unique environmental values, we must recognize that conservation, like development, is for people. While development aims to achieve human goals through use of the biosphere, conservation aims to achieve them by ensuring that such use can continue on a sustainable basis with consideration for all forms of life. The ethical imperative or belief here implies, “we have not inherited the earth from our parents, we have borrowed it from our children.”

Conservation is management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations of all life while maintaining its potential to meet the needs and aspirations of future generations. Conservation is positive, embracing preservation, maintenance, sustainable use, restoration, and enhancement of the natural environment. Living resources conservation is specifically concerned with plants, animals, and microorganisms, and with those non-living elements of the environment upon which they depend. (IUCN, 1980).

Development can be considered the modification of the biosphere and the application of human, financial, living, and non-living resources to satisfy human needs and improve the quality of life. For development to be sustainable, it must take into account social and ecological factors, as well as economic ones, of the living and non-living resource bases and of the long term as well as the short term advantages and disadvantages of alternative actions (IUCN, 1980).

Value articulation is an effective way of linking environmental and development theory with practice to widen perspectives and

Comments & Questions

“a given species of plant or animal has a right to life for its own sake, to carry on its struggle for survival.”

Unique environmental values:

“...to achieve them (human goals) by ensuring that such use can continue on a sustainable basis with consideration for all forms of life.”

“Conservation is positive, embracing preservation, maintenance, sustainable use, restoration and enhancement of the natural environment.”

Can you be a center of promotion of these values in your community?
How will you do this?

“Development” Is development in your community sustainable?
How could it be more sustainable?

develop insights into values systems. Value definition demonstrates that value awareness, change, and clarification are interrelated. It involves the exposure to values which may be relatively new and unfamiliar or neglected. Consequently this approach is innovative and responsive to the needs and interests of the participants as they move into new areas of learning about the environment, as well as how Buddhism relates to it.

Value awareness can help people establish “lines of demarcation” between technical expertise and broader value judgments. As values are clearly identified, more efficient and comprehensive judgments and decision-making would emerge in terms of both environmental and societal value considerations on a broader basis. In the field of law, it is common procedure to prohibit experts from testifying on value opinions and judgments. For example, an expert witness who is a psychologist would not be allowed to present his opinion on an accused individual’s guilt or innocence in a court trial. With value judgments, no one is really an expert. The use of professional images and technical or expert autonomy to profoundly affect value judgments and decisions serves to discourage or cloud the values and alternatives available.



Values are subject to change. Our global crisis demands change. Change requires the re-education of people locked into old attitudes and attached to values no longer functional. The insights of Buddhism provide an excellent point of departure.

Comments & Questions

Understand the connection of ecology and environment to development and value systems.

“Values are subject to change. Our global crisis demands change.” It is a crucial task for all of us to understand how Buddhist values can affect change in approaches to ecology and the environment

CHAPTER TWO

DHAMMA, DEEP ECOLOGY, AND ENVIRONMENT



A blind elephant crashes through the forest, leaving trampled bushes and broken trees in his wake. Emerging from the forest he lumber through a village, destroying several homes in his passage. Two Buddhist monks drawing water at a well observe the great beast's progress. "What a fearsome, powerful creature," exclaims the first monk.

"What a pitiful, helpless animal," says the second.

And the "elephant" (science) continues to blunder through the forest. Harnessed and cared for, the beast could be a servant of great worth, but blinded by materialism, it wastes its strength in self-defeating confusion.

The teachings of Buddha center on *Dhamma* (also spelled *Dharma*). The Buddhist teachings of *Dhamma* will be considered in the present chapter; *Dhamma* in its application to nature and Deep Ecology will be taken up in chapter three.

SOCIETY AND MORAL CONTEXT: Science and technology have given humankind powerful means for research and development. Yet much of science and technology has been used to promote industrial development for mass consumption and military use with little responsibility for ways that might be beneficial to all living beings and the environment. Within the

Comments & Questions

(Quotes (in bold) are from the adjacent text)

What does the "**blindness**" of the elephant (science) refer to? Why is science sometimes blind?

last fifty years, science and technology have had dynamic and profound influences on life styles, economics, and the environment worldwide. These influences defy assessment or prediction concerning their effect. In spite of benefits, uncontrolled change, rapid consumption, and serious ecological impacts continue to be important consequences of science and technology.(Henning and Mangun, 1999).

In this star-wars era, science can no longer claim value neutrality for the environment or any other area. Thus, moral considerations which ought to apply to the management of technology often become involved with political and governmental issues. Moreover, many environmental problems simply have no scientific or technical solution, despite the tendency to seek such solutions.(Henning and Mangun, 1989). An ad in the *Bangkok Post* (March 28, 1993) declares, "Technology for a better environment.. How to reduce your problems.. It's time man should concentrate on developing technologies to secure his life and this beautiful world with both hands."

Western civilization has been trying to find solutions in science and technology and has dropped Christian ethics in favor of progress and materialism associated with conquest. Yet, Einstein and Jung have observed that Buddhism is the religion most compatible with science and their own views. As Bhavilai notes,

The materialism of science inevitably leads to an ethic of irresponsibility because when people believe that everything in their lives end with death, they are not really responsible for their deeds. At best, they may control their behaviors only for the sake of good and smooth relationships with their fellow men while they are alive. This materialism is certainly contributing to moral decay and hosts of problems in the present world. We need a much broader and deeper

Comments & Questions

"Within the last fifty years, science and technology have had dynamic and profound influences on life styles, economics, and the environment worldwide." What change do you see in your own community?

What does the author believe about **"value neutrality"** and science? Does **"moral considerations"** have a role to play in technology?

In your community who raises the moral issues in discussion about technology? Why should do this?

What is the problem with **"materialism"**?

"We need a much broader and deeper understanding about the world and life than science can offer."

understanding about the world and life than science can offer. Buddhism can answer this need.(Bhavilai, n.d.).

Snyder writes,

The mercy of the West has been social revolution; the mercy of the East has been individual insights into the basic self/void. We need both.

Both are contained in the traditional three aspects of the *Dhamma* path: wisdom (*prajna*), meditation (*dhyana*), and morality (*sila*). Wisdom is the mind's intuitive knowledge of love and clarity that lies beneath one's egodriven anxieties and aggressions. Meditation is going into the mind to see this for yourself over and over again, until it becomes the mind you live in. Morality is bringing it back out in the way you live through personal example and responsible action, ultimately toward the true community (*sangha*) of 'all beings.' (Snyder, 1985)

And Dr. Mustafa Tolbra, the past executive director of the United Nations Environment Protection Programme (UNEP) writes: "Governments have faced the reality that man is both creature and molder of his environment and that the power afforded him by scientific and technological advances has given him a new capacity to alter his planet's life support system in significant and irreversible ways. The same power carries with it the concomitant responsibility to act with prudent regard for environmental consequences."

Progress and materialism are greatly influenced by science and technology. Consumer goods are produced in speed and quantity far beyond the real needs of people, as well as machines that replace manpower. In many countries, the value of progress and materialism in any form is unquestioned. The underlying premise is a short term orientation that is principally concerned with quantity, economic benefits, newness, and expediency, rather than with long-

Comments & Questions

What do we get from wisdom?

What do we get from meditation?

What do we get from morality?

What is the relationship between the "power to alter" and the "responsibility to act" in regards to "**environmental consequence**"?

"...the value of progress and materialism in any form is unquestioned.."
How does an advertisement and promotion medium in your community affect the desire to consume? Where do they advertise? What do they advertise?

range quality or environmental considerations. Advertisement and promotion media try to enhance the desire or craving within society for a variety of goods and throw-away products.

Gore considers modern civilization and society to be dysfunctional and addictive in terms of the environment. As he notes,

The disharmony in our relationship to the earth, which stems in part from our addiction to a pattern of consuming ever-larger quantities of the resources of the earth, is now manifest in successive crises, each marking a more destructive clash between our civilization and the natural world; whereas all threats to the environment used to be local and regional, several are now strategic . . . such as rainforests, ozone layer, climatic balance, species extinction, etc . . . all these suggest the increasing violent collision between human civilization and the natural world. (Gore, 1992)

Much of this collision is based on uncontrolled economic models of unlimited growth and progress, along with mounting anthropocentric world views. Rejecting these models, a workshop of the International Network of Engaged Buddhists outlined a Buddhist economic counterculture that would strive to find a balance between human needs, communities, and the environment. Such a program would require an economic model based on interconnectedness, sustainability, and non-accumulation. Other basic Buddhist values such as compassion, loving-kindness, and altruism combined with respect for all life, including future generations, would figure very prominently in this Buddhist economy. (INEB, 1993)

In recognizing some of these economic, societal, and technological issues for current environmental conditions, the

Comments & Questions

How is a **“loyal and regional”** threat to the environment different from a **“strategic”** threat? Which strategic threats concern you the most?

What is an **“anthropocentric world view”**?

How strong is it in your mind?

Foundation for Deep Ecology notes the following root causes without placing them into a hierarchy of degrees of importance:

1. The assumption of human superiority to other life forms as if we were some sort of royalty over nature; the idea that nature is here to serve human will.

2. Overpopulation in both the “developing” and “developed” worlds.

3. The prevailing ethic of western society that holds that economic growth, the market economy, and lifestyles committed to commodity accumulation are desirable and possible on a finite planet.

4. Technology worship; the prevailing paradigm that technological evolution is invariably good and that problems caused by technology can be solved by more technology.

5. The loss of an ethic of behavior informed by an understanding and appreciation of the sacredness of the natural world and the appropriate role of human beings within that.

6. The domination of mass media by viewpoints that serve the interest of the technocratic-industrial world and the suppression of alternate views to keep them from public consciousness.

7. The concentration of power in an industrial elite, and the consequent loss of democratic empowerment which has been profoundly detrimental to human beings as well as nature.



(Foundation for Deep Ecology, 1990)

Comments & Questions

Elements of a Buddhist economic culture:

Interconnectedness
Sustainability
Non-accumulation
Compassion
Loving-kindness
Altruism
Respect for all life

Do you practice these in your life?

Topics to think about:

1. Are you superior to nature?
2. Is your community or region over populated?
3. Is unlimited growth possible?
4. Can everything be solved by technology?
5. Are your environment ethics clear?
6. How can alternative views be heard?
7. Is there democratic empowerment in your community?

WHAT IS DEEP ECOLOGY?

(Adapted from Institute of Deep Ecology UK leaflet):

Deep Ecology can be considered the spiritual dimensions of the environmental movement. It is a holistic approach to facing environmental problems which brings together thinking, feeling, spirituality, and action. It involves moving beyond the individualism of Western civilization, seeing ourselves as part of the earth. This awareness leads to a deeper connection with all life where Ecology is, not just seen as something out there, but something we are part of and have a role in.

TWO APPROACHES TO ECOLOGY:

(1) **SCIENTIFIC ECOLOGY** involves the scientific study of the interrelationships between species and their environment. In this approach, the relationship of the detached observer is separate from the object of study. The focus is on measurable data “out there” which is collected by experts who know their facts and figures. Yet this approach often neglects the role of values and biases of, for example, industrial ecological consultants in their “scientific” ecological approaches. Expression: “How interesting as I study the pond of life as a scientific, detached observer”.

(2) **DEEP ECOLOGY**: Experiencing ourselves as part of the living planet (Gaia) and finding our role in protecting the earth and its life. In this approach, the relationship is more of an involved participation as one who feels connected with as well as a part of the world surrounding the self. It recognizes and involves the role of values and biases in the overall picture of society and environment. This approach is for everybody, not just for scientifically trained experts, with each person being moved by their values experience and feelings to do their bit for the world around them. Expression:

Comments & Questions

Deep ecology is spiritual, holistic, sees earth as community, and with a deep connection with all life.

Focus and meditate on each of these parts of the definition. Create images and thoughts that you associate with each parts of the definition.

Can we be “**detached observers**” separate from nature? How detached from nature are you?

Your role in “**the living planet (Gaia)**”

Survey your own “**values and biases**” in your connection to the world.

“I am immersed in and involved with the pond of life and must therefore protect it”.

The term Deep Ecology was first introduced by the Norwegian activist and philosopher Arne Naess in the early 1970's. However, Aldo Leopold, an American forester (and later wildlife professor in the 1930's) developed many of the concepts behind it, such as the land ethic and the idea of people as mere members of the total living community or web of life. Eco-philosopher Naess developed the term Deep Ecology in stressing the need to go beyond superficial responses to the social and ecological problems we face. He proposed that we ask deeper questions and really look at the way we live and see how this fits with our deeper beliefs, needs, and values (see Deep Ecology platform). Asking questions like “How do I live in a way that is good for me, other people, and our planet with its various forms of life?” may lead us to deep changes in the way we live.

Deep Ecology can also be seen as part of a much wider process of questioning basic assumptions that may lead to a new way of looking at science, economics, politics, education, spirituality, health, etc. Because this change in the way we see things is so wide ranging, it has been called a new world view. It tends to emphasize the relationships between different areas holistically and bring together personal and social change, science and spirituality, economics and ecology. Deep Ecology applies this new world view to our relationship to the earth. It challenges deep-seated assumptions about the way we see ourselves. It moves us from seeing ourselves as individuals toward seeing ourselves as part of the earth along with other living beings. This, in turn, increases our sense of belonging in life and our tendency to act for life, wanting to protect other life as we would our own.

Deep Ecology workshops were strongly influenced by John Seed, Joanna Macy and others with the aim of deepening our sense

Comments & Questions

The term Deep Ecology:

“The idea of people as mere members of the total living community or web of life.”

Practice asking **“deeper questions and really look at the way we live”**

Think of three **“deeper questions”** (beliefs, needs and values) you could ask about your life and community.

What is the **“new world view”**?

Describe it in your own words.

How would you explain what it means to a friend?

of connection with life and strengthening our ability to respond to global environmental problems. These workshops bring people together with the intention to heal our relationship with the earth. They provide an opportunity to explore our emotional responses to world problems of the environment and may offer “despair and empowerment” methods to use the energy of these emotional responses in our work for earth recovery. The workshops introduce the Deep Ecology which includes working with ideas, feelings, spirituality, and personal action planning; sometimes, even singing, drumming, dancing, meditating, and communication exercises that offer nature-connecting experiences and non-dogmatic explorations of the role of ritual.

IDEAS: The basic idea of Deep Ecology is that we are part of the earth and not apart or separate from it. This idea is in contrast with the dominant individualistic thought of our culture in which we see ourselves as separate from the world, which makes it too easy not to be bothered by what is happening beyond our immediate self-interests: “If I am separate from the rest of nature, what happens out there is not my problem”.

In this century, two key ideas have emerged in our scientific thought which support the view of ourselves as part of the earth: Systems Theory and the *Gaia* Concept.

In Systems Theory, we see our world in terms of systems where each system is a whole that is more than the sum of its parts, but also itself a part of the larger systems. For example, a cell is more than just a pile of molecules and itself is a part of larger systems, e.g., an organ. An organ is on one level a whole in itself, but on another, it is part of a system at the level of an individual person. A family and community can both be seen as systems where the parts are people. Systems Theory can also be correlated with energy flows between the various parts of the system in terms of inter-and intra-relationships.

Comments & Questions

Deep Ecology works with “**ideas, feelings, spirituality, and personal action planning**”.

Why are “**emotional responses**” and “**singing, drumming, dancing, meditating and communication exercises**” important in this understanding?

Describe the difference between thinking of yourself as separate from the world and seeing yourself as part of this earth, Show how this difference leads to very different actions.

Explain in one sentence what “**systems theory**” means. Connect it to Deep Ecology.

The *Gaia* hypothesis takes Systems Theory still farther and applies it to the whole planet. All of life on earth can be seen as a whole that is more than the sum of its parts but is also itself a part of larger systems with this whole being like a huge super-life form which we call *Gaia* (after the name for the ancient Greek Goddess of the earth) with a collective intelligence. Living systems have a tendency to keep themselves in balance but also adapt and evolve over time. Scientists have found that the earth also has these tendencies with feedback mechanisms to keep in balance the temperatures and oxygen levels of the atmosphere just as our bodies maintain the temperature and oxygen levels in our arteries. Thus the *Gaia* hypothesis states that the earth is alive and that we are part of it. This is something that many cultures have known for centuries. For example, Indian Chief Seattle of North America (1854) has stated, “We are part of the earth and it is part of us”.

FEELINGS: In trying to face the scale of social and ecological crises in our world today, we can be left feeling numbed, overwhelmed, and powerless. Yet there is often little place for such feelings in conventional politics or in our society. The dominant response is to deny or distract ourselves from any uncomfortable feelings about the state of the world and to carry on with business as usual.

If we see ourselves as part of the world, it becomes impossible to see that such uncomfortable feelings may serve a valuable function. Just as it hurts when we put our finger over a flame, pain for the world alerts us to the injuries of the world and can move us to respond with compassion and action. By allowing ourselves to feel for our world, we are also opened to a source of energy and aliveness and to a strength that comes from connection to something more than just our narrow selves.

SPIRITUALITY: Spirituality has to do with our inner sense of connection and/or interrelationship with something larger than

Comments & Questions

What is the “**gaia hypothesis**”?

Do you believe that “**earth is alive and that we are part of it**”?

Show how this belief could change your actions?

How often do environmental problems make you feel “**numbed, overwhelmed, and powerless**”?

List ways that people “**distract**” themselves to feel less concern about the environment.

ourselves and with our relationship with what we see as sacred. This can give our lives a sense of meaning and purpose beyond material success, and those special moments when we feel that connection more deeply can provide an important source of strength and perspective during difficult times.

If we see ourselves as a part of the tree of life and the interconnected web of living beings we call *Gaia*, then a Deep Ecological approach to spirituality might emphasize our relationship with this larger whole. We may look at life itself as being sacred and see possibilities for the larger force of life acting through us for earth recovery. Thus this life-saving spirituality can be an important source of inspiration to face and respond to environmental/societal problems of our world.

ACTION: When we integrate our beliefs, values, and ideas into our behavior, we bring them alive and give them power to influence our world. If, however, we see ourselves as separate from the world, it is easy to dismiss our actions as irrelevant or unlikely to make any difference. But from a Deep Ecology perspective, we are a part of the world and every choice we make will have ripples which extend beyond us. What may seem tiny and insignificant by itself actually adds up to a larger context. Thus every time we act for life and the earth, we put our weight and strength behind the shift toward a life-sustaining environment and culture.

Much of Deep Ecology, in turn, asks deep questions of society and its relationships to life. Thus, in the words of professor Arne Naess: "...in Deep Ecology we ask whether the present society fulfills basic human needs like love and security and access to nature. We ask which society, which education is beneficial for all life on the planet as a whole, and then ask further what we need to do in order to make the necessary changes."

Comments & Questions

What do you really feel about the ecology around you?

Find examples of experiences in your life when you felt **"a larger force of life"** at work in your life. Be clear about the relationship between spirituality and Deep Ecology.

List some actions that you could take or actively support that will put your **"weight and strength behind the shift toward a life-sustaining environment and culture."**

Describe some education changes that will be **"beneficial for all life on the planet as a whole."**

A fur trader making contact with the Crow Indians in 1805 offered beads, mirrors, tobacco, guns and ammunition in exchange for beaver hides. The next week, to the trader's delight, the Indians brought him 40 prime pelts. He paid them in trade goods and returned to the fur company's fort.

The next month, the trader sought out the same band, eager to do business once again. He found the men of the tribe had taken not a single beaver in his absence.

"I expected to buy more hides," he said.

"You have enough," the chief said.

"But I will pay you handsomely in trade goods," the fur company agent protested.

"We have enough," the chief said.

Phra Debvedi writes,

One important point that must be stressed is that the economic results that we seek are not ends in themselves. They are means, and the end to which they must lead is the development of the quality of life and of humanity itself. Consequently, it is the view of Buddhism that economic activity and its results must provide the basis of support for a good and noble life of individual and social development. Buddhism considers economics to be of great significance this is demonstrated by the Buddha having the peasant eat something before teaching him . . . after eating the peasant listened to *Dhamma* and became enlightened. We must ensure that the creation of wealth leads to a life in which people can be creative, develop their potentials, and endeavor to be good and noble. It is in short the quality of life that we are talking about.(Phra Debvedi, 1992)

For many people, shopping has deteriorated from a daily routine to purchase the basic food and household-necessities to an addiction or intense craving as a kind of entertainment to compensate for the

Comments & Questions

Do you have enough? How much would be enough?

The point is made that economics is more than just products and consuming. It is about **"quality of life"** and **"social development."**

Describe how you would like to see the quality of life (as connected to all of nature) change in your community.

"(buying) an addiction or intense craving as a kind of entertainment."

emptiness and frustration within, caused by lack of value, of spiritual meaning, and of inner peace. Rahula holds that the Buddha considered economic welfare as a requisite for human happiness, “. . . but he did not recognize progress as real and true if it was only material, devoid of a spiritual and moral foundation.” (Rahula,1990) Buddhadasa also emphasizes that the abandonment of selfishness and its clinging and craving desires is a major point in Buddhism (Buddhadasa, 1989).

Sulak writes, “For the new generation in Asia, we need to articulate a value system that reflects . . . our needs for leisure, contemplation, love, community, and self realization. We also need to describe the economy within its social and ecological context.” He observes that development policymakers and experts generally fail to take into account of the big picture, quality of life, or “what is a human being and what should a human being be?” Consequently, they measure results rather simplistically and quantitatively with little attention to what the people really need from development. (Sulak, 1992)

Sulak further points out that (from a Buddhist perspective)



Development must aim at the reduction of craving, the avoidance of violence and the development of the spirit rather than materialistic things. (in Buddhism) the goal of increasing the quality of life is understood differently. From the materialistic standpoint,

when there are more desires, there can be further development. From the Buddhist standpoint, when there are fewer desires, there can be further development . . . Only a religion that puts material things in second place and keeps the ultimate goals of development in sight can bring out the true value in human development.(Sulak, 1992).

Comments & Questions

What about “**our needs for leisure, contemplation, love, community, and self realization**”?

How would you describe your “**quality of life**” in connection to Deep Ecology?

From modern consumer culture; more desires = more development.

From the Buddhist view point; fewer desires = more development.

Where is the balance in your life? In your community?

Silva sees pollution of the environment and pollution of the mind as being two aspects of the same problem and emphasizes the importance of viewing possible solutions to the problem “under the primacy of values over technology,” as “ethical claims have an independent appeal to human dignity and responsibility.” (Silva, 1990)

Boonyanate observes, “Our conduct is influenced and, to a large extent, is determined by the way we perceive the world in relation to ourselves. If we see the world merely as a storehouse of resources for our own use, then that is exactly how we are going to treat it.” (Boonyanate, 1992).

Many of the traditional approaches to nature are based on anthropocentric or man-centered views which place people at the center of the cosmos. Nature is considered a world of separate things which are valued only in terms of their use by human beings. This is in contrast to the ecocentric view of Deep Ecology (closely correlated with *Dhamma*) which views people as a part of a holistic nature which is interdependent and integrated.

A uniquely American strain of this philosophy emerged in the United States more than a half century ago. Leopold wrote, “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends to do otherwise.” (Leopold, 1966). Rights, in this sense, are extended to all species as well as the land. As Boonyanate notes,

However, there is a rider: man has to make this moral decision to include the other orders. The other orders are unable to make any claim on their own behalf . . . The holistic view of both the Buddhist position and Leopold’s stance subscribe to the same practical conclusion: the dissolution of an anthropocentric system of value in regard with nature. Although Leopold’s center of value clearly lies in the well-

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“pollution of the environment and pollution of the mind”. Same problem.

“...egocentric view of Deep Ecology (Dhamma) which views people as a part of a holistic nature which is interdependent and integrated.”

Do all species have rights?

“...the dissolution of an anthropocentric system (human beings at the centre of everything) of value in regard with nature.”

In Buddhism, the centre can be anywhere depending on where you place your attention. How anthropocentric is your thinking?

being of the biotic community, Buddhist metaphysics does not place the center anywhere, as everything is metaphysically one under the same ultimate law. (Boonyanate, 1992).

Much of Buddhist/*Dhamma* metaphysics and teachings are based on the unique concept of *anatta* or non-self which involves an awareness of total interconnectedness with all life in nature. Nonself is the understanding that the idea of self is an imaginary, false belief which has no corresponding reality in nature and that it produces harmful thoughts of “I, Me, and Mine,” which, in turn, produce craving, attachment, desire, aversion, and other defilements that are the sources of troubles in the world. In short, this false view of self can be traced to all the evil in the world. (Rahula, 1990).

Drug addicts are universally afflicted with an egocentric view. The world exists for them. Anything that does not go their way is a personal affront. In their manipulation of persons and events to satisfy their cravings, they discard all morality and trample their own principles. In this respect, the conspicuous consumer in his overpowered car and opulent house is the soul-mate of heroin junkies in the gutters from Bangkok to New York.

Goenka points out that without the practice of *sila*/morality, including respect for all living beings, “there can be no progress on the path because the mind will remain too agitated to investigate the reality within . . . without *sila* one can never liberate the mind from suffering and experience ultimate truth. (Goenka, 1987). Khantipalo states, “The moral code of Buddhists is not an end in itself but is practiced as a stepping stone to reach enlightenment.” (Khantipalo, 1989).

Like Christianity, Islam and Judaism, Buddhism’s ideal can be far removed from its practice. Buddhism is a universal and missionary religion that has penetrated the most remote corners of Asia. In its spread, it did not enter a vacuum. Cults, animism, and

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Buddhism. **“the unique concept of anatta or non-self which involves an awareness total interconnectedness with all life in nature.”**

Focus on the self **“is an imaginary false belief”**. This focus “produces, craving, attachment, desire, aversion.

What is the connection between drug addicts and conspicuous consumers?

ancient beliefs linger as encrustations upon the practice of unlearned Buddhists. Ignorance of the teachings lead to the subjugation of women and a belief that Buddha's doctrine of "impermanence" is a license to degrade the environment.

As the gender that spends much of its time working and living in the natural environment, Buddhist women in Asia obviously need much more of a voice in public participation and decision making for its care and for their concerns of its sustainability and protection. Yet Buddhist nuns and laywomen traditionally play a very insignificant role in Buddhism and environmental affairs in Asia.

Much of the future of the natural environment depends on the morals of any society. In the case of Buddhism, there may be a two-edged sword toward the future in some cases. In Thailand, for example, many Thai attitudes toward nature are based on Buddhism which certainly can be considered a strong, but not fully tapped, force for conservation. Many of Thailand's 700 Forest Monasteries offer protection for plants and animals while thousands of monks and nuns serve as examples of compassion for all living beings (Gray, Piprell, and Graham, 1991). These attitudes would certainly seem to involve concern for the future of the natural environment.

On the other edge of the sword, social scientist Juree Vichit-Vadakan states, "The Thai people are notorious for indulging in the immediate gratification of needs. Perhaps it is the Buddhist concept of impermanence and transience that has motivated Thai people to live more in the present than in the future. Thai people are reluctant to sacrifice the present for the future. The planting of forests for future generations is far more difficult than the felling of trees to build a house." (Vichit-Vadakan, 1993). As Phra Paisal Wisalo, a Buddhist Monk involved with environmental causes, notes, "Before, nature had a life and spirit of its own. The trees,

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Describe why women (nuns and laywomen) have an important role to play in environmental decision making.

"...Buddhism which certainly can be considered a strong, but not fully tapped, force for conservation."

How can this Buddhist force be increased?

What happens to conservation when people live only in the present moment? Show how strong moral values about the environment can modify the use of things (trees for example) in the present.

skies, and rivers were living spirits. Now we are only concerned how they can serve us.” (Gray, Piprell, and Graham, 1991).

Snyder goes a step further in his observations of the antagonism between the ideal of Buddhist ethics and its practice as religion. “Institutional Buddhism has been conspicuously ready to accept or ignore the inequalities and tyrannies of whatever political system it found itself under. This can be death to Buddhism because it is death to any meaningful function of compassion.” (Devall and Session, 1985)

It should be kept in mind that the following concepts can only represent Buddhist values in their basic idealistic and all encompassing nature. They do not always find their match or correlation in the way they are understood or rehearsed even by predominantly Buddhist societies.

Buddhism consists of Morality, Concentration, and Wisdom as explained in the Noble Eightfold Path which, in turn, is based on the Four Noble Truths.

A summary/review of the Four Noble Truths of the Buddha’s enlightenment or *Dhamma* involves concepts of (1) Suffering: attachment to whatever is born and subject to decay, results in dissatisfaction and/or suffering; (2) Cause of Suffering-dependent origination: ignorance in contact and the arising of attachment conditions of birth, decay and death, (3) Cessation of Suffering—the realization that the chain of suffering can be broken through not reacting to feelings with craving/aversion and attachment, and (4) Path to Cessation of Suffering—the Noble Eightfold Path with the three characteristics of: (a) Morality, (b) Mental Discipline and (c) Wisdom which follow:

(a) MORALITY (*sila*) (encompasses the three factors of Right Speech, Right Action and Right Livelihood of the Noble Eightfold Path). In this context, morality is focused on the Five Precepts

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Clarify to yourself the contrast between Buddhist ideals and ethics towards the environment and the practice of its religious structures.

How do the ideals and actual practice differ in your own community? Is there a gap?

How could you close this gap so that ideals and practice are closer together?

List four ways

- 1.
- 2.
- 3.
- 4.

(*panca sila*) of the Noble Eightfold Path of the teachings of *Dhamma*. In considering the “five moral precepts,” Sulak says, “all Buddhists accept the five precepts (*paca sila*) as their basic ethical guidelines. Using these as a handle, we know how to deal with many of the real issues of our day.” (Sulak, 1992)

The concept of morality manifests itself in the five basic precepts underlying the rules for monastic life and for laypeople’s conduct respectively: (1) not to kill any living being (often interpreted as “not to harm”); (2) not to take what is not freely given by the owner (stealing); (3) not to indulge in sexual misconduct; (4) not to lie; and (5) not to consume intoxicants that lead to carelessness.

Instead of the traditionally bland recital of the above precepts, Buddhadasa unites all five precepts under a theme of non-violence. Thus, for Buddhadasa, the five precepts require their adherents to abstain from doing violence to: (1) the life and body of people, animals, and other living beings; (2) other people’s property; (3) that which is dearly loved by others; (4) other people’s rights and identities, and; (5) one’s own conscience and intellect. (Khantipalo,1989).

(1) First Precept: *I undertake the training to refrain from killing.*

General: Khantipalo states, “life is easily taken but impossible for us to give. As we do not enjoy dying ourselves, it is unwise to use our knowledge to destroy others.” (Khantipalo, 1989). Non-violence does not only mean the absence of violence, but the presence of care, of good will, of mindfulness, and charity toward other beings. Non-violence shows itself in compassion and the sense of appreciation concerning the happiness and well-being of others.

Environmental Aspects: In the first precept, Sulak notes, “we promise not to destroy, cause to destroy, or sanction the destruction

Comments & Questions

Relate the “**five moral precepts**” to ethical guidelines and the environment.

Restate each precept in environmental terms using your own language and thoughts to emphasize non-violence:

1.

2.

3.

4.

5.

of any living being. Through accepting this precept, we recognize our relationship to all life and realize that harming any living creature harms oneself. The Buddha said, ‘Identifying ourselves with others, we can never slay or cause to slay.’”(Sulak, 1992)

The first precept on refraining from killing and its meaning of non-violence (*ahimsa*) not only refers to directly taking the life of a living being through intentionally destroying its body. It also refers to indirect actions and non-actions. For example, the removal of natural habitat from wildlife and other living beings will destroy or harm these beings. The pollution of bodies of water will result in the dying or suffering of fish and other aquatic life, including other forms of land life which feed on water life. Also by not taking measures to prevent these indirect actions, one is involved with non-action when possibilities may exist to stop the killing of other living beings.

Buddha’s mindfulness about the environment created a variety of rules and precepts for the lives of forest monks, e.g., not to cut branches of trees, not to wear sandals made from palm leaves or young bamboo, not to eat fruit containing seeds and seeds that still grow, not to use toothwood of certain sizes, etc. He provided rules about how to urinate, how to use water, etc. which were remarkable in their environmental consciousness.

(2)Second Precept: *I undertake the training to refrain from stealing.*

General: The second precept involves more than simply not stealing. Careless borrowing, for instance, would be included here when, subconsciously, one does not have any intention to return the item. Also, embezzlement, fraudulent business dealings, adulteration of food (by some merchants) should be included. (Khantipalo, 1989).

Stealing involves the discounting of other beings and a lack of respect for their dignity and rights as individuals. In this sense,

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First Precept: “directly taking the life of a living being” and “indirect actions and non actions.”

Analyze your direct actions, indirect actions and non actions; How can you change your behavior in your own community?

- 1.
- 2.
- 3.
- 4.
- 5.

Second Precept: “Stealing involves the discounting of other beings and a lack of respect for their dignity and rights as individuals.”

stealing can be considered violence against people and their property.

Environmental Aspects: Unwise, inappropriate, and uncontrolled developments, marketing, and consumption steal from present and future generations of all life. This is particularly true when options and heritages are irreversibly removed from future generations. It becomes stealing from the unborn while ignoring their rights and needs to life in the future. By not doing one's part to ensure appropriate and wise use in the development, marketing, and consumption of goods and services, one may be turning one's back on the moral act of stealing from present and future generations of all life.

This precept also raises the question of possession of living things. For example, who is the owner of a tree? The person who planted it? The birds and insects who are inhabiting it? The people who live under its shade and who nurture and protect it? The person who owns the forested area? The country which includes the tree in its boundaries? Nobody really owns the tree, but earth, nature or *Dhamma* itself, which grew a tree according to its own laws.

A tree, if undisturbed, lives its life according to *Dhamma*, the very law of nature. Whoever comes in contact with a tree may sit in its shade, eat some of its fruit, find shelter under its branches when it rains, and breathe its oxygen freely without ever being asked for anything in return. These are the gifts that nature presents us through every tree. If we cut the tree down, we take away these gifts from other beings who might come the same way. A tree belongs to itself. Seeing the tree only in terms of its usefulness to gain material wealth is a selfish and delusive act of stealing from other beings.

The *Cedrus* of Buddhism recognize that the main cause of theft, immorality and violence is poverty. While all social systems

Comments & Questions

How do human beings “steal” from other species?

What is the environmental point of view toward the statement “**Nobody really owns the tree...**”

Describe how poverty affects the use of the environment (trees for example)

recognize the theory that any of the above should be met with punishment, the *Kutadanta-sutta* explains that punishment will not change society. In order to stop crime, Buddha suggests that economic conditions of people should be improved. (Rahula, 1990).

These *Cedrus* apply to current problems of illegal logging and poaching in national parks and forest reserves throughout Asia. A recent study of the Dong Yai Forest and Taplan National Park in Northeastern Thailand showed clear evidence that the poor farmers in surrounding villages are encouraged to do illegal logging by lumber and furniture companies. Much of the available agricultural land in this area is used for eucalyptus plantations by the paper industry and hence is unavailable to farmers. It should also be recognized that “professional” loggers and poachers will also undertake these illegal activities without adequate law enforcement measures.

The concept of the Earth as mother is universal. African Bushmen, the ancient Greeks and Native Americans paid homage to the Earth Mother in one form or another. Even modern Westerners, who like to think of themselves as sophisticated intellectuals, talk of “Mother Nature.”

(3) Third Precept: *I undertake the training to refrain from sexual misconduct.*

General: Sulak notes, “Like the other precepts, we must practice this in our own lives, refraining from exploiting or hurting others. In addition, we have to look at the global structures of male dominance and the exploitation of women.”(Sulak, 1992). The *Dhammapada* (215, 251) states, “There is no fire like lust . . . From lust arises grief, from lust arises fear. For him who is free from lust there is no grief, much less fear. (Rahula, 1990).

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“The concept of the Earth as mother is universal.” In some cultures such as the native Inuit (Eskimos), people spirits and animal spirits can change places after death. Are the other species our sisters and brothers?

How can this family metaphor be used more? Can it be incorporated in your thinking?

Third Precept:

“...exploitation of the natural environment which is a form of rape and violence.”

“Greed, craving, ignorance, and aversion are the basic forces for exploitation” Test out your own life for how much these four states of mind are present in your mind.

Environmental Aspects: The third precept of morality towards sexual behavior should be extended to the complexities of exploitation of the natural environment which is a form of rape and violence. Nature is being raped, including the rapid and obvious destruction of tropical forests in Asia, with little consideration toward its fragile and non-regenerative character. Greed, craving, ignorance, and aversion are the basic forces for exploitation. With a deeper understanding of the third precept, the natural environment cannot be made an object of one's selfish and desirous behavior because of the realization that using the environment to satisfy one's greed will only result in suffering.

Due to lack of attention to birth control, the population of Asia is expected to double in the next 25 years. This increase will increase pressures for exploitation of the remaining forested areas. The third precept would reasonably include birth control measures to limit the size of families.

As Clausen points out,

An alcoholic denies he drinks too much. His wife, unable to confront the traumatic truth of her husband's alcoholism, tells friends and relatives, "He is under stress" or "He works awfully hard and needs to unwind." Fear of Fetal Alcohol Syndrome (the poisoning of babies in the womb) prompts a young woman to deny her pregnancy to continue drinking. Only ruthless honesty will save the alcoholic. The same is true of a race inflicted with addictive materialism. (Clausen,1994)

(4) Fourth Precept: *I undertake the training to refrain from false speech.*

General: This is considered to be one of the most difficult precepts for people to keep since it includes not only lying, but harsh speech,

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"...the population of Asia is expected to double in the next 25 years."

Describe how the population density in your community affects the environment.

Fourth Precept: "It calls for skillful, thoughtful, and truthful use of our oral and written communications."

How do you talk about the environment?

Do you communicate reality?

backbiting, and idle gossip. (Khantipalo, 1989) The fourth precept is much more than not telling lies. It implies that one speak the truth only, to not engage in idle talk, and to not use unfriendly words or unwholesome phrases. It calls for skillful, thoughtful, and truthful use of our oral and written communications. It also calls upon us to recognize the dignity, rights, and identities of all living beings and not to lie to them or to manipulate them and to deceive ourselves in the process.

As Sulak states,

Truth is ultimately unknowable and inexpressible. For a Buddhist, being in touch with truth is being grounded in a deep critical doubt about all beliefs and prejudices. Having seen through the practice of meditation, the arising of illusion within oneself, one holds all views more loosely. Wisdom can only be achieved through the free and open exercise of the critical intellect. We need to look closely at the mass media, and the patterns of information that condition our understanding of the world . . . It will only be possible to break free of the systematic lying endemic in the status quo if we undertake this truth-speaking collectively. (Sulak, 1992).

Environmental Aspects: Lying or not telling the truth can be both gross and subtle. Often, public and private sectors involved in the environment and development will pay only lip service to conservation and ecological values and considerations. Public relations or information programs often do not present the real issues, facts, and alternatives beyond glossy brochures and biased approaches which strive to present a good organizational image to the public. As a result, the public trust and dignity is violated and the public cannot effectively participate in decisions that affect their lives for lack of essential information and alternatives. Thus they are deprived of the human right to determine their own futures.

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Buddhists are **“grounded in a deep, critical doubt about all beliefs and prejudices.”**

Look for examples of **“critical doubt”** in your own reactions to environmental beliefs.

“Often, public and private sectors involved in the environment and development will pay only lip service to conservation and ecological values and considerations.”

In your community, who speaks clearly and honestly about the environment?

What sort of messages do you hear that are dishonest?

In Thailand, natural forests are sometimes illegally logged so that they come to be considered damaged or degraded forests in need of reforestation. The “reforestation,” however, often involves plantations of eucalyptus by large companies for sale as paper and pulp commercially. With three or four year cycles for eucalyptus trees, the “crops” of these trees eventually deplete the soil, removing nutrients and water.

There is also the difference between the language and approach of everyday life and the spiritual life of *Dhamma*. This difference may neglect certain truths. Everyday language is based on physical things and on experiences accessible to the ordinary person. With its basis on the physical rather than the spiritual, it serves only for tangible and concrete things perceived under ordinary, everyday experience.

By contrast, *Dhamma* language has to do with the mental world which is intangible and non-physical. In order to be able to speak and understand this *Dhamma* language and approach, one needs to gain insight into this mental world (Buddhadasa, 1991). In not taking this insight and approach, one may miss the “truth” which includes the intangible and spiritual as well as the tangible and concrete needs of the environment. Rites, rituals, and use of ordinary and *Dhamma* language are needed to help lay-people in everyday life understand some of the higher goals and ethics of Buddha’s teachings toward life and the environment.

A poor farmer in the rain forest regions of Laos can earn \$600 tending a small field of opium poppies. His small production translates into \$50,000 worth of heroin on the streets of Los Angeles, London or Paris. The War on Drugs, led by the United States and joined by other Western nations, funds national opium eradication efforts. Lao drug agents and regional officials insist that policing demands roads built into the remote hill country. Loggers and poachers follow the roads Development follows degradation.

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“...the difference between the language and approach of everyday life and the spiritual life of Dhamma.”

Calculate how much time during the day you spend in considering the “**spiritual life of dhamma.**”

What situations prompt these insights?

How is a farmer in Laos connected to the destruction of forests? Describe the chain of connection in your own words.

Thus, junkies in cities thousands of miles away threaten a fragile environment that is wondrous beyond their opium dreams.

(5) Fifth Precept: *I undertake the training to refrain from substances that intoxicate and lead to carelessness.*

General: This precept refers both to refraining from consuming any intoxicating substances such as alcohol and drugs as well as avoiding involvement in their production and trafficking. It is also concerned with the immediate and long-term effects of intoxicating substances. The Buddha says to Sigala, “There are six dangers of drink: the actual loss of wealth; increase of quarrels; susceptibility to disease; an evil reputation; indecent exposure; ruining one’s intelligence,” (Rahula, 1990).

Environmental Aspects: According to several agricultural extension agents, alcohol consumption by Thai farmers involved with cash crops such as casawa sometimes results in large decreases in funds available to families with consequent loss of nutritional foods for children.

This is in contrast to subsistence-type farming where the food goes directly to the families. Social workers working with poor fisherman in the fishing industry have found very high rates of drug use, particularly opium. These alcohol and drug pressures can contribute to illegal acts and overexploitation in order to obtain needed money for continued use as well as regular living expenses.

The use of narcotic drugs not only proves hazardous to the physical and mental well-being of its consumer and his relatives but also causes great damage to nature by its production.

The United Nations Drug Control Program notes, “ One significant contributor to forest removal, water and soil pollution in these (tropical forest) regions, however, whose impact has gone virtually unnoticed by scientists and journalists, has been the

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Fifth Precept: (Drugs/intoxication)

“...refraining from consuming any intoxicating substances such as alcohol and drugs as well as avoiding involvement in their production and trafficking”

How much do you consume? Have you experienced any of the dangers of drink as described by Buddha? Which ones?

cultivation of illicit narcotics crops—cannabis, coca, and opium poppy. (UNDCP, 1992).

The UNDCP further notes,

Cultivation of illicit narcotics not only accounts for an increasing share of tropical deforestation, it is also the cause of some of the most severe environmental damage. Growers commonly plant their illicit crops in fragile forest environments in remote areas . . . The more severe environmental degradation to tropical forests by illicit narcotics cultivators largely results from the rapid and damaging techniques used to clear land. Even today, the most widely used forest removal method of manual clearing, commonly known as ‘slash and burn’ agriculture, where trees are rapidly felled and destroyed by fire, leaving no vegetative matter to stabilize or replenish soils . . . Chemicals used by many growers at all stages of illicit drug cultivation and production likewise have a substantial negative impact upon tropical ecosystems and on human populations.
(UNDCP, 1992)

The Buddha said, “O Bikkhus, there are two kinds of illness. What are those two? Physical illness and mental illness. There seem to be people who enjoy freedom from physical illness even for a year or two . . . even for a 100 years or more. But, O Bikkhus, rare in this world are those who enjoy freedom from mental illness even for one moment, except those who are free from mental defilements.”
(Rahula, 1990).

(b) MENTAL DISCIPLINE (*Samadhi*) Encompasses the three factors of Right Effort, Right Mindfulness, and Right Concentration of the Noble Eightfold Path.

General: Basically, *Samadhi*, concentration, or mental activity means the cultivation of mastery over the mind by means of practicing mindfulness and one-pointedness. *Samadhi* should be

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“...one significant contributor to forest removal, water and soil pollution in these (tropical forest) regions,...has been the cultivation of illicit narcotics crops—cannabis, coca, and opium poppy.”

Are any of these crops cultivated in your area? Describe how forests are damaged by these crops.

What is the contrast that Buddha makes between physical and mental illness?

“...Samadhi, concentration, or mental activity means the cultivation of mastery over the mind by means of practicing mindfulness and one-pointedness.”

grounded on good moral conduct. If the mind is preoccupied with the continuation of immoral acts such as killing or stealing, it will be too agitated for meditation and right concentration and its result—*panna*/wisdom.

Much of *samadhi* or mental discipline deals with awareness/concentration in the present moment. Thich Nhat Hanh notes, “You should be as awake as a person who walks on high stilts, any misstep could fling him to his death. You should be like a medieval knight walking weaponless in a forest of swords. You should be like a lion, going forward in slow, gentle and firm steps. Only with this kind of vigilance can you realize total awakening.” (Thich Nhat Hanh, 1989). The Thai Buddhist Monk, Phra Prachak, considers trekking through the forest a form of meditation for keeping mindful in the present moment and for not dwelling on the past or future. Getting scratched or tripping in the trail often indicate that one needs to be more mindful and alert in the present through trekking meditation. This trekking/meditation process contributes to making one more ecologically attuned to the present environment.

Besides the formal meditation practices of sitting, walking, standing, and lying, Bhavilai points out that one can constantly meditate in all activities by observing with awareness and concentration the vibrations, sensations, emotions, etc. which one experiences throughout the day. The key is to stay in the present moment rather than dwelling on the past or future moments or experiences. Both formal and informal meditation can, in turn, lead to the realization of non-self and impermanence, letting go of defilements and selfishness along with associated negative values and behavior. (Bhavilai, 1993).

The mind is purified by meditation, which is the contemplation of reality or the penetration of the true nature of phenomena by focusing all one’s awareness on the present moment with no accompanying subjective feelings, opinions, or judgments.

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How agitated is your mind? Have you incorporated mindfulness into your life in a regular way?

Describe experiences you have had walking through a forest. How did it feel mentally?

“The key is to stay in the present moment ...”

How do you stay in the moment during everyday activities? Does your mind remind you to do this?

“...focusing all one’s awareness on the present moment with no accompanying subjective feelings, opinions, or judgments.”

Recall the last time you experienced this state. How did it happen and how long did it last?

This, of course, is not easy. For example, seeing is difficult. When seeing, people make an aesthetic evaluation of beauty or the lack of it. This act is often pervaded by thought and memory, associations with the object being seen or viewed. This same difficulty applies to other senses, such as hearing, smelling, tasting, feeling, etc. To overcome this difficulty requires infinite patience and a sincere wish to remain mindful of the constant rising and falling (impermanence) of mental phenomena and of nonself. (Inwood, 1981)

The ability for seeing as seeing, hearing as hearing, etc., the recognition of reality, and the resultant state of *samadhi* is made possible by a comprehensive and individual selection of meditation practices. These practices develop an awareness of unconscious motives and impulses so that, once recognized, they can be cast aside or let go to allow for the progressive purification of the five senses and the mind. With this concentration and mindfulness, the complementary use of Insight (*vipassana*) emerges for the purified and peaceful mind associated with *nibbana* (Inwood, 1981). Such a mind would obviously be free from greed, aversion, and delusion which are the bases of our environmental problems.

Environmental Aspects: Various aspects of the natural environment can be cited as a subject for meditation to understand *Dhamma* or nature. Because people and the natural environment are made up of the same elements, meditating on the composition of the body, mind, and emotions in relation to nature can be very helpful for general concentration practice as well as preparing the ground for the arising of *panna*, wisdom. The rising and falling away of impermanence, for example, is associated with the human body as well as the tree/forest in the natural environment.

The most practiced meditation in Buddhism is said to be “mindfulness with breathing” (*Anapanasati*) in accordance with

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“requires infinite patience and a sincere wish to remain mindful of the constant rising and falling (impermanence) of mental phenomena and of non-self.”

To “be free from greed, aversion, and delusion which are the bases of our environmental problems.”

Check yourself for these states of mind. How powerful are they in your life?

Describe successful ways you got rid of them.

the *Satipatthana Sutta*. Here the mind first becomes concentrated through the observation of the most natural rhythm, the meditator's own breath. Sitting under a tree for this meditation, one may become aware that, through this very breath of life, one is truly interconnected with the tree by breathing in the oxygen that the tree provides.

When one is breathing out carbon dioxide, the tree will breathe this in and turn it into oxygen which it will breathe out to renew the cycle as one again breaths in the oxygen during *anapanasati*/ meditation. Such practices certainly aid one's understanding of "oneness" and interconnectedness. According to Gore, the same oxygen molecules from the time of Buddha are still present on the earth. Thus it would be possible for some meditators to breath in oxygen from Buddha's own breath when they are meditating.(Gore,1992).

Buddha praised forests as the best place for those seeking to practice *Dhamma*. The first Buddhist Monastery was a forest temple which was named "*Weruwanaram*" or the bamboo temple. A number of his teachings reiterate that he always praised and encouraged his followers who had chosen to live and practice meditation in the forest. By their choosing this way, he knew that peace and solitude would help them to gain concentration and to contemplate their minds. As he says to one of his followers, "Bhikku, for those forests, those bases of trees and those unoccupied houses, you should contemplate your mind in those places and undoubtedly, (of your practice) the grand success resulting in the first level, the middle, and the end which means liberation."
(*Anapana-sati Sutra*)

The forest provides natural, undisturbed, and peaceful surroundings which are agreeable and most appropriate to those who seek solitude and quiet for the practice of meditation. As noted in chapter one, the life of the Buddha was spent in forests. He was

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"...through this very breath of life, one is truly interconnected with the tree..."

Describe the relationship between your physical body and breath and the tree s' "breath." Have you experienced this with awareness?

"...he always praised and encouraged his followers who had chosen to live and practice meditation in the forest. "

How much do you relate to forests? Do you practice in a forest? Plan now how you can do more of this type of practice.

Can you convince others to join you?

What would you say to them to convince them?

enlightened while meditating under a Bodhi tree. His instructions to monks: “Here, O Bhikkhus, are the roots of trees, here are empty places: meditate,” can be considered a categorical imperative of Buddha as well as a symbol of the Buddhist way of life. It would naturally follow that Buddhism would be concerned about the protection of natural forests for meditation as well as for Buddha’s teachings on love and compassion for all living things. (Kabilsing, et al., 1988).

(c) **WISDOM** (*Panna*) Encompasses the two factors of Right Understanding and Right Thought of the Noble Eightfold Path.

Rahula writes:

When wisdom is developed and cultivated according to the four noble truths, it sees the secret of life, the reality of things as they are. When the secret is discovered, when the truth is seen, all the forces which feverishly produce the continuity of *samsara* in illusion become calm and incapable of producing any more karma formations, because there is no more illusion, no more ‘thirst’ for continuity. It is like a mental disease which is cured when the cause or the secret of the malady is discovered and seen by the patient. (Rahula, 1990).

To understand Buddhist ethics, it is necessary to examine the hear of the Buddha’s teachings, the Four Noble Truths, as delivered in the first sermon after his enlightenment to the five ascetics in the deer park of Isipatana (today’s Sarnath). When he left the palace, the aim of young Prince Siddhara Gautama was to find the ultimate remedy for the suffering of all living beings.

A young commander of a British regiment fighting in Africa exhorted his men to plunge into the battle. “What are you waiting for? You owe God a life.”

Comments & Questions

“...the reality of things as they are.”

Rahula relates this *samsara* to “a mental disease which is cured...”

List the ways you develop your “wisdom’ from day to day. How are you successful at cultivating the wisdom of the first quote above?

Why did Prime Siddhara Gautama leave the palace?

To see ‘the reality of things as they are’ you have to listen to the basic teaching of the Buddha –The Four Noble Truths.

A grizzled and battle-weary Scottish sergeant rose from the trenches to lead his troop into the fray. "Aye, lads, let us go. God owes us a death."

(1) First Noble Truth-Dukkha (or suffering) encompasses a range of feeling from mild irritation to traumas of grief and sorrow. Buddhism is particularly concerned with the kind of suffering based on the clinging to self. In the spiritual sense, feelings of being incomplete, yearnings for inner peace, and desires for purification are all motivated by the omnipresence of *Dukkha*. This concept does not deny happiness, joy, or laughter but recognizes that life's impermanent states are conditioned with inevitable suffering. (Inwood, 1981).

Thus suffering is to a certain degree inherent in the existence of all living beings, as coming into existence conditions old age and death. Whatever is born is bound to decay. There is no way to escape this natural law of impermanence, neither by trying to satisfy each and every desire that is born in one's mind, nor by choosing between them. There are many kinds of delusive happiness, but they do not last. Whatever we perceive through our physical senses and our minds is determined and bound to pass away.

Environmental Aspects: *Dukkha* or the First Noble Truth applies to the natural environment with the recognition that nature is suffering as a whole and that serious environmental crises are appearing locally and globally everywhere. These crises range from loss of tropical forests and their plant and animal species to global warming. With the recognition that life is suffering, exploitation and insensitivity toward the living environment cannot make humankind escape the natural law of impermanence.

(2) Second Noble Truth (*Samudaya*): This truth explains the cause of suffering, as everything in the world falls under the law of cause and effect. Buddhist teachings see the cause of all suffering in

Comments & Questions

The First Noble Truth-

What is the nature of this "suffering" this is part of our everyday experience?

"...life's impermanent states are conditioned with inevitable suffering."

We want things to remain unchanged or we want them to change thus we are always out of alignment.

Check today's activities or those for this week. How many times were you dissatisfied or "out of alignment" with reality?

Describe the ways in which nature is suffering impermanence in your community

Second Noble Truth-

"...the cause of all suffering is desire, aversion, and delusion, all of which emerge from people's ignorance and clinging"

desire, aversion, and delusion, all of which emerge from people's ignorance and clinging. In order for suffering to occur, there must be attachment or clinging to a certain object of desire, aversion, or delusion. Suffering is often self-inflicted by grasping after the illusions of an "I, me, and mine." Buddhism recognizes that there is no real self, but that man mistakes an illusory self to be real in his ignorance. Thus it is the illusory self, not a real self, that clings and causes the suffering.

Environmental Aspects: Phra Debvedi considers these fundamental principles: (a) Everything in the universe is subject to the law of cause and effect. Every act of man has an effect on the universe. Thus man is part of the process and subject to the laws of nature, including impermanence and suffering along with other beings; (b) Recognizing this fundamental principle, people should be friends with other living beings, and should protect the living environment, and should share some of the suffering through lovingkindness. (Phra Debvedi, 1993)

However, the above principles are dependent on development of the conventional self through freedom and happiness rather than through moral imperatives or other means, such as the acquisition of wealth. This requires knowing the laws of nature before one can be free from fear, suffering, or the tendency toward harming nature through unwise acts and unsound practices. It also requires knowing the causes of suffering and the crises of nature in order to solve these problems, particularly as they relate to people. (Phra Debvedi, 1993)

Those causes include ignorance and desire, which require looking within oneself rather than for outside factors to blame. Ignorance of the chain of suffering leads one to attempt to compensate for dissatisfaction through external activities such as development for development's sake, mindless "use" or exploitation of natural resources, and consumerism. Wisdom helps one cut

Comments & Questions

What do you cling to that causes you suffering?

"...man is part of the process and subject to the laws of nature, including impermanence and suffering..."

Here is the great challenge. To try to treat nature as separate, to use and dominate it or to develop the inner self as part of nature, incorporating the laws of nature in self development.

How far has your wisdom progressed?

In what ways do you **"look within oneself"?**

How have you **"cut through the vicious cycle of desire- exploitation- suffering.?"**

Most people **"try to achieve happiness by acquiring more and more things from nature and by dominating it."**

What things have you acquired? What could you get rid of?

through the vicious cycle of desire-exploitation-suffering. *Tanha*—desire or craving—is the major cause of materialism with its increasing pressures on the natural environment.

Phra Debvedi observes also that most people are undeveloped and try to achieve happiness by acquiring more and more things from nature and by dominating it. However, they lose their freedom by getting more things from outside themselves and become more dependent upon these things as they acquire them. In reality, what they need is to become less dependent on material things through self-development, so that they can be free to be happy within themselves rather than dependent on so many externals. With the victory of inner freedom and happiness over underdevelopment and ignorance, there is the possibility for greater balance, moderation, and harmony between people and the living environment. (Phra Debvedi, 1993)

(3) The Third Noble Truth (*Nirodha*) or the law of cessation of *Dukkha* shows how the chain of dependent origination can be broken, so that contact between the six sense organs (eyes, nose, ears, tongue, body, and mind) will not lead to feelings that cause craving or aversion. As a result, the arising of attachment, becoming, birth, and death, with their consequent suffering will not take place. Thus the third noble truth is the realization that people can transcend *Dukkha* or mental pain and grief. Just as a flame expires without fuel, *Dukkha* similarly becomes extinct if its fuel of cravings is consumed. (Inwood, 1981). With the recognition that suffering is caused by certain conditions, the removal of these conditions causes suffering to cease. When one is free from the illusory self with its attachment and clinging, then one has broken the bondage that bound him or her and is freed or liberated. (Kabilsingh, et al., 1988)

Environmental Aspects: When it is possible to identify the causes of environmental problems, it then becomes possible to look for

Comments & Questions

The Third Noble Truth:

“...is the realization that people can transcend *Dukkha* or mental pain and grief. (attachment).

What practices have you engaged in to free yourself or see through the “**illusory self**”?

Has “**attachment and clinging lessened**”?

How does the process described above enable you to identify the causes of environmental problems and understand what to do since you are “**a part of the natural environment?**”

the ways to reduce or eliminate environmental problems. This requires that people realize their ignorance of nature and to rightfully understand that they are a part of the natural environment along with other living beings. (Kabilsingh, 1981)

(4) The Fourth Noble Truth (*Magga*) explains the path that leads to the cessation of *dukkha* or suffering/unsatisfactoriness. Although Buddhism teaches that the world is full of suffering, it also provides the means to overcome this suffering. (Kabilsingh, et. al, 1988)

Thus the fourth noble truth offers the way of liberation. By avoiding extremes, Buddhism presents “The Middle Way”—a path which rejects asceticism and sensuality, is tempered by a logical attitude toward morality, and is devoid of dogma, ceremony, and ritual. The “Path” prescribes purity of spirit, love, and noble deeds as the basis of the way to supreme happiness. (Inwood, 1981)

The Noble Eightfold Path consists of: Right Understanding and Right Motives or Thoughts (the Wisdom Group); Right Speech, Right Action and Right Means of Livelihood (the Virtue Group); and Right Effort, Right Mindfulness, and Right Concentration (the Concentration Group). Environmental Aspects of the Eightfold Noble Path follow:

(1) From Right Understanding Proceeds Right Thought

This path implies that one must possess the right knowledge of self and one’s place in nature. It encompasses the capacity to realize that life is suffering and that exploitation of the environment in order to satisfy desires that spring from craving/aversion/ignorance of people are a part of this natural law.

However, wise protection of the natural environment will lessen the suffering for oneself and other beings.

(2) From Right Thought Proceeds Right Speech

This path means right attitude of mind with freedom from thoughts

Comments & Questions

The Fourth Noble Truth:

What is the Middle Way?

The Noble Eightfold Path:

Think about the eight parts and select moments from your own life when you practiced each part.

What is your place in nature?

How and when do you practice right speech in your life?

of lust, ill-will, and cruelty. It also means a resolution to change things and their consequent suffering, particularly ignorance, greed, and craving. In awareness of the four noble truths, thought becomes wholesome, caring, and understanding toward the interconnectedness of human beings, other living beings, and nature, resulting in right speech to support wise action toward protecting the natural environment.

(3) From Right Speech proceeds Right Action

This path would include the five precepts with both physical and mental abstention from killing, stealing, lying, sensuality, and intoxicating drugs and alcohol. However, it would also include positive and wholesome measures to protect and restore the natural environment. Right action(s) would encompass the raising of consciousness toward the importance and issues of the natural environment and toward active participation in the protection process.

(4) From Right Action proceeds Right Livelihood

This path requires avoidance of harmful or undesirable conduct. Poaching of wildlife, illegal logging, unwise clearing of natural forest for exploitation, and other negative livelihoods that impact the natural environment are not considered right actions or livelihoods in terms of the environment/*Dhamma*. In some countries, past poachers and ex-loggers were hired as park and forest guards and they were quite successful in their new careers as protectors of the forests.

(5) From Right Livelihood proceeds Right Effort

This path demands the exertion of will to overcome evil states of mind and to continue to grow in such good that already exists. Right effort is needed as craving and ignorance are very deeply rooted in the human mind and have the tendency to overpower one if right livelihood and right effort are not practiced.

Comments & Questions

What right actions do you take to protect the environment?

In your community these may be actions going on that damage the environment. What livelihoods are involved in hurting or protecting the environment?

Are you involved in right effort? In what ways?

(6) From Right Effort proceeds Right Awareness

This path requires training the mind so that it does not wander from thought to thought and so that one can be mindful in the present moment, avoiding the condition of “monkey mind” which constantly flits from thought to thought. The mind should be a useful tool of man and not his master. “The mind is very hard to perceive, extremely subtle, flits wherever it lists. Let the wise man guard it; a guarded mind is conducive to happiness.” (Dhammapada, 36).

Right awareness encompasses mindfulness of one’s own attitude toward nature as well as one’s own behavior, in not destroying or degrading the natural environment, as well as by taking measures to protect and enhance it. This attitude includes keeping mindful of opportunities and challenges to stay on course for good and just causes such as environmental protection.

(7) From Right Awareness proceeds Right Concentration This path encompasses a tranquil state of mind from which negative thoughts have been banished and have been replaced by awareness. The Buddha taught that the mind is where all acts arise and that good or evil issue from the mind. The fruits of mindfulness are right concentration with higher insight into the law of nature which removes ignorance, the source of suffering.

(8) From Right Concentration proceeds Right Wisdom

The understanding of the law of nature is pure wisdom. This results in loving care towards all living beings and their natural environment, and from right wisdom proceeds right liberation or *Nibbana*.

Comments & Questions

When you experience “**monkey mind**” how do you bring your awareness back to clear focus?

Are you consistent in your environmental awareness?

How often do you experience a “**tranquil state of mind**”? How can you experience this state more often?

Describe your understanding of “**right wisdom**” in relationship to the environment.

GENERAL ENVIRONMENTAL ETHICS/VALUES

The following represent some general ethics/values that are commonly associated with Buddhism and are applicable to the natural environment:

(a) Compassion (*Karuna*): The Dalai Lama states, “Usually I tell people that compassion, warm heartedness, is something we can call universal religion. It is valid whether we believe in reincarnation or not, believe in God or not, whether we believe in Buddha or not.” (Dalai Lama, 1991)

Care is not a question of conflicting religious dogmas or different cultures. There is no such thing as Buddhist care, Christian care, Moslem care, or Thai, Chinese, or American care. Care, if it springs from real compassion, good will, and warm heartedness, is universal. The challenge of the environment concerns all life on planet earth and not one culture or religious group is excluded. This challenge includes our changing from selfishly exploiting our natural environment to care and compassion for all living beings on a united basis. Snyder notes, “Institutional Buddhism has been conspicuously ready to accept or ignore the inequalities and tyrannies of whatever political system it found itself under. This can be death to Buddhism, because it is death to any meaningful function of compassion. Wisdom without compassion feels no pain.” (Devall and Sessions, 1985).

Compassion is for all living beings who are suffering, in trouble, and/or affliction. Compassion represents love, charity, kindness, tolerance, and similar noble qualities on the emotional side. In Dhammapada 3, the Buddha states, “Hatred is never appeased by hatred in this world; it is appeased by love. This is an eternal law.”

Comments & Questions

Compassion:

“Care, if it springs from real compassion good will, and warm heartedness, is universal.”

“...changing from selfishly exploiting our natural environment to care and compassion for all living beings on a united basis.”

In what ways does Buddhism or other religions in your community show concern for the environment and demonstrate compassion?

“...for how can one harm others when one has seen how much they suffer already?”

How do plants, animals and the environment itself “suffer” in your community?

Are there ways you can help modify or reduce this suffering?

(Rahula, 1990). Khatipalo observes, “Compassion is taking note of the sufferings of other beings in the world. It overcomes callous indifference to the plight of suffering beings, human or otherwise. It must be reflected in one’s life by a willingness to go out of one’s way to give aid where possible and to help those in distress. It has the advantage of reducing one’s selfishness by understanding other’s sorrows . . . It is the Buddha’s medicine for cruelty, for how can one harm others when one has seen how much they suffer already?” (Khantipalo, 1989).

The counterpart of love can be considered compassion with its wish that all beings be separated from suffering and the causes of suffering. Although one may not be certain that this wish is possible, it is still beautiful to hold in mind. It can be all the more moving if one amplifies it with the thought: “I will free beings from suffering.” (Hopkins, 1984). (*Mahayana bodhisattas* vow to help all living beings become enlightened before they may attain Nirvana themselves.)

(b) Loving Kindness (*metta*): The loving kindness experience is expressed by the Pali word, *metta*, which, in turn, is derived from the word, *mitta*, meaning “friend.” Loving kindness means true friendliness toward the earth. This love and compassion means freedom for the earth and ourselves. By strongly loving the earth, one releases one’s sadness and gains freedom in spirit for joy, efficiency, and abandon, regardless of any odds. (Badiner, 1990). Phra Debvedi says love or loving kindness toward nature comes from experiencing it and being a friendly to it. He notes that everyone wants to be happy and that love toward nature emerges from true happiness and freedom which is dependent on internal rather than outside things.

With happiness inside, the developed self is in balance and love with nature while the undeveloped self with its external clinging is not. (Phra Debvedi, 1993)

Comments & Questions

Loving Kindness:

Describe the relationship between you being happy and having loving kindness and being free and protecting nature.

“...one does good things for the environment or restrains from doing bad things because one has loving kindness and compassion toward oneself and other living beings.”

Bhavilai also notes that, after one has reached a certain realization in *Dhamma*, one does good deeds out of love and wisdom for oneself and nature rather than out of moral imperatives; i.e., one does good things for the environment or restrains from doing bad things because one has loving kindness and compassion toward oneself and other living beings. When the thought is good and associated with loving kindness and *Dhamma*, then good deeds for nature result for their own sake. (Bhavilai, 1993)

Loving kindness is an unselfish and unconditional love which can be extended to every living being. The quality of loving kindness becomes an integral part of one's character through absorbed concentration. Although this love without attachment is inconceivable to many people, such a love is much superior to the attached kind. Without attachment, it can become infinite and need not be confined to any group of beings nor leave any group outside of it. (Khantipalo, 1989).

Loving kindness and compassion are considered to be holy or unbounded states of mind which are to be cultivated by everyone during meditation and in daily life. Loving kindness radiation is considered to be compulsory for all Buddhists. (Kabilsingh, et al., 1988). In Buddhism, the spreading of loving kindness is the power of the mind because it makes the mind bright and clear (Sanong, 1992). Cultivating loving kindness allows the mind to find pleasantness in relation to every living being. The simple fact that every living being possesses a Buddha nature and is a sentient being who was previously your mother is sufficient cause to find him or her pleasant. (Hopkins, 1984).

By realizing that human beings are not owners of nature, and that they are interconnected with other beings who all share suffering and happiness, people practice loving kindness for all living beings and for their care and protection of the natural environment. This type of loving kindness permits people to extend their love beyond the limited and secular love of their immediate circle of people.

Comments & Questions

“...love without attachment” Do you practice this state of mind? When it happens how does it feel?

“...every living being possesses a Buddha nature and is a sentient being...”

What is Buddha nature? How does it benefit the environment?

What does it mean that we are not **“owners of nature?”**

Loving kindness may be seen as a spiritual and ecological love of concern, hope, and care to and for all beings.

(c) Effort/Responsibility (*Viriya*): The Buddha encouraged everyone to develop oneself and to work out one's own emancipation from all defilements of the mind toward complete liberation from the concept of worldly suffering. All humans are supposed to have the power to free themselves from all bondage through their own personal efforts and intelligence. Merit cannot be passed on to somebody else and Buddha only taught the way without interfering with anyone's personal path of freedom or enlightenment.

The Buddha said, "By oneself alone is evil done, by oneself is one defiled. By oneself is evil avoided, by oneself alone is one purified. Purity and impurity depend on oneself. No one can purify another." (Dhammapada, 165). Still, as Phra Prachak observes, "One can feel responsible, but one does not need to carry the responsibility. It is like drinking water. You drink it but you do not feel that you are carrying it. It is not like carrying a log. But it is good sometimes to know that you carry it." (Prachak, 1993)

An essential part of Buddha's teaching on self-responsibility is illustrated in the *Kalama Sutta*:

Yes, Kalamas, it is proper that you have doubt, that you have perplexity, for a doubt has arisen in a matter which is doubtful. Now, look you Kalamas, do not be led by reports, or tradition, or hearsay. Be not led by the authority of religious texts, nor by mere logic or inference, not by considering appearances, not by the delight in speculative opinions, nor by the idea: 'this is our teacher.' But, O Kalamas, when you know for yourselves that certain things are unwholesome (*akkusala*) and wrong, and bad, then give them up . . . And when you know for yourselves that certain

Comments & Questions

Effort/Responsibility:

"All humans are supposed to have the power to free themselves from all bondage through their own personal efforts and intelligence. "

Survey your own effort at freeing yourself.

Could your own effort be higher in regards to the environment?

In what areas could you make a greater effort and take more responsibility?

things are wholesome (*kusala*) and good, then accept them and follow them. (Rahula, 1990).

(d) Equanimity (*Upekkha*): Equanimity may be seen as the mind coming into harmony with the laws of nature and of impermanence. Basically, equanimity is accepting that one cannot make permanent what is impermanent. It is an acceptance that the world will not conform to what we want it to be. (Weissman, 1990).

Goenka states, “In every situation, one understands that the experience of that moment is impermanent, bound to pass away. With this understanding one remains detached, equanimous.” (Goenka,1987). Equanimity is being “. . . able to face life in all its vicissitudes with calm of mind, tranquillity, without disturbance.” (Rahula,1990).

The cultivation of equanimity does not mean that one tries to become indifferent to all living beings. Rather, it means reflecting on the fact that all living beings want happiness and do not want suffering and that each and every sentient being throughout space has been our mother many times in the past. It is also a recognition of the deeper nature or Buddha nature in all living beings, regardless of their present form and situation. Equanimity thus opens the door for loving kindness and compassion for all living beings on an equal basis as well as for their care through protection of the natural environment. (Hopkins, 1984).

(e) Charity (*Dana*): Khantipalo states, “Worldliness talks about ‘getting,’ The Way talks about ‘giving’ In the practice of giving one should never expect any return, the only return being that one’s own heart is purified, for one rejoices in a wholesome action and the heart then becomes flexible and one’s ways more easy to train. What greater return could there be than this?” Attachment to money one earns and to possessions one owns results in the development of ego and selfishness and does not permit one to go along a spiritual path. (Khantipalo, 1989).

Comments & Questions

Equanimity:

What role does acceptance play in your life? Is it in balance with your effort?

“...equanimity is being “. . . able to face life in all its vicissitudes with calm of mind, tranquillity, without disturbance.”

“It is also recognition of the deeper nature or Buddha nature in all living beings, regardless of their present form and situation.”

How can you practice more equanimity in your life today?

Charity:

“Real charity is giving for the sake of giving without expecting anything in return; it is only beneficial giving if it is entirely unconditional and free from any craving for fame, wealth, or power.”

In modern society, the amount of input into something is often measured by its expected income as in a business transaction. Real charity is giving for the sake of giving without expecting anything in return; it is only beneficial giving if it is entirely unconditional and free from any craving for fame, wealth, or power. Charity does not have to be financial. It can be selfless service, such as cleaning up polluted beaches, assisting in the protection of a forest and its wildlife, and so forth. Much of the effort for environmental protection involves this kind of selfless giving where one can give on a volunteer basis for the welfare of all living beings, including the unborn.

This type of giving also frees one on his or her spiritual path. As Phra Debvedi notes, "Helping others also helps us to develop good qualities in ourselves. The mind tends toward skillful reactions in its everyday contact. In this way, the practiser sees the relationship between his own personal practice and the practice of relating to the world. One sees that all beings are related and so deals with them with *metta*, goodwill and *koruna*, compassion, helping them in their need." (Phra Debvedi, 1990).

(f)Humility (*Nivata*): In contrast to the arrogance and possessiveness that some people have toward living beings and the natural environment, humility assumes a meek and modest approach. The term humility actually comes from the Latin word *Humus* for soil which is the lowest part of the forest as well as its life support as the medium for water and nutrients. Humility is also the recognition that all beings, including human beings, are basically powerless before the laws of nature or *Dhamma*. In this sense, humility would subscribe to the will of *Dhamma* being done rather than the will of one's own ego. The concept of *anatta* or non-self and humility are closely related since humility arises when the consciousness of I, me, or mine diminishes.

Comments & Questions

Think back over the past week. When did you unconditionally give of yourself?

"Because all beings are related "...the practiser sees the relationship between his own personal practice and the practice of relating to the world."

Describe how your giving helps you relate to the world.

Humility:

"...humility would subscribe to the will of *Dhamma* being done rather than the will of one's own ego."

Humility also teaches us that we cannot really own anything in any absolute sense. We can only temporarily own or use something so that we can be merely good stewards in any given moment. (Kalbilsingh, et.al., 1988). Human beings, like other beings, belong to *Dhamma* or nature and are subject to its laws. Thus, Phra Debvedi states, “. . . we understand that all other beings are afflicted with the same illness as we are. Therefore it is proper that we learn to help each other as fellow travelers on the path of practice.” (Phra Debvedi, 1990)

It is necessary to see the Buddha nature in the person or living being before us. By practicing this mindfulness regularly, a change will occur in us through the development of humility and by the realization that our abilities are boundless. In knowing how to respect other beings, we will also know to respect ourselves. (Thich Nhat Hanh, 1990). Roberts notes, “Meditation and mindfulness give character to our actions. They prevent us from being engulfed with panic when our actions fail or from being too driven in the pursuit of success. Since they show that no action is final, they keep us from taking ourselves too seriously.” (Badiner, 1990)

Buddhadasa observes, “Living close to nature makes it easier to understand, to know, and to practice in harmony with nature. Please learn to enjoy and be contented with plain and simple living together with nature. This will benefit and support your study and practice.” (Buddhadasa, 1988).

(g) Gratitude/Thankfulness (*Katannu-katavedi*): After his enlightenment, the Buddha stood for one week gazing at the Bodhi tree to show his gratitude and appreciation to the tree that had sheltered and nurtured him. Gratitude in and for nature shows our appreciation and thankfulness for blessings and gifts, both tangible and intangible, which have been given to us whether we have asked for them or deserve them.

Comments & Questions

Do you cultivate humility? How do you do this?

Do you feel closer to non-self (anatta) when you experience humility?

How does mindfulness help us develop humility?

“...learn to enjoy and be contented with plain and simple living together with nature.”

How is nature and humanity connected?

Gratitude/Thankfulness:

“We owe our lives to nature which created us and which sustains us moment by moment.”

Often, we forget our “life support systems” and interdependencies with nature as well as its rich gifts and blessings through other beings and through the natural environment. We owe our lives to nature which created us and which sustains us moment by moment. And we owe much of our humanity and spirituality to contact with nature and its natural forms of beauty and life. This would also include respect for nature or *Dhamma* as the giver. As Weissman notes, “Gratitude and respect are so closely related that it is hard at times to tell whether one comes before the other or whether they arise together.” (Weissman, 1990)

It is this type of gratitude, thankfulness, and appreciation that motivates and inspires one to do what he or she can to protect and enhance the natural environment so that present and future generations of all living beings can continue to live in nature and to receive its gifts and blessing, particularly the gift of life and living. In this sense, we belong to *Dhamma* or nature and have a duty of appreciation to express our gratitude toward it through environmental service.

(h) Non-self (*Anatta*): Goenka states, “Within the physical and mental structure, there is nothing that lasts more than a moment, nothing that one can identify as an unchanging self or soul. If something is indeed ‘mine,’ then one must be able to possess it, to control it, but in fact one has no mastery even over one’s body; it keeps changing, decaying, regardless of one’s wishes.” (Goenka, 1990).

(i) Mindfulness (*Sati*) Right-mindfulness is to be diligently aware, attentive, and mindful of activities of the body, sensations or feelings, activities of the mind, and ideas, conceptions, thoughts, and things. (Rahula, 1990). When considering ethical conduct, mindfulness acts as a gatekeeper whose job is to keep his eyes on people passing in and out, permitting entrance and exit to those for whom it is proper and forbidding entrance to those for whom it is not. The mind with *sati* possesses the qualities of purity, radiance,

Comments & Questions

Can you remember moments when you did something similar to what the Buddha did with the Bodhi tree?

Plan to do some simple showing of gratitude to other creatures or places in the future.

Where would you do this? In what situation?

Non-self:

How can a deep understanding of impermanence help you in experiencing non-self?

Mindfulness:

“... to be diligently aware, attentive, and mindful of activities of the body, sensations or feelings, activities of the mind, and ideas, conceptions, thoughts, and things.”

Are you able to “only taking note or observing mental and physical phenomena”?

spaciousness, joy and freedom as an unstricted and untarnished mind. (Phra Debvedi, 1990)

Right-mindfulness enables the observer to look at things objectively, the way they are, not as one likes them to be. Mindfulness involves one's only taking note or observing mental and physical phenomena and not reacting according to one's past conditioning, emotions, or thought-concepts of liking or dislike. Thus one becomes capable of purer actions in harmony with *Dhamma*, the law of nature, in the sense of not relating them to oneself. Once there is seeing through mindfulness, there needs to be acting or the seeing becomes meaningless. Thus, seeing environmental problems through mindfulness means taking action for the solution of these problems.

Thich Nhat Hanh notes, "We are making the earth an impossible place to live for ourselves and for many generations of children. If we live our present moment mindfully, we will know what to do and what not to do, and we will try to do things in the direction of peace." (Thich Nhat Hanh, 1991).

(j) Interrelatedness/ interbeing (*paticca samuppada*—dependent origination): Buddhadasa notes, "Dependent origination is in the middle between the ideas of having a self and the total lack of self. It has its own principle: Because there is this, there is that; because this is not, that is not." (Buddhadasa, 1992). It is recognized that each of the factors of dependent origination is conditioned as well as conditioning. Consequently, they are all relative, interdependent and interconnected, and nothing is absolute or independent. Thus, no first cause is accepted by Buddhism (Rahula, 1990)

With interrelatedness, "the emphasis is on harmony between individuals, communities, and nature. It involves an inner spiritual work of cultivating ecological consciousness, a process of becoming aware of the being of rocks, trees, and rivers . . . learning how to

Comments & Questions

How can you help your mind react to the things noted in the quote above in a "**mindful**" manner

What would help you be "**mindful**" more frequently?

Interrelatedness/Interbeing:

"...they are all relative, interdependent and interconnected, and nothing is absolute or independent."

"...cultivating ecological consciousness . . . learning how to listen with an appreciation that everything is connected."



listen with an appreciation that everything is connected.” (Badiner, 1990)

It also means recognizing that ecological elements are codependent. If damage occurs to one of these ecological elements, then it affects the entire ecological system, i.e., one cannot do one thing without its consequences to other things in nature. Internally, the concocting and attaching process of dependent origination through the ego also brings about craving, aversion, and delusion in people which, in turn, affect outside relationships and other living beings and the environment. Hence, awareness and wisdom are needed to prevent this process at the very beginning..



Comments & Questions

List the ways you are connected to the ecology of your community.

Do you “**listen**” to it?

How can you “**listen**” more?

CHAPTER THREE

DHAMMA, DEEP ECOLOGY, ECOLOGY, AND TROPICAL FORESTS

“Everything is perfectly clean and pure and full of divine lessons . . . When we try to pick out anything by itself, we find it hitched to everything else in the universe. The mystical poet, Francis Thompson, stated, ‘Thou canst not stir a flower without troubling a star’.”—John Muir, MY FIRST SUMMER IN THE SIERRA, 1911.

This chapter will deal with *Dhamma* as nature, natural truth, and natural law as it applies to Deep Ecology, ecology, and tropical forests.

***DHAMMA* AND DEEP ECOLOGY**



Shallow ecology (and conservation, resource management, etc.) assumes that it is possible to go on with business as usual if we do things more carefully while increasing our human populations, technology, and economies. By doing

things more carefully to nature, we will not have to question ourselves, our values, or our world views in terms of controlling nature. In contrast, Deep Ecology, such as that inherent in Buddhism, assumes that we cannot continue business as usual. Deep Ecology begins with the recognition that one group of human beings has neither more nor

Comments & Questions (Quotes (in bold) are from the adjacent text)

Describe an experience you have had in nature where you sensed the interconnection between living plants and animals.

“Shallow ecology” refers to what point of view?

less worth than any other, and that each kind of natural being has intrinsic worth, is valuable for its own sake. (Drengson, n.d.).

Like *Dhamma* or nature, Deep Ecology goes far beyond the study of relationships between organisms and their environments; it points to a fundamentally new way of looking at our relationships to ourselves, to one another, and to the world. It represents, while timeless and perennial, a “new” type of consciousness that is emerging within the collective psyche of humankind. It involves a consciousness of synthesis, integration, and non-dualism with corresponding values in the world, i.e., that all things are part of an interrelated continuum of wholeness and diversity. (Taylor, 1990).

The Foundation for Deep Ecology is also named *Ira-hiti*, which refers to the annual *Karuk* ceremonies whereby certain Native Americans “fix the world” by bringing all natural forces back into balance. It recognizes that there is an ancient Earth-based knowledge, philosophy, and system of practice among traditional native peoples that still exists today. This knowledge and practice informs human beings about how to live on planet earth in reciprocal, cooperative, and healthy relationships with other living beings for the survival and quality of all present and future life. (*Ira-Hiti*, 1991)

The basic premise of *Ira-hiti* consists of the recognition that life on earth has entered its most precarious phase, with serious threats to all forms of life as well as to the health and viability of the biosphere. Many scientists now predict, conservatively, massive plant and animal diebacks on planet earth within three to sixty years. *Ira-hita* also recognizes the precipitous world-wide decline in the quality of life for human and other forms of life. Such awareness is the motivational basis for *Ira-hiti*'s programs. Thus, the Foundation for Deep Ecology in *Ira-hiti* is defined by the following quotation:

Comments & Questions

“Ecology begins with the recognition that one group of human beings has neither more nor less worth than any other, and that each kind of natural being has intrinsic worth, is valuable for its own sake.”

Describe in your own words this “**fundamentally new way**” of thinking and a “**new type of consciousness that is emerging**”.

To “**Fix the world**”

!!! Bringing all natural forces back into balance!

Is there folk wisdom in your community about bringing balance to the world?

What can you do personally to bring balance into the world?

What is the relationship of “**quality of life**” to Deep Ecology?

Deep Ecology, partially rooted in native thinking, is a new movement among westerners that rejects the prevailing anthropocentric (human centered) paradigm of technological society, in favor of a biocentric ethic and practice. Deep Ecology abandons the notion that the natural world exists as a “resource” in service to human beings, but that forests, oceans, wildlife, and the natural world have intrinsic values, and the right to exist for their own sakes. Both as a philosophy and a new form of activism, Deep Ecology considers the survival of natural systems and the capabilities of the planet for self-renewal to be of primary importance and not to be compromised.

(“*IRA-HITI*, Foundation for Deep Ecology,” 4th draft of missions statement, [unpublished handout 6/20/91])

As a new natural philosophy, some of the key tenets of Deep Ecology are as follows:

- 1.) Contrasts with “shallow” or “reform” environmentalism, which takes up with environmental problems, such as resource depletion and pollution, form the Prevailing technocratic worldview, and seeks primarily to further the health and affluence of the world’s dominant and technologically developed nation states.
- 2.) A practical, normative philosophy (not ecological sciences, though in part inspired by such science) that leads to changes in our vision and practice, our actions, our forms of life.
- 3.) Takes the biggest historical perspective. For example, technological civilization is only about 10,000 years old at most, perhaps beginning with agriculture. The human species is 3-4 million years old; (think of all the knowledge in our genes; dinosaurs lived for 150 million



Comments & Questions

Contrast the “**anthropocentric paradigm**” with the ‘**biocentric ethic**’. How are they different?

What is wrong about treating the earth as a “**resource**” for human beings?

Key tenets of Deep Ecology

1. Not ‘**shallow**’ or ‘**reform**’ environmentation. Not from a ‘**technocratic worldview**’ in service to developed nation states.
2. Practical-leading to changes in vision, practice, actions and lifestyles.
3. Big historical perspective – millions of years. Gives perspective to our actions today.

years, etc.) This perspective helps liberate one to act, and even gives ground for hope.

4.) Biological egalitarianism (vs. homocentricism): in principle, all beings are created equal, and have an equal right to live and blossom (Naess). This requires care and the minimization of impact on others of all sorts, but it also mitigates alienation from participation in the world.

5.) Stresses the internal (vs. external) relatedness of beings. If two things, A and B, are internally related, then the relation belongs to the constitution of both, so that neither would be what is apart from its relation with the other. A and B are part of one another—for example, human and nature, self and others. We are all part of each other, and contribute to the unity of the whole. Thus when the bell tolls for another species, it also tolls for us.

6.) Importance of diversity, symbiosis, and complexity in both human cultures and the world at large. This requires emphasis on coexistence and cooperation (vs. domination, oppression) both as an obligation and as the most effective survival strategy.

7.) Recognition of the necessity for wildness and wilderness, not simply for their ecological value, but also as essential to ethical-spiritual practice and thus to the vitality of human forms of life as well as to the life of the world. (*Some Key Tenets of Deep Ecology, the New Natural Philosophy*, unpublished paper, n.d.)



Deep Ecology is also known as “ecosophy” which means ecologically wise actions and ecological wisdom. Thus it refers to both a practice

Comments & Questions

1. All beings are created equal and have an equal right to live.
2. Internal relatedness of beings. We are all part of each other and contribute to the unity of the whole.
3. Importance of diversity, symbiosis and complexity in both human and natural cultures.
4. Necessity for wildness and wilderness as essential to ethical-spiritual practice.

Describe ecological wisdom and its importance to the state of balance in the world?

and a state of being. This term, along with Deep Ecology, was also introduced by Arne Naess, the Norwegian philosopher, who used the expression, “deep and shallow ecology.” Ecosophy comes from the Greek words, *ecos*, meaning “household place,” and *sophia*, which means “wisdom.” Thus, ecosophy is ecological wisdom which is manifested in actions which are ecologically harmonious.

In contrast, the assumption of shallow ecology is that we can go on with our business as usual with major changes if we clean up our act by doing things more carefully. We can continue to increase our numbers and technological power without questioning our world view, values, and aims.

There is no need for fundamental change or redefinition of progress or in our attempts at the unlimited control of nature.

Professors Drenth and Inoue observe,

So-called corporate (shallow) environmentalism still dominates the mainstream. It advocates continuous economic growth and environmental protection by means of technological innovation (such as catalytic converters), “scientific resources management” (such as sustained yield forestry) and mild changes in life styles (such as recycling). It avoids serious fundamental questions about our values and worldviews; it does not examine our sociocultural institutions and our personal lifestyles. This mainstream technological approach has to be clearly distinguished from the Deep Ecology approach, which in contrast aims to achieve a fundamental ecological transformation of our sociocultural systems, collective actions, and lifestyle. (Drenth and Inoue, 1995)

Consequently, the Deep Ecology or Ecosophy approach recognizes that we cannot continue with business as usual, but must face a deep crisis in the kind of culture and character which threatens

Comments & Questions

“Corporate (shallow) environmentalism still dominates the main stream.”

What does this “**shallow**” environmentalism advocate in your own words?

How does it differ from the Deep Ecology approach?

What is the fundamental question?

the earth, and ask ourselves how we might live so as not to destroy the earth and all its living beings.

Thus, Deep Ecology is a global movement toward a diversity of ways for achieving ecosophic relationships with the earth. It is a radical (get at the roots) philosophy of life wherein each kind of natural being has intrinsic worth. Ecosophy or ecological wisdom involves deepening our ecological sensibilities and practices for ecological harmony. This involves an awareness of one's relationships with the processes of life that flow around, through, and between all beings. (Drengston, n.d.)

In this sense, Deep Ecology does not separate humans from the natural environment, in contrast to "shallow" ecology which is anthropocentric. The latter considers humans as above or outside nature, and that they are the source of value with their instrumental or utilitarian uses of natural resources. Deep Ecology sees the world as a network of phenomena that are fundamentally interconnected and interdependent. It views human beings as just one particular strand in the web of life. (Capra, 1995)

This deep ecological awareness recognizes that nature and the self are at a "oneness" with values inherent in all living beings, including trees and other plants, and is therefore basically a spiritual awareness. The human spirit is concerned with finding one's place or consciousness within the universe so that the individual may feel connected and at one with the cosmos rather than separate and isolated. Thus ecological awareness can be considered spiritual; Deep Ecology and Deep Spirituality are essentially one and the same. Not surprisingly, this sense of oneness with nature is consistent with the expression of religious feeling all over the world, from Christian mysticism to Native American, African, and Asian spiritual traditions to the feminine spirituality of the women's movement. (Capra, 1995)

There is beginning to be a greater recognition paid to how

Comments & Questions

"Deep Ecology is a global movement toward a diversity of ways for achieving ecosophic relationships with the earth." Below are some key words describing this.

Complete the thought behind the words:

1. Practical philosophy –
2. Intrinsic worth –
3. Processes of life –
4. Does not separate humans from –
5. Utilitarian uses of natural resources –
6. Network of phenomena –
7. Human and the web of life –
8. Spiritual awareness – sense of oneness -

societies relate to the environment and the world in general through their religious beliefs and practices. As a result, more people are looking at the potential for finding spiritually-based solutions to problems which arise from ignorance, superstition and greed. These solutions must include a paradigm shift in values and ways of thinking and behaving—from *anthropocentric* (“human-centered”) to *ecocentric* (“total-life centered”). And perhaps the route to this new consciousness is through a recognition of the wisdom and understanding of nature that has been with us in lesser and greater degrees since primordial times, the buried sense of oneness with the cosmos and all the life it contains.

The “oneness” of deep spirituality and Deep Ecology is particularly reflected in Buddhism. As the spiritual dimension of the environmental movement, the worldview of Deep Ecology is highly compatible with Buddhist teachings and practices. The restating and interaction of Deep Ecology with Buddhist principles and ethics greatly contributes to one’s understanding, imagination, and reinvigoration for activism and education. Deep Ecology reflects an awareness and concern about the intrinsic value of all living beings and the integrity of their natural home, along with a sense of the limits of the human role in the scheme of things. This awareness, in turn, permeates Buddhism with its teachings of impermanence, causality, non-self or emptiness, equanimity, loving kindness and compassion, which, in turn, reflect the doctrine of “oneness” of all living beings in Deep Ecology and deep spirituality. (Amidon and Roberts, 1996).

The *Dhamma/Dharma* (laws and teachings of Nature), or the orientation of Buddhism toward nature, has numerous principles which correlate with Deep Ecology. As a highly respected world religion or philosophy, it has a great potential for influencing people in their thought, values and behavior toward a Deep Ecological view of nature. However, little of this potential has been realized,

Comments & Questions

“Deep Ecology and Deep Spirituality are essentially one and the same.”

What connects all spiritual traditions?

How would you explain the shift from anthropocentric (human-centered) to ecocentric (total – life centered)?

What is this **“oneness”** emphasized in the text?
Describe your experiences with this oneness.

Why is Buddhism and Deep Ecology so closely connected?

Pick out five phrases in the bottom section of text that illustrate this connection in **“oneness”**

because few monks, nuns or laypersons of the faith have yet been introduced to Deep Ecology *per se*.



The Deep Ecology platform was written by two ecophilosophers, Arne Naess and George Sessions to promote and encourage a sense of commonality, clarity, and consensus on the core principles of the philosophy, while still recognizing and allowing

for differences among supporters of the movement. The platform consists in eight points:

- 1. The well-being and flourishing of human and nonhuman life on earth have value in themselves (synonyms: inherent worth, intrinsic value). These values are independent of the usefulness of the non-human world for human purposes.**
- 2. Richness and diversity of life forms contribute to the realization of these values and are values in themselves.**
- 3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.**
- 4. Present human interference with the nonhuman world is excessive, and the situation is rapidly worsening.**
- 5. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease.**
- 6. Policies must therefore be changed. The changes in policies affect basic economies, technological structures. The resulting state of affairs will be deeply different from the present.**

Comments & Questions

The Deep Ecology Platform:

1. What is meant by all forms of life have value in themselves apart from their usefulness to humans?
2. Why is richness and diversity of life a value in itself?
3. What could these vital needs be? What are not vital needs?
4. Give examples of interference that is excessive.
5. What is the problem with human population?
6. Can you think of an economic policy that will need to be changed?

1. The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent worth) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great.
2. Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.



The Deep Ecology movement is calling for radical social change as well as for a spiritual dimension to environmental concerns. They ask for deeper questions about the real causes, such as ignorance and greed, behind ecological crises. Deep Ecology

recognizes Homo sapiens as a single species in the integrity of the eco-universe amongst countless other species of plants and animals in their interrelationships and mutual dependence. (Sessions, 1996)

This deep ecological awareness is basically spiritual in nature and recognizes that the well-being of other forms of life on earth have intrinsic value and inherent worth in themselves, regardless of what people think about their “uses.” It recognizes that human beings are only one strand in the web of life and calls for a paradigm shift from anthropocentric to ecocentric. Deep Ecology and its spirituality calls for a new perspective on values that stem from a recognition of the “oneness” of all life.

Elizabeth Roberts and Elias Amidon have set forth the principles of Deep Ecology Education as follows:

- (1) Wherever possible, how we teach should be congruent with what we teach. The teacher should understand the relationship between those learning activities and content principles.

Comments & Questions

7. What is the difference between “big and great”?
8. What is your role in making a change?

What part can you play in the shift from “anthropocentric to ecocentric”?

(2) Experiential learning is core to Deep Ecology education, including a balance of these components: experience, reflection, comprehension, application, and relational work..

(3) It is important to establish safety, trust, and intentionality at the start of the work deeply and with full heart.

(4) Learning can and should be of the body as well as mental and emotional.

(5) Teaching is place based, promoting a contextual frame for learning.

(6) Mindfulness is the underlying practice in all Deep Ecology teaching with a goal of generating awareness itself.

(7) Faculty should acknowledge their own positions and sources of Motivation for their work.

(8) Teaching involves creating a learning community with give and take between facilitator and group.

(9) Deep Ecology teaching is enhanced by collaborative teamwork drawing on diverse faculty strengths. (Roberts and Amidon, 1996)



impermanent processes in nature.

In Buddhism, there is the concept of non-self, or voidness, as contrasted with the Western emphasis on the self, the individual ego. However, the “Ecological Self” associated with Deep Ecology presents ways of perceiving selfhood based upon fluctuating

Comments & Questions

Deep Ecology Education :

How we teach in direct experiential ways with a strong emphasis on creating a learning community is basic to Deep Ecology. Mindfulness and awareness with inclusion of body, mental and emotional states are vital. Always include the context of place based experiences in the learning.

Describe learning experiences you have had where these factors were present to a large degree.

How is the concept of “**non-self**” connected to the “**ecological self**”?

PRINCIPLES OF THE “ECOLOGICAL SELF”:

(1) The universe can be seen as a communion of subjects, not a collection of objects or of fragmented parts and relationships.

(2) The human subject in all its complexity has co-evolved with the earth’s story. It is part of a much bigger self-correcting and self-regulating system (including its primordial heritage from evolution and earlier species).

(3) Enlarging one’s sense of identity with the larger systems erodes the false sense of a separate self in isolation.

(4) The ecological self is the relational self, engaged with and shaped by numerous complex and subtle relationships with other humans, non-humans, landscapes, weather, and places.

(5) One’s capacity to experience the Ecological Self is strongly determined by human perceptual limitations as well as one’s social and personal history of consciousness.

(6) Ecological identity is shaped by place, social position, property, lineage of ideas and people (past and present), social values, and personal habits of action.

(7) Feelings of pain (grief, fear, rage) and joy for the world are natural and healthy, a sign of connection with the world; unblocking repressed feelings releases energy for ecological consciousness and constructive action.

(8) Human consciousness includes and depends upon the lives of others (human and non-human) and is

Comments & Questions

“The Ecological Self”

How close are you to achieving an ecological self?

Describe how you relate to the following words or phrases.

1. **“Communion of subjects”**
2. **“Co-evolved with the earth’s story”**
3. **“The false sense of a separate self”**
4. **“The relational self which has been engaged and shaped”**
5. **Your “social and personal history of consciousness”**
6. **“Ecological identity is shaped by” everything.**
7. **“Unblocking repressed feelings releases energy”**
8. **“Includes and depends upon the lives of others”**

grounded in the particularity of individual and group relationships.

(9) Ecological “self work” includes investigating the social self and how differences are psychologically and socially constructed. This involves acknowledging barriers of privilege, history, and culture between people (and other living beings) which prevent effective action. (Roberts and Amidon, 1996)

Buddhist monks, and nuns, along with scholars, join scientists and environmentalists in recognizing a close relationship and correlation between *Dhamma* and Deep Ecology. *Dhamma* and Deep Ecology both recognize that nothing can be done in isolation. There are always relationships and it is not possible to do one thing without affecting other things. This recognition is illustrated in James Lovelock’s *Gaia* hypothesis which states: “The entire range of living matter on Earth, from whales to viruses, and from oaks to alga, could be regarded as constituting a single living entity, capable of manipulating the Earth’s atmosphere to suit its overall needs and endowed with faculties and powers far beyond those of its constituent parts.” (Badiner, 1990) The earth is the only planet of nine orbiting the sun to support life. There are over 6 billion human beings, 1,667,000 billion wild animals, 4.4 billion domestic animals, 580,000 billion water creatures along with many more billions of insects, land plants, water plants, and bacteria. All of this life on earth lives within a thin layer called the biosphere which is a very complex and fragile web of interdependent life. (Morris, 1988)

Alienated from the cosmos and imprisoned by narrow frames of reference, human beings do not know themselves as a species among other species nor as a dimension of an emergent universe or *Dhamma*. (Swimme, 1984). As Swimme notes, “Only by establishing ourselves within the unfolding cosmos (and its creative

Comments & Questions

Describe how you relate to the following words or phrase. (Cont.)

9. Ecological “**self work**”. What is it? Are you doing it?

Why do we concern ourselves with the ‘**biosphere**’?

planet earth) as a whole can we begin to discover the meaning and significance of ordinary things.” (Swimme, 1984) Thus, when one views a fish, for example, one is viewing a fellow living being that has evolved with ourselves millions of years ago. It is this type of cosmic or universal view that can give rise to awareness and perspective associated with Buddhism and Deep Ecology.

In years of psycho-physical work involving trans-species experience, Grof concluded, “In a yet unexplained way each human being contains the information about the entire universe or all of existence, has potential experiential access to all its parts, and in a sense is the whole cosmic network, as much as he or she is just an infinitesimal part of it, a separate and insignificant biological entity.” (Macy, 1991)

In her lecture on “Thai Temple Architecture: The Universe in Miniature,” Umemoto notes, “The Wat compound is by no means a haphazard collection of buildings. In its entirety, as well as its component parts, from its boundary walls to its stupas to the murals inside its halls of worship, it has rich symbolism, all geared toward a single purpose: to bring the worshiper in tune with the rhythm of the universe and ultimately to a state of enlightenment, outside of time and space, removed from matter and passions.” (Umemoto, 1993)

The symbolic foundation of Thai religious architecture is based on *Pali* Buddhist scriptures that are derived from many different sources found on the Indian sub-continent (where Indian mountain temples imitated the creation of the universe and represented an attempt to bring man into harmony with the oneness of all things). Primarily, one set of concepts relates to the deep folk tradition concerned with ensuring the endless cycle of the earth mother; another set relates to the structure of time and the shape of the universe. All aim for oneness with the divine through a symbolic encouragement, or even reliving the act of creation, thereby

Comments & Questions

‘... human beings do not know themselves as a species among other species not as a dimension of an emergent universe or Dhamma...it is this type of cosmic or universal view that can give rise to awareness and perspective associated with Buddhism and Deep Ecology.’

How does the traditional ‘**God**’ concept relate to these keywords in the text?

- An emergent universe
- Cosmic of universal view
- Trans-species experience
- The whole cosmic network
- The rhythm of the universe
- Outside of time and space

ensuring that the universe will endure and prosper.(Umemoto,1993)

As Albert Einstein wrote,

A human being is part of the whole called by us ‘universe,’ a part limited in time and space. He experiences himself, his thoughts and feelings, as something separated from the rest—a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty. (Einstein, n.d.)

In the Buddhist view, human beings are a product of an impersonal universe and not a special creation. The universe was not created for human beings nor are human beings the highest form of intelligence. Nor does Buddhism recognize any *essential* difference between human beings and lower animals; the differences are considered to be qualitative rather than absolute. (Htoon, 1961).

As Boonyanate notes, “Indeed, Buddhism does not deny differences between man and the rest of the universe. Nevertheless, it is important to note that these differences are not in kind but in degree. All things are the same in essence; all are conditioned by ever changing conditions.” (Boonyanate, 1992)

Thus Boonyanate goes on,

. . . It would not be unjust to say that Buddhist environmental philosophy does offer an alternative channel to coping with the environmental crisis we are now facing by dispelling the predominant assumptions traditionally based in Western thought.

This is particularly relevant to Asia with the spreading

Comments & Questions

Whether we celebrate ‘**the endless cycle of the earth mother**’ or our relationship with ‘**the structure of time and the shape of the universe**’, we are talking about the ‘**oneness with the divine.**’

What is the ‘**delusion**’ that Albert Einstein writes about?

Recall your own experiences with compassion for other species of plants or animals.

‘**all things are the same in essence; all are conditional by ever changing conditions.**’

What does Buddhism mean by ‘**accommodate nature in our moral realm**’?

to our side of the globe of the process of modernization and industrialization. Buddhism not only offers the possibility of a deliberate decision to accommodate nature in our moral realm in the level of expediency but it offers more: Without having to resort to mysticism, it offers the true and necessary unity of an environmental ethic and the wisdom of man. (Boonatanate, 1992)

In noting that this environmental direction needs to come from nature or *Dhamma*, Bates states, “In defying nature, in destroying nature, in building an arrogantly selfish, man-centered, artificial world, I do not see how man can gain peace or freedom or joy. I have faith in man’s future, faith in the possibilities latent in the human experiment: but it is faith in man as a part of the nature . . . faith in man sharing life, not destroying it.”(Farb, 1967)

Much of the essence of Deep Ecology is to keep asking more searching questions about human life, society, and nature, particularly as they pertain to values. It involves the study of our place in the earth household and a search for a more objective and ecological consciousness and state of being through an active deep questioning and meditative process, and way of life.(Devall and Sessions, 1985) Both Deep Ecology and *Dhamma* would profess an understanding and appreciation of the sacredness of the natural world and the appropriate role of human beings within it.

Arne Naess indicates two norms of Deep Ecology as: (a) Self Realization which involves spiritual growth or unfolding from isolated and narrow egos into an ecological self or organic wholeness which merges or identifies with all forms of life or nature, and (b) Bicentric Equality, which is an intuition that all things have a right to live and reach their own individual forms of unfolding and self-realization within the above larger (a) Self Realization. Thus, we come to know that if we harm nature/living beings, we are harming ourselves, with the recognition that there are no boundaries

Comments & Questions

Become more aware of your own community and describe examples of **‘defying nature, in destroying nature, in building an arrogantly selfish; man-centered artificial world...’**

Follow this up by **‘active deep questioning and meditative process’** in connection to reaching a **‘oneness’** in your community.

Again we come back to the two processes or norms of **‘self realization’** and **‘Biocentric Equality’**.

This combines the inner search with the outer approach to actions in the environment composed of many species and life forms.

Are you committed to both norms? Think of examples in your thinking that illustrate the norms.

and everything is interrelated.(Devall and Sessions, 1985) Much of this redirection correspond with *Dhamma*, particularly in the selfless and Oneness aspects. Deep Ecology, *Dhamma*, and deep spirituality (place in universe) can often be considered to be very similar in this regard.

Dhamma and Deep Ecology call for the protection of natural areas and biodiversity for the sake of nature and other living beings for their own intrinsic value and worth. The recognition of this intrinsic value and worth may well be bound up with the intrinsic value and worth of human beings as a species, including their humanity and spirituality. Recognition and protection of nature and biodiversity for its own sake requires new approaches and perspectives. Much of *Dhamma* and Deep Ecology simply calls for changing our values and ways of thinking about ourselves as well as the environment. This change can come about in many ways.

An illustration of change in thinking occurred for Aldo Leopold when he was a young forester. After shooting a wolf and going to where the wolf was lying, he reflected:

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes—something known only to her and the mountain. I was young then, and full of trigger itch; I thought that fewer wolves meant more deer, that no wolves meant hunter’s paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.”(Leopold, 1966). Leopold referred to this transforming experience as “thinking like a mountain,” and it later become a slogan for Deep Ecology as well as the title of a popular book in this area by John Seed and others. Much of *Dhamma* understanding and wisdom involves thinking like a mountain or nature from an ecocentric rather than an anthropocentric viewpoint. This same kind of thinking requires one to look within as well as without

Comments & Questions

“... calls for changing our values and ways of thinking about ourselves as well as the environment.”

What does “**thinking like a mountain**” mean?

under a *Dhamma* and ecological perspective, i.e., to look at oneself and at one's relationships like a mountain.

DHAMMA AND ECOLOGY: In the process of enlightenment, Buddha examined himself to discover the true nature of the physical and mental structure. He penetrated the subtlest level and found that the entire physical structure of the material world was composed of subatomic particles (*pali-attha kalapa*). He further discovered that each subatomic particle consisted of the four elements: earth, water, fire, and air and their subsidiary characteristics. He found these particles are the basic building blocks of matter and that they are themselves constantly arising and passing away. They do this with great rapidity, trillions of times within a second. Thus there is no solidity in the material world, which is nothing but combustion and vibrations. Through experimentation, modern scientists have confirmed the findings of Buddha, that the entire material universe is composed of subatomic particles which rapidly arise and fall away. (Goenka, 1987)

With the ecological self or true self arising and breaking out of the prison-self of separate ego, moral exhortation becomes more and more irrelevant, particularly under non-self and Deep Ecology. Thus *Dhamma* or nature helps us to overcome our alienation from the world and its living creatures and changes the way we experience selfhood through an ever-widening process of identification with other living beings and forms of creation. In this process, the individual self is not simply trying to protect something in nature. Rather, the experience of self is extended to what it is trying to protect through the power of caring based on deep concern and identity. (Macy, 1990)

In describing this identifying process, Seed, Director of the Rainforest Information Center in Australia, notes, "I try to remember that it's not me, John Seed, trying to protect the rainforest. Rather, I'm part of the rainforest protecting myself. I am that part

Comments & Questions

List events or thinking in your life when you applied "**an ecocentric rather than an anthropocentric viewpoint**".

Why is the material world "**nothing but combustion and vibrations**"?

Describe in your own words the linkage or similarities between Dhamma and Ecology?

of the rainforest recently emerged into human thinking . . . I found the illusion of separation to be very flimsy, and that there are just a few conceptual filters that prevent us from being reunited with the earth . . . Recognizing our connection with nature is very simple and accessible regardless of where we are living.” John Seed describes the shift from ego-self to eco-self as a, “spiritual change,” which generates a deep interconnectedness with all forms of life.(Seed, 1992)

Meadows states, “In a situation of uncertainty, the appropriate procedure is careful assessment and slow experimentation, followed by constant, truthful evaluation of results and willingness to change strategies. It is possible to complement rational analysis with nonrational or super rational analysis-with intuition, insight, deep familiarity, respect, compassion . . . Nature has its own value,regardless of its values to humans.” (Meadows, 1989)

This approach would certainly involve applying the teachings of Buddhism/*Dhamma* to situations of uncertainty in nature. The principle of reciprocity would certainly apply to the concept of “Oneness.” It is recognized that the day-to-day maintenance of our life support system in nature is dependent on the functional interaction of countless interdependent biotic and physiochemical factors, including the impermanence of things in constant change. De Silva notes, “Since the inherent value of life is a core value in Buddhist ethical codes, the notion of reciprocity and interdependence fits in with the Buddhist notion of a causal system. A living entity cannot isolate itself from this causal nexus, and has no essence of its own. Reciprocity also conveys the idea of mutual obligation between nature and humanity, and between people.” (DeSilva, 1990)

In his last novel, *Island*, Aldous Huxley writes, “Never give children a chance of imagining that anything exists in isolation. Make it plain from the very first that all living is relationship . . .

Comments & Questions

“With the ecological self or true self arising and breaking out of the person self of separate ego...”

“It is possible to complement rational analysis with non-rational or super rational analysis.”

This text describes the erosion of the sense of separation from the ecology. Have you had a similar experience?

This involves letting go of your conditioning to experience the true self. How can you cultivate this change of perspective (remember deep questioning and meditation)?

Make a plan of action to do this with one particular part of ecology.

“Reciprocity (Interdependence) also conveys the idea of mutual obligation between nature and humanity, and between people.”

‘Do as you would be done by’ applies to our dealings with all kinds of life in every part of the world. We shall be permitted to live on this planet only for as long as we treat all nature with compassion and intelligence. Elementary ecology leads straight to elementary Buddhism.’(Huxley, 1962)

Rather than random groupings, populations of organisms characteristic of a particular environment are organized into a community. The community includes all living organisms (plant, animal, microorganisms) interacting in that particular environment and living together in a reasonably orderly manner. This living system or community and the abiotic components of the environment, along with the ecological processes that take place such as energy flow and water cycle, make up an ecosystem which is the result of the complex interplay between biological, physical, and historical forces. (Revelle and Revelle, 1992). Generally, high biodiversity is correlated with ecosystem stability.

However, like everything else, the community or ecosystem is subject to impermanence or change as well as the laws of nature or *Dhamma*. Thus individuals within populations arise, exist, and die while populations of species change in numbers, distribution, etc. Nothing is permanent. A Buddhist monk, Phra Prasak, said that he could observe impermanence in a forest by observing young trees, middle aged trees, and dying or dead trees. He could also observe this concept through the young, middle aged, and dying leaves on a single tree. (Phra Prasak, 1993). Succession involves change or impermanence as well as causality. From an ecological viewpoint, succession involves an orderly sequence of change, with different plant and/or animal communities succeeding one another over a period of time in a given area.

Ecotones are borderlines and zones of tension and transition between communities. While many communities may blend gradually into each other, there may sometimes be abrupt borders

Comments & Questions

“...all living is relationship...”

If you were assigned the task of creating a major exhibit that would show this concept of reciprocity, interconnection, obligation and oneness, how would you show it?

What symbols pictures, charts etc. would you use?

What words and captions would you use?

Why do we need to think about communities of living organisms or ecosystems?

between them. Sharp physical boundaries, for example, create sharp ecotones or boundaries. Such boundaries may occur, for example, where the underlying geological formations cause the mineral content of the soil to abruptly change. These boundaries often map out the distribution of certain plants and animals.

However, ecotones are generally blurred boundaries where the interfacing and intermixing of some species of each community occurs. (Ricklefs, 1976) Under changing conditions, ecotones are dynamic; like all of nature, they disintegrate. There are no stable or static things. There are only ever-moving and ever-changing processes.(DeSilva, 1992). Thus, ecotones can be considered a transition between two or more diverse communities such as grassland and forest. Besides containing many of the organisms of each of the overlapping communities, an ecotonal community also contains organisms which are characteristic of, and often restricted to the ecotone. The tendency for increased variety and density at community junctions or ecotones is known as the edge effect. (Odum, 1971) By walking the ecotones, it is possible to see a large variety of birds which like to live and feed in these boundary areas.

The habitat of an organism is the physical surroundings or place where it lives or where one would go to find that particular organism. An organism's habitat includes both living and as well as nonliving elements. The ecological niche includes not only the physical space occupied by organism, but also includes the functional role of the organism in the community and environment.(Odum, 1971). Thus, the ecological niche of an organism depends not only upon where it lives, but also on what it does in its behavior, transforming energy, modifying its physical and biotic environment, and how it is constrained by other species, particularly in predator and prey roles, all of which are subject to constant change or impermanence through internal and external change. It could be said that the habitat is the organism's address

Comments & Questions

Make a list of all organisms that exist where you live (the structure and immediate surroundings). Remember to describe everything you can think of in your own ecosystem.

Why is the author linking Dhamma and nature so closely?

Are they the same?

Is Buddhism about the laws of nature?

Describe experiences you have had with impermanence. When and where in nature have you observed it happening?

Why are ecotones or boundaries important?

Why do they have more species (the edge effect) than the standard community where conditions are similar?

The ecological niche: The author emphasizes physical space where organisms exist, but also the functional role of the organism. How does impermanence affect the functional roles?

and the niche is its profession or way of life, biologically speaking. (Odum, 1971)

Territory often involves individuals, pairs, or family groups of vertebrates, and the higher invertebrates which commonly restrict their activities to a home range. If an area is actively defended, it is called a *territory*. However, territoriality can involve any active mechanism that spaces individuals or groups apart from one another, so that plants and microorganisms along with animals may be included within the definition. Territoriality tends to regulate populations at a level below the saturation point. (Odum, 1971)

Under Liebig's Law of the Minimum, an organism must have essential materials which are necessary for growth and reproduction if it is to occur and thrive in a given situation or habitat. These basic requirements naturally vary with the species and situation. The essential material available in amounts most closely needed will thus tend to become the limiting one. An organism, consequently, can be considered no stronger than the weakest link in its ecological chain of requirements. (Odum, 1971). This limiting factor could be water, a nutrient, absence of prey, etc. Under the Buddhist law of causality, a lack of any one of these in a given place or situation would account for the absence of a species.

The food chain is considered the transfer of food energy from the source in plants through a series of organisms with repeated eating and being eaten. With each transfer, a large proportion (approximately 80 to 90 percent) of the potential energy is lost. Consequently, the number of steps or links in a sequence is usually limited to four or five. The nearer the organism to the beginning of the chain or the shorter the food chain, the greater the available energy. Thus, food chains can be visualized as ecological pyramids. Food chains are not isolated sequences but are interconnected with each other. The interlocking pattern of food chains is considered to be a food web. (Odum, 1971)

Comments & Questions

What is your understanding of the following ecological terms:

Ecological niche :

Habitat :

Territory :

Food chain :

Food web :

Ecological pyramids:

Food chains, as the channels for the constant flow of energy through the community, operate as energy flows/budgets under the first and second laws of thermodynamics. Energy inflows balance outflows under the first law, while each energy transfer is accompanied by a dispersion of energy into unavailable heat under the second law. (Odum, 1971). Under biological magnification, organisms are united through food chains. Materials taken up by the prey can accumulate and become concentrated in their predators. Thus, passage of substances through several trophic levels in a community could result in concentrations hundreds of times those that were initially present in the environment. The greatly magnified indirect results of pesticides like DDT present a striking case of biological magnification. (National Research Council, 1986). The accumulation of *dukkha* and *sankaras* (unpleasant experiences) would offer some analogy to this process.

Many ecologists believe that predation and competition for space, food, and other resources are the two main forces that determine what species are found in particular communities. How abundant a species is in a community is often determined by how well it meets the challenge of predation. How well a species competes with other species present will often determine whether it will obtain enough resources to survive and reproduce. Under the principle of competitive exclusion, two organisms cannot live in the same habitat, occupy the same niche and use the same resources on an indefinite basis. Eventually, the better competitor will eliminate the weaker species from the community. (Revelle and Revelle, 1992)

There are complex linkages between species in ecosystems with the result that the effects of changes are often indirect in terms of competition, predation, and other interrelationships. Obvious and direct influences are sometimes not as important as indirect influences which are less obvious. Keystone species are those species which exert influences over other members of their ecological

Comments & Questions

“Under biological magnification, organisms are united through food chains.”

Describe what happens in **“biological magnification.”**

The author’s reference to the **“accumulation of dukkha and sankaras (unpleasant experiences) raises questions about Buddhist practice.”**

How does Buddhism answer this situation of accumulation of dukkha and experiences?

What is the Buddhist way to handle this magnification of suffering and bad experiences?

communities out of proportion to their abundance. Keystone species can have various roles and important linkages to various species in ecological communities. It is also recognized that each individual in a sexually reproducing population is unique. (National Research Council, 1986)

As Devall notes, “The *Dharma* teaches us that all is impermanent. All is changing. Change, in the form of evolution, has no direction, no finality. However, evolutionary change tends to develop greater diversity. Protection of biodiversity is another precept of an ecocentric *Sangha*.” (Devall, 1990)

In discussing these natural systems, Meadows notes four principles: (1) everything is connected to everything else; (2) systems are more than the sum of their parts; they are dominated by their inter-relationships and their purposes; (3) systems are organized into hierarchies, which means that everything is connected to everything else, but not equally strongly; and (4) natural systems are finely tuned and resilient. Diversity increases this resilience. In considering tropical forest ecosystems as natural systems, Meadows states: “[they] . . . are designed so that subsystems take care of most of their own needs and purposes yet simultaneously serve the needs of the larger aggregate system. This harmony between the subsystems and the total system creates tremendous stability, resilience, and efficiency. Every species in a rainforest maintains its own integrity yet contributes to the interlocking web that constitutes a productive ecosystem.” (Meadows, 1989).

TROPICAL FORESTS: In the Asian and Pacific Region, tropical forests, particularly in their natural state, contribute many values to the lives of human and other beings. From a public participation and Buddhist perspective, it is important to know some of concepts and values necessary to keeping tropical forests in natural states. This information is particularly needed with the rapid destruction and degradation of tropical forests now occurring in Asia

Comments & Questions

“Protection of biodiversity is another precept of an ecocentric Sangha”

First of all, why is this protection of biodiversity important?

Can you apply this principle to the number of traditions or varieties of Buddhism?

How can you create more “**harmony**” among Buddhist traditions and between traditional and modern Buddhists?

What would you do to create an “**interlocking web**” that would support a “**productive**” Buddhism?

and the Pacific as well as other parts of the world. According to the National Academy of Sciences, each year at least 50 million acres of rainforest (an area the size of Nevada in the United States) disappears forever. If the destruction of the tropical rainforests continues at its current rate of over 150 acres a minute, tropical forests will be gone before 2025-within the span of a single lifetime. (Rainforest Action Network, 1993).

GLOBAL FUTURE states, “the best projections indicated that unless governments, individually and collectively, take action, much of the world’s tropical forests will be scattered and highly degraded remnants by the first quarter of the 21st century.” (Council on Environmental Quality, 1981). Protected areas such as national parks and wildlife refuges may well be the only feasible and permanent way of saving some of the remaining natural tropical forests areas and their rich biological diversity.

The Buddhist community, particularly Buddhist Forest Monasteries, have been strong proponents of protection of natural tropical forests. Meetings, conferences, and other gatherings have been organized through Buddhist Monks to call attention to tropical forest destruction, much of which is operating on an illegal basis. Buddhist Monks actually “ordained” trees so that they would not be cut by illegal loggers, but even these desperate measures did not work in a number of occasions. Nevertheless, the Buddhist community, with its strong basis for a reverence for all forms of life, continues to press for forest protection through education and other measures. As previously noted, forests and trees have played an important part in the life of Buddha and Buddhism.

As the royal ruler in one of the Buddhist countries in Southeast Asia, Thailand, H.H. King Bhumibol Adulyadej, on his sixty-fifth birthday (December 5, 2537 or 1994) made the following pronouncement on forest protection”

Comments & Questions

What is the authors’ main concern about “**tropical forests**”?

What role do National Parks play in protecting biological diversity?

Describe your feelings about the relationship between forests and your spirituality?

In order to make the forest flourish, it is not necessary to plant one more tree. What is more important is to let the trees that are there grow of themselves and not to interfere with them. Just to protect them and not harm them is enough.

This royal statement was quoted in a brochure by an organization of farmers in Northern Thailand who, in combination with Buddhist monks, pledged to ordain thousands of trees and to create an awareness of forests and their needs for protection. The ceremonies involved placing orange robes on trees as part of the ordination so that they might be regarded as ordained “monks.”

Tropical forests are moist and dry forests in the humid tropics where temperature and rainfall are high and the dry season is short. These closed (non-logged) and broad-leaved forests are a global resource. Located almost entirely in developing countries, where population is expected to double in the next 25 years, tropical forests are extremely important to all life everywhere on planet Earth.

Tropical forests are the richest and most diverse expression of life that has evolved on earth. Their continuous history spans more than 50 million years in some areas. Tropical forests approximate the primeval forest biomes from which they originally evolved and contain well over half of the world’s estimated 10 to 100 million species of plants and animals. Tropical forests are complex and fragile ecosystems with webs of interlocking, interdependent relationships among diverse plant and animal species and their non-living environments. Irreversibly, tropical forests are literally disappearing within our lifetimes. Nearly half of the original areas of tropical forests have either been destroyed or degraded over the past 100 years. Major causes of tropical forest destruction are: (a) shifting cultivation which is responsible for nearly half of the total forests destroyed each year, (b) clearance for new settlements, (c)

Comments & Questions

What does the H.M. King of Thailand urge people to do to preserve forests ?

Is “**ordaining**” trees good public relations?

Do you think it has an impact on forest preservation?

“Tropical forests are the richest and most diverse expression of life that has evolved on earth”.... “Tropical forests are literally disappearing within our lifetimes”

Look at the four causes of forest destruction and apply them to your own region or country.

Which are most prominent?

How is your region coping with this loss?

Who speaks up for the forests and for preservation? Do you?

timber extraction for fuel, construction, and imports (Japan, South Korea, the United States, and Western Europe are major timber importers, and (d) clearance for cattle raising.

Many tropical forests are too complex and their species too diverse to regenerate themselves from this destruction or to be managed on a sustained yield basis. Thus, tropical forest destruction must be considered permanent and irreversible. Worldwide recognition is growing that, in addition to the conservation efforts of the tropical countries, tropical forest destruction is an urgent global problem which requires international action and assistance. In addition, greater awareness of the values and concepts of tropical forests is required by the public, thoughtful leaders, including Buddhist monks, nuns, and lay-persons, and decision-makers. It is vital to address not only the destruction but the reasons why we should not destroy the oldest, richest, most complex, and most productive ecosystems on Planet Earth.

By maintaining intact tropical forests in as close to natural condition as possible, they can make immensely diverse, productive, and valuable contributions to all life on earth on a long-range basis. Present and future protected areas in or near national parks and refuges may well be the only feasible and permanent way of saving some of the remaining tropical forests and their rich biological diversity.

Because the loss of tropical forests is irreversible, so are the negative consequences which include: (a) loss of biodiversity with loss of not only individual life forms (approximately 250 species lost daily) but also alteration or annihilation of entire evolutionary processes with tropical forests containing 50-90% of all plant and animal species, (b) destruction of forest-based societies, with more than one thousand rainforest cultures existing in conflict with development strategies, (c) land degradation and soil erosion, with most nutrients contained in the vegetation rather than the soil,

Comments & Questions

Think about the role Buddhists can play in this ecological effort.

Write a letter to a Buddhist group or teacher urging them to take action and give reasons both Dhammic and ecological as to why take action.

Describe how the negative consequences affect your community, region or country.

Which of the consequences do you see as most important?

Pick out one or two consequences that you have personally observed.

which turns into a desert after a short period without trees, (d)floods and droughts through deforestation, which diminishes the ability of soil to hold water (the Thai government banned rainforest logging after severe flooding and mudslides from deforestation killed approximately 200 villagers), (e) climatic disruption through deforestation with loss of rainfall and ecological services, and (f) increase of impoverishment and famine by ignoring the value of rainforest goods and services to local human populations. (World Rainforest Movement, (1991)

In listing some of the values of tropical forests, it is recognized that values are complex in both interpretation and influence, but still we must try (*Note: Much of the following is summarized from the author's article, "Tropical Forest Values in Protected Areas," TIGER PAPERS [October-December, 1991]*).

Biological Diversity: Tropical forests are the most diverse and complex biomes on earth, from both an ecological and general biological perspective. From 50-90% of all species on earth live in tropical forests. Yet tropical forests cover only 6% of the planet's land surface. The earth's tropical forests are estimated to contain most of the 10 to 100 million species of plants and animals (many are insects) in contrast to the 1.7 million which are now officially classified. But we are losing more than 200 species daily according to conservative scientific estimates. A typical four square mile area of any given tropical forest may contain up to 1,500 species of flowering plants, 750 species of trees, 125 species of mammals, 400 species of birds, 100 species of reptiles, 60 species of amphibians, and 150 species of butterflies. The number of individuals of each species per unit tends to be low, but the total number of species can be enormous.

As the most complex and diverse ecosystem on Earth, tropical forests are rich webs of interlocking and fragile relationships among plant and animal species and among these species and their non-

Comments & Questions

Biological Diversity:

What is the Buddhist argument in favor of biological diversity?

living environment. Most species in tropical forests are scattered and highly specialized, with very low population density. For example, only one tree species may be present in a sample area. Without adequate areas to sustain reproduction and vital ecological interrelationships, tropical forests are extremely susceptible to extinction.

Species Protection: The value of protecting known and unknown species of plants and animals is of rapidly growing importance. The intimate and complex linkages of tropical forest species to numerous others require more attention to habitat preservation than is necessary in temperate areas. Thus the protection of species and of their natural habitat are one and the same process.

Each species is a unique original, just like a rare original painting—and for each, extinction is forever. While the good and potential good that tropical forest species provide is also justification enough for their protection, many believe that plants and animals have a right to exist and to carry on their struggle for survival for no higher value than for their own sake. Also, the better known or more spectacular species attract public support for the habitat that also contains less known or unknown species.

Agricultural/Industrial/Medical: These economic uses depend, directly and indirectly, on the biological diversity and genetic pool associated with the above. At present, human populations utilize only about 20 plants of the many thousands of plants known to be edible such as perennial corn of Mexico and the winged bean of tropical forest ecosystems of South East Asia. Tropical forests can provide a wide range of genetic materials for industry. More than 40% of the world's drugs, with a commercial value of more than \$40 billion per year are obtained from wild plants or are synthesized from wild derivatives. Plant drugs from tropical forests are usually inexpensive as well as an accepted part of the culture of many Asian and Pacific countries.

Comments & Questions

“Most species in tropical forests are scattered and highly specialized, with very low population density”

Why are there so very few members of a species in any one area?

Refer back to previous concepts like territory to fully answer the question.

Species protection:

“...many believe that plants and animals have a right to exist and to carry on their struggle for survival for no higher value than for their own sake.”

Apply the precept on stealing (not taking what is not offered) to this situation of humans “stealing” habitat from other species. How would you express it?

Agricultural / Industrial / Medical

Why do we use so few (20 plants) of the edible ones that are available?

A recent item by Rainforest Action Network states:

A tree in the Malaysian rainforest that promised some hope in the fight against AIDS has been cut down. Teams in the field are still looking for the tree whose latex-like sap could be the source of the compound. The first sample of the derivative Calanolide A was taken from the tree *Calophyllum lanigerum* and was highly effective against virus HIV-1. Soejarto heads plant-hunting teams funded by the National Cancer Institute. Scientists have been unable to find a similar one, according to plant researcher D.D. Soejarto of the University of Chicago who investigates plants in Southeast Asia in hopes of finding new medicines. (Rainforest Action Network, 1993)

Tropical Forest People: Approximately 200 million people live within or on the margins of tropical forests. Their tropical forest environments provide these populations with food (e.g., fruits, wild animals, nuts, fish, honey, etc.) and raw materials for fuel, wood, clothes, buildings, and medicine. Indigenous forest dwelling tribal people are distinguished by their special relationships with tropical



forests; they are completely dependent upon natural tropical forests for their livelihood and welfare. Their cultures have evolved in harmony with this environment, and their identity and life styles are tied to living in tropical forests permanently.

Development in tropical forests brings pressures on traditional forest dwellers with disastrous results for their survival and culture. Inevitably, native tribes fall prey to outside diseases, weapons, technology, alcohol, and drugs imported by outside cultures. Thus, entire tribal societies and their native knowledge and wisdom about their tropical forest environment are rapidly disappearing as their natural role in these ancient ecosystems is destroyed.

Comments & Questions

There is a question of ownership of these special plants after they are found.

Who should own the product?

What is the role of native inhabitants in this ownership issue?

Tropical Forest People:

In a globalized world these native cultures will not be left in isolation and yet they live with plants and animals valuable to humans in general.

How should we help these tribal peoples and what protections should be put in place?

Scientific Research: In their natural or near natural states, tropical forests present the oldest, most diverse, and complex ecosystems for scientific research. Charles Darwin and Alexander von Humboldt are only two of many great scientists whose scientific contributions depended primarily on their tropical forest experiences. These forests offer insights into the ecological and evolutionary processes for basic and applied research. One tree species was even found to be pollinated by a mouse. The fact is clear: tropical forests contain the answers to basic questions which have not even been asked yet.

One noted tropical forest scientist, Gerardo Budowski, believes that the loss of tropical forests to the scientific community would be irreparable. He considers tropical forests to be “living laboratories” and “a factory and storehouse of genetic diversity” which contains “incredible variations in life forms, functions, behavior, and interrelationships of which we know very little at present . . . (where) new discoveries take place every day.”

Watersheds: Tropical forests protect watersheds. In their natural or near-natural states, they retain water and release it gradually throughout the year. Tropical forest watersheds are thus able to maintain and restore reliable supplies of high quality water which benefits surrounding and downstream needs. More than 40 percent of farmers in developing countries live in villages which depend on the sponge-effects of tropical forests to absorb and slowly release water.

Soil Protection: Tropical forest soils are fragile, of poor quality, and unsuited for agriculture. Almost all the nutrients are found in living vegetation rather than in the soil. With deforestation, the thin layer of topsoil quickly washes away. The remaining soils rapidly deteriorate and lose their fertility, leaving hard-packed clay or sand that is limited to only one or two more poorly nourished crops or to very short-term grazing. Thus the very productive land of tropical

Comments & Questions

Scientific Research:

How should we encourage and insure a partnership between the scientific community and nature communities?

Watersheds:

Why is the protection of watersheds important?

Soil Protection:

How do tropical forests turn into desert-like environments?

forests becomes a virtual desert when its poor soil is exposed through deforestation.

Maintenance of the Web of Life: Ecological interactions in tropical forests impact on life and conditions throughout the world. Destroying a link in these delicate interactions produces repercussions which can sometimes be observed, such as serious disturbances in bird migrations far into both the northern and southern hemispheres. Most repercussions, however, are difficult to predict. For example, the removal of tropical forest may result in increased insect, rodent, and other pest infestations in nearby agricultural and village areas where birds and other natural predators of these pests had depended on the now-damaged and destroyed forests for their survival.

Climatic: By their physical presence on the planet's continents, tropical forests make essential contributions to local, regional, and global climate. The influences of tropical forests on climate is another area that is not fully understood. It is recognized, however, that tropical forests do serve as moderating and maintenance influences for climatic stability. Rainforests generate local and global rainfall, receiving 50% of all the rain that falls on the land.

Spiritual: Human beings are innately spiritual creatures capable of, and drawn to, abstract thought. Although intangible, spiritual values and influences are clearly present and appreciated by most human beings who travel in tropical forests. The prolific diversity and enormous variety of innumerable life forms in tropical forests create a powerfully spiritual environment, endlessly different and surprising as the most mysterious of all natural worlds. This spiritual response obviously has significant impact on virtually all human beings, regardless of their spiritual, social, or cultural backgrounds.

Comments & Questions

Maintenance of the Web of Life:

What can happen when we disturb and break the linkage between species?

How can we encourage people to have a whole “web” perspective?

Climatic:

When we cut down the forests do we know what will happen to the climate?

Spiritual :

What does the author mean by “create a powerful spiritual environment”?

Creativity: The art, writing, poetry, photography, and other creative endeavors of a country and culture draw upon its environment. Tropical forests provide a unique, mysterious, and natural environment of complex, changing beautiful mosaics with great potential for creativity, stimulation of the senses, and as a rich source of artistic inspiration. The wide diversity of tropical forest life forms and colors produces an esthetically rich landscape and myriad images which can inspire the natural human sense of wonder, and refresh the human connection with nature and innate human creativity.

Cultural: Tropical forests are intimately related to the cultures of tropical peoples through diverse influences on the entire range of knowledge, traditions, and values of the cultures. These tropical forest influences may range from concrete, economic uses such as firewood and fuel to such less tangible values as scenery and “atmosphere” in the lives and well-being of tropical people. Thus tropical cultures are very much a product of the unique interface between people and tropical forests.

Outdoor Recreation: National parks and reserves of selected areas of tropical forests can provide outdoor recreation for the general public. With the increased hours of leisure now available in many developing countries, people find time to experience the unique form of outdoor recreation available in tropical forests. Although outdoor recreation in tropical forests is in its early stages, visitations have increased significantly. Outdoor recreation in natural areas can draw on the rich diversity, superlative wonders, and unique scenery of natural tropical forests.

Ecotourism: The new concept of combining tourism and ecology/natural history in tropical forests holds a great deal of promise. Ecotourism or nature-oriented tourism is based on the use of natural areas, including scenery, topography, water features, plant life, and wildlife. A recent World Wildlife Fund study defined it as, “traveling

Comments & Questions

Creativity:

How do forests contribute to creativity?

Develop a statement that relates creativity with spirituality.

Cultural:

How can we help support tropical cultures?

Should these cultures be considered as part of the world heritage?

Outdoor Recreation:

How would you make the case for simple ways to enjoy these environments, like walking / hiking, rather than faster, more modern ways?

Ecotourism:

Imagine an ecotour in your community or region.

How would you write about its attractions?

to undisturbed natural areas to study or just to admire and enjoy the scenery and its wild plants and animals as well as exotic cultures. “ Ecotourism often combines elements of scientific investigation, recreation, and adventure (real or synthetic).

Educational: Tropical forests can serve as living museums, inspiring classrooms to a variety of formal and informal activities. Developing naturalist interpretive programs about tropical forests for the general public may include self-guiding nature walks, naturalist conducted walks, natural history exhibits, slide programs, popular publications, and other activities. New knowledge of the ecology and natural history of tropical forests will greatly contribute to and enhance the understanding, appreciation, and enjoyment of the public. This type of knowledge also motivates and increases public support for conservation in general and for tropical forests in particular. Use of tropical forests for formal education is rapidly increasing in Asia and the Pacific in the form of field trips and studies at various levels, including the graduate level.

Future Generations: Concerns and responsibilities for tropical forests must extend to future as well as present generations because these threatened ecosystems are highly susceptible to irreversible removal or very serious and damaging reductions, resulting in loss of natural values and options for survival and quality of life. The moral obligation to protect tropical forests for future generations of one species, *Homo sapiens*, must extend to future generations of all species, known and unknown. In short, the active ongoing protection of natural tropical forests for their own sake for the future is essential.

Future generations of all forms of life require that tropical forests be protected in an intact and natural state. Humankind needs tropical forests. But tropical forests could survive quite well—in fact, better—without human presence and impact. It is only within intact natural tropical forest environments that diverse and

Comments & Questions

Educational:

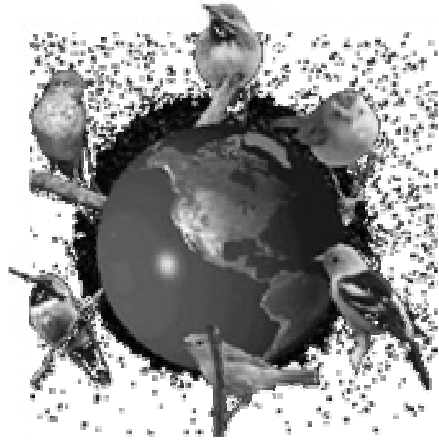
Pick one area (small or large) in your community that could be an outdoor education experience for children.

Where would it be and what lessons could be taught by a visit to it?

Future Generations:

“The moral obligation to protect tropical forests for future generations of one species, *Homo sapiens*, must extend to future generations of all species, known and unknown.”

“...that tropical forests be protected in an intact and natural state.”



interdependent forest species can carry on their struggle for survival and evolution. In addition to any conservation measures to protect earth's tropical forests, efforts need to be increased to safeguard tropical forests for future generations of all life by establishing and maintaining national parks and reserves.

The values associated with tropical forests deserve understanding, appreciation, and emphasis, for in them we find deep values for the immediate present and for countless future generations of all life: the protection of natural tropical forests as a vital part of the earth's biosphere. We must be assured that generations yet to come benefit from tropical forests and share their dynamic values for the survival and quality of all life on earth. (Henning, 1991)



Comments & Questions

“... by establishing and maintaining national parks and reserves.”

“... the protection of natural tropical forests as a vital part of the earth's biosphere.”

What actions, education, spiritual states could you advocate for and create in your own community to protect the web of life and the local ecology.

CHAPTER FOUR

DHAMMA/DEEP ECOLOGY EXPERIENTIAL EXERCISES

“Reading Plato or listening to a lecture on T.S. Eliot doesn’t educate the whole human being; like courses in physics or chemistry, it merely educates the symbol manipulator and leaves the rest of the living mind-body in its pristine state of ignorance and ineptitude.” (Huxley, 1962)

A variety of exercises and approaches lend themselves to reconnecting people with nature on an ecological, experiential basis. The best emphasize experience over intellectual knowledge. Some of these methods, exercises, and approaches are presented in this chapter. The nature and mechanics of these exercises are as follows:

Buddhism and Deep Ecology Trip



Susan Offrer recalled her experience under the tutelage of renowned forest monk, Phra Prachak:

It was called a Buddhism and Deep Ecology Trip. I knew we would be walking in Dong Yai forest for one week with Phra Prachak, the forest monk well-known for his conservation efforts

and tree ordination ceremonies, but I didn’t really understand what “deep ecology” meant.

Thinking like a Mountain, a book by John Seed on

Deep Ecology, told me. But our week-long experience taught me what it really means.

Our 30-strong group included Luang Phra Prachak with several monks and nuns, eight villagers who have lived in and near the forest all their lives, and 13 international participants of the International Conference of Engaged Buddhists. We carried with us not only our sleeping bags and camping gear, but our diverse cultural, religious, and personal baggage that would shape our experiences and color our observations.

Luang Phra Prachak embodied two objectives. The first would teach us to meditate, clear our minds, watch our breath, and focus on our inner selves. Luang Poh urged us to reach a deeper level of meditation and to free ourselves of worry and fear and desire by looking inside. He instructed us in walking meditation to feel the earth with our feet, enabling us to remain steady and surefooted.

Phra Prachak would show us the destruction of the forest, and outline his campaign to preserve it.

At some point, however, the two lines of thought converged.

Luang Phra Prachak stressed opening ourselves to experience the forest with all whole beings. He illustrated the connection between our inner selves and the environment:

“If you have a tiger inside you, you will meet a tiger outside as well. First, get rid of the tiger inside you,” he said.

Then, this serenity will help us perceive in new ways any threats from outside “tigers”, and if we do by chance discover a tiger near us, we will know better how to respond.

Luang Phor used the forest—the trees, leaves and rocks— as object lessons in his frequent Dhamma talks. These were short teachings by analogy and implication.

“I am a leaf,” he said. “We are all leaves. We share life needs and life processes. We become alive, grow, wither, and die. We are dependent on each other in one interconnected ecosystem.”

Asked how he managed to continue his struggle to save the forest with so much positive energy in the face of government pressure and military threats, he replied:

“Is that rock over there heavy? Not if you don’t lift it. Remember that now in your life: if you don’t lift it, it isn’t heavy.”

At every rest along the trail Luang Phor shared spiritual philosophy and practical wisdom. He taught us we have a responsibility to promote social justice for all creation, not just humanity.

We did not enter the forest alone. Villagers carrying enormous food packs, monks and nuns with food bowls and glots, and backpacks, illustrated our attachment to material comforts and convenience.

We trudged through cassava fields into the forest, dense undergrowth, thorn and vines impeded every step, tangling our hair and raking our skin. Luang Phor Prachak disciplined us through walking meditation.

After meditation and chanting and hot drinks, we began our trek, around 10 a.m. for the day’s lone meal.

We walked several hours, pausing to mourn at huge, felled trees blocking our path. Two logging gangs we met reminded us these trees are lumber that support their families. Clearly, forest conservation is not a black-and-white issue.

Each night we camped amid dense jungle. No cleared, level campsites. Lots of nocturnal forest life joined us as we slept; we heard scamperings, hummings, and rustlings.

Our drinking water dissipated quickly despite the numerous tanks the villagers carried for us. Water became a key concern.



We found water in slow trickles, a muddy puddles, or in the dark soup of decaying leaves. Hot chocolate or sweet coffee disguised the taste and color of water we would not have wanted to bathe in before.

Droppings at water’s edge showed elephants bathed and drank there. So why couldn’t we?

Our days were variegated by changes in terrain, talks by environmentalists in the group, and regular gatherings by candlelight among the trees.

After the silent walking, we shared painful experiences of nature’s destruction and joyful experiences of nature’s wonder.

Luang Phor Prachak told us of his struggle for this forest—protests, arrests, and ongoing conservation efforts.

In one of our rituals, we each imagined ourselves as one part of nature, and spoke out about its life and experiences. We heard the “voice” of leaf, hornbill, otter, air, eucalyptus, and water buffalo.

Then, the eldest villager roared: “I AM AN ELEPHANT!” When he had finished his story, we knew further logging of this forest would be the death sentence for the elephants roaming there.

Mid-trip, we scattered to split up and spend 24 hours alone, contemplating and observing the forest. Luang Phor Prachak coached us how to deal with fear in the darkness of the wild.

Our solitude became a waking dream filled with the roar of elephants nearby, flashes of intense fear or an unseen animal lying down to sleep beside an umbrella tent.

We gathered at our next noon meal, feeling a part of forest life, yearning to coexist without endangering nature, realizing that to do so would endanger ourselves.

We walked through kilometre after kilometre of eucalyptus plantation that had supplanted the rich diversity of the forest.

Charged by our powerful experience, we separated after committing ourselves to concrete action to preserve the environment, in particular this forest in Buri Ram.

Each of us understood Deep Ecology in ways shaped by our personal belief systems. Though our experiences differed, we shared a spiritual philosophy of the environment.

To me, Deep Ecology recognizes the sacredness of creation, our humble role in it, and our responsibility, now, to reverse the damage we have so carelessly done through neglect, over-consumption, and greed.

It also emphasizes the interdependence of all beings and parts of nature, the need for us to identify with these parts, and join with them in their cry for survival. If we destroy them, we destroy the balance that guarantees our own survival.

We are leaves. They neither possess, nor control, nor take more than they require. We must learn to be leaves.”(Offrer, 1993)

HOW TO LEAD ECOLOGY WALKS



Begin with background reading on ecology. Otherwise, a group may be exposed to a random bunch of plant and animal names with little ecological understanding or insight.

Ecology, the study of interrelationships between plants, animals, and their environment, provides a central focus for the walks. It also offers a means for illustrating the interdependencies of people

and nature. A basic understanding of simple ecological concepts is essential. Some of these concepts were discussed in the previous chapter. Literature on the subject can be obtained at almost every library and there are now large numbers of paperbacks on ecology available.

Elementary ideas and principles of ecology can be understood by anyone. Human relationships with nature should be based on an understanding of ecology principles. All living things, including human beings, are related and interdependent with one another in some manner. What affects or influences one form of life will, directly or indirectly, affect others. Ecological concepts to be studied on walks include: habitats, food chains or pyramids, biodiversity, territoriality, succession, competition, ecotones, niches, biomes, adaptations and energy flows.

With a little imagination, these concepts can be reduced to simple ideas. For example, biodiversity can be illustrated by simply counting the large number of species of plants, trees, insects and other life forms in a given area. Ecotones can be identified as boundary areas, for example, between forest and grassland communities.



In a tropical forest, competition for sunlight is a very important concept in tree and plant distribution. The tops of the tallest dominant trees make up the canopy layer which receives full sunlight. Thus it produces more food than does any other layer and many birds, animals, fungi, and insects live there. Shorter trees grow beneath the canopy and form the understory. These understory trees receive less sunlight than canopy trees and consequently produce less food. Some understory trees may eventually join the canopy layer. The shrub layer beneath the understory consists of many shrubs or woody plants that have more than one stem, while the herb layer beneath the shrub layer is made of soft-stemmed plants.(Camp, 1984)

Look for special survival strategies. Some plants have developed reflective blue cells to use the light of the forest's dim understory. Berry bushes offer birds fruit in exchange for spreading their seeds. Berries contain a mild laxative that ensures the seeds are deposited rather than digested. Owls hunt at night when most small mammals are active. The bright coloring of warblers ensures the purity of their genetic line in a woods shared by a dozen closely related cousins.

The forest floor consists of the soil, small living organisms, and droppings. Almost all the nutrients of the forest are contained in the leaves associated with the forest floor layer.

Some trees shed their leaves all at once, enabling them to grow a new crop while recycling the old crop at their feet. Some trees even kill others to feast on the falling leaves. Many species linger as shrubs or seeds in the dim light of the under story. A storm rages and a giant tree falls, tearing an opening in the canopy that permits sunlight to reach the forest floor. A race to claim the new opening ensues. The winner flourishes as a new monarch of the forest. Losers wither and wait.

In a tropical forest, the majority of life thrives in the canopy. Wildlife is often difficult to observe during the day. Most animals feed at night. Overnight trips present more opportunities for observing nocturnal wildlife. During the day, bird and insect life, including butterflies, add much to ecology walks.

Every area offers something to illustrate ecology concepts. Ask someone familiar with ecology to take you for a short nature walk. Your guide will note several examples in a short time and distance. You will be amazed at how much your understanding of the how's, why's, and wonders of the area and its life have increased. Too often, without ecological observation, we walk cut off from this rich and essential understanding.

Planning ecology walks requires familiarity with the area and its life. A wealth of information and literature is usually available for most general localities through libraries, natural history museums and government agencies. A knowledge of some of the common names of the plants, birds, insects and other animals in the area can be learned from field guides before and during the walk or by a pre-trip with a local individual. The best field guides have pictures and simple identifications so that everyone can get involved in looking up the name of that "new" wild flower, tree, bird or animal.

Conducting the walk

With the emphasis on ecology, it is helpful to formulate and define the general objectives of the walk before departing. People usually see only what they are looking for. Objectives build a sound environmental attitude. These objectives should relate to the interdependence and interrelations of living things as well as the role and responsibility of people. If several walks are planned for one area, each walk might stress a particular or general aspect of life, e.g. water, insects, soil. Other aspects then can be related: the relationship of water to plant life, the relationship of water to wildlife, and so forth.

It would be interesting, for example, to have a walk with the objective centering strictly upon the influences and history of people on a given area in terms of environmental quality. But objectives should not be rigid. Flexibility, fun, interest, and the "unexpected" should also be guiding principles in this experience.

It is perfectly proper to say, "I don't know," when necessary. An effort should, however, be made to find out. Attention should be directed to what the leader does know as well as leading the group in possible explanations. It is essential to keep one's objectives in mind throughout the walk in reference to: (a) showing the

interrelationship of different forms of life, (b) stressing the interdependence of life, (c) introducing ecological ideas, and (d) pointing out the role and responsibilities of people on the basis of the above.

The names of plants and animals need not be over-emphasized. One should not “lose sight of the forest for the trees.” Nevertheless learning exercises such as counting the different plant species to illustrate biological diversity, observing the canopy and other forest layers, or searching for obvious signs of competition and ecotones, can be very helpful in illustrating ecological ideas and relationships.

A good learning situation should be created. A leader should be enthusiastic in helping other members of the group enjoy these natural wonders. Questions and humor should be encouraged. Informal conversation on the walk should be directed toward ecology and environmental responsibility, with special reference to involvement and participation. The leader should walk at the head of the group, keeping the members together at all times. When stopping to make explanations, eye contact with all members of the group is important.

The group should experience the various forms of life encountered through all senses, e.g., listening for sounds of wildlife, feeling soil texture, touching, tasting, and smelling plant and tree life as well as seeing. It is often interesting, particularly for the children, to tell a brief story about a plant or animal from the previous sources mentioned. It is often meaningful, however, to have the members walk in silence for some time, preferably with a considerable space of about 100 meters between them. Continuous conversation and communication of any kind may sometimes result in “small talk” and distract from the natural experience and awareness in nature. Contemplation and reflection on nature through silent periods should be incorporated into the walk so that the participants can “absorb” the total experience.

After The Walk

At the conclusion of the ecology walk, the leader summarizes the group’s observations and members share their experiences and ideas. Most facts and details are easily forgotten, but people will usually remember major ideas about ecology and their personal involvement.

AWARENESS EXERCISES IN NATURE

Exercises in nature should be simple, easy to explain and to carry out, while addressing adults and children alike. Long explanations and details may distract the general outlook and/or inhibit the participants in their free expression and participation. Some of the following exercises could be applied to indoor as well as outdoor experiences.

Awareness of the six sense-doors:

The six sense-doors as described in the Buddhist teachings are: Ears, eyes, nose, tongue, body, and mind.

Close your eyes, close your nose with one hand and gently breathe through the mouth and listen. Try to put the whole consciousness into the sense of hearing. What are the sounds you encounter? Sounds near you or in the distance, sounds from the wind and animals such as birds and insects.

Close your ears with your hands and open your eyes, note everything that your eyes encounter, the colors, shapes and forms, the light, the dark, the shadows and movements.

Close your eyes again and see what your nose will experience. Take a few deep breaths and smell . . . Then breathe through your mouth and try to distinguish between different tastes of the air,

the air that enters your body and the air that leaves your body when breathing out.

Walk around and touch the trees, leaves, berries, flowers, grass or water; whatever is there, touch it gently and examine the different surfaces of form.

Let your mind wander for a while. What does the surrounding environment remind you of? Recall pictures from the past and see how they affect your present mind.

Looking for signs of impermanence:

Find signs of impermanence in your present environment. Look for natural indications of dying or death such as dried leaves or fallen trees, dead insects, rotting fruit, etc. Also look for signs of “arising” such as buds, new young leaves, seedling trees, etc. And, finally, look for indications of “existing” with regular trees, flowers blooming, insects crawling, etc. It may be possible to find all of these signs of impermanence on the same tree.

Outside a natural area, observe artificial indications such as roads, electric overland cables, logging sites, dams, and other changes brought about by humankind. What impacts have these changes had on the land? Inside the natural area, observe signs or impacts of human beings such as trees that might have been illegally cut, littering, pithed or burned out trees. Discuss in the group how these different signs or indications of impermanence affect your emotions and thoughts.

Observing Nature:

Observation of nature is a tool of acceptance. To observe is to think, feel, taste, smell, hear and see without attachment or judgment. Observe whatever information your senses offer. If your mind judges

or evaluates, observe that. Don't get involved with the thoughts or try to change them. Just observe them. We understand by doing. After fifteen or so minutes of observation, you may begin to notice the part of you that's observing. Give yourself time in which you will not be disturbed. Decide for that time to do nothing but observe. Sit or lie comfortably. Be still and be.

The mind will present some good ideas to do something else. Do nothing with these ideas—simply observe them. Emotions will want something more exciting. Do not fulfill them. Observe them. The body will demand attention. Do not attend to it. Observe its demands. Notice how ideas, feelings, and body demands are impermanent and changing in form and intensity just as nature is always changing.

If you ache to change positions, do not. Just observe the desire to change positions. If you itch, do not scratch. Observe the itch. Your mind, body, and emotions may become agitated. Observe the agitation. You gain authority over them by doing nothing, by simply observing.



You can extend sitting observation to moving or walking observation. As you move through nature, observe everything. Observe your reactions to everything. Observation is a basic tool of awareness. The more you observe what you are normally unconscious of, the more conscious you become. (Roger and McWilliams, 1990). Thus, you will notice the small, dead leaf on the trail, the orange brown butterfly on the tree trunk, the different colors of green in tree leaves, the small bird flitting through a distant canopy, and other of nature's phenomena and impermanence by really observing and becoming aware and conscious of nature.

Looking for the elements:

Acknowledge in your surrounding environment the different manifestations of the four basic elements with their corresponding qualities: earth (solidity), water (fluidity/coercion), fire (temperature), air (motion).

I see a thing . . .

This game can be carried out while walking or sitting while outdoors. One of the participants chooses one object in the surrounding environment and says: “I see a thing and it is. . . .(i.e. green, round, long, making a sound, etc.) Now the other participants can ask for more characteristics which are answered only with yes or no. The participants have to guess what the object is and the one who guesses can select the next object.

GUIDED MEDITATIONS TO TRACE OUR ECOLOGICAL/HISTORICAL ROOTS

There is an “observer” in all of us. We will use this observer in this exercise to connect us to the universe and to “all of our relations,” as the Native Americans expressed it, so that we can better experience and understand our ecological history and roots from a Deep Ecology perspective.

Close your eyes. Take ten deep breaths, mindfully breathing in and out. Keep your body relaxed and let your observer go back slowly through your personal history, not just your own actions and big events in your life, but also the story of your whole being, how your body has changed, how your character and personality have developed and evolved in your personal history.

Observe your history, yesterday, last week, last year, back to your childhood.

Remember your birth—and then the time in your mother’s womb.

Now meditate on your history as it was told in the lives of your parents and grandparents—and all the great-great-grandparents. Consider how many grandparents have contributed to your genetic history. With your observer, pick out what characteristics you see in yourself. Choose one of your grandparents as a guide if you wish. Speak to them.

Going back 15 generations, about 400 years, your direct ancestors number about 32,000. Go back another 15 generations to the Middle Ages and your lineage expands to relate to the entire population of Asia, or Europe, if that’s where your roots are. These people are survivors. They have come through plagues, wars, invasions, earthquakes, great floods and fires.

Now zoom back several thousand years to about 8000 B.C. at the beginning of agriculture and sedentary village and city life. Join your family as they learn to plant seeds, domesticate animals, and trade. Consider and regard the night sky through their eyes.

Continue your journey back through the thousands of years humanity lived peacefully as hunter-gatherers, and again consider the night sky and the powerful earth forces that shaped your dreams and the way you relate to the world.

Now go back to the dawn of our species when we were emerging as toolmaking, communicating, loving creatures.

And even before when our history fades into the millions of years of evolution from single-celled life to complex, beautiful forms such as dinosaurs, giant tigers, and dolphins.

And still go back even before life began on earth, when the atoms which compose our bodies were being transformed by the earth's physical processes.

We were present at the birth of the earth as our sun and the solar system were formed from stardust as it exploded and whirled through the cosmos.

We were present at the beginning when the cosmos was a point of energy responding to the "I Am" of the Creator. Rest here at the point of the beginning let the story find its source at the center of your being.

Now begin at the beginning and dream your history forward to the present. Remember, the stars and galaxies that formed the building blocks of your; body the supernova that gave birth to our sun and solar system; the earth that gathered stardust and processed it into living matter; the air, fire, water, and earth that transforms all things and are the basic elements for all things. Your story is shared by myriad animals, the two-legged ones that represent your species, the birds, the fishes, the creeping and crawling creatures, all living things that have been in your ecological and historical roots.

Come back and slowly gather your ancestors, thanking them for their contribution to the unique manifestation of the cosmic story that is yourself. Place this history at the center of your being as a sacred treasure.



Come back now to the present and those who are gathered around you. Become more aware of your breathing as you mindfully take ten deep breaths and then open your eyes. When you are ready, you can get up. (adapted from Kirsch, n.d.)

RITUALISTIC EXPERIENCES:

The sacredness of the earth not only calls us to ecological consciousness, it calls us to perform rituals that honor that sacredness. Through such rituals we place ourselves within The earth community and, at the same time, bring to it the unique gift which we as humans have to offer, self-reflective celebration. The creation ritual is a response to the affection nature bestows on us. (Kirsch, 1988)



THE TEN-STEP DEEP EVOLUTION METHOD

1. Begin with yourself today. Examine the many non-self elements that have combined to make you what you are today. Contemplate the many people, the places, and the events that have shaped your life and brought you here to this meditation tonight.
2. Go back to your birth, the day that convention says your life began. However, you were already a fully formed human infant at birth. You had existed in your mother's womb for seven to nine months before your birth. Go back to the moment that a sperm from your father entered an egg from your mother to create your unique genetic constitution, the information that makes you what you are today: your sex, your eye color, your height and weight, and many of your behaviors. Contemplate the conditions existing when you were conceived and when you were born. Consider the lives of your parents. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?
3. If we look a little deeper, we can see the egg and sperm that joined to create your genetic constitution had already existed for a long time before they joined together. We know from biology that the egg your mother contributed had already

divide to determine which genes she would pass on to you while your mother was still a fetus inside her mother. Consider the time of the birth of your parents. Contemplate their parents, your four grandparents. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

4. Continue looking deeper into your origins. Go back in time 1,000 years, approximately thirty to forty generations. One thousand years ago you had millions of ancestors. The genes present in every cell of your body tonight were then shared among those millions of ancestors; they were spread out around the world, in Europe, Asia, North America, Africa. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

5. Go back to 100,000 years ago. You then had uncounted ancestors. They were humans physically similar to us today, but separated by evolutionary change over many generations. Your many ancestors then lived in Africa, Europe, and Asia. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

6. A million years ago. All your ancestors were in Africa. They were primitive humans who possessed the first awakenings of human awareness. Look out over the African savanna; you were there, in the form of your ancestors. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

7. Ten million years ago, before the time of humans. Our ancestral stream has now been joined by the ancestors of our closest relatives: chimps, gorillas, and orangs. Our journey backwards through our ancestral stream has brought us back to a primitive ape in central Africa. It is more and more difficult to see

ourselves in our distant ancestors, but continue. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

8. One hundred million years ago. The world is a very different place. We would not even recognize the continents if we could look at the earth of 100,000,000 years ago from outer space. Dinosaurs were common in Montana and around the world at that time. Our ancestors were a small species of primitive mammal. They had hair, our five digits, and our breasts. We have now been joined by all living mammals in our journey in our ancestral stream. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

9. One billion years ago. We have now been joined by all the living species that we recognize in our daily lives in our ancestral journey. We are the wolf, the bear, the whale, the salmon, the pine tree, the flowers on the altar. Our ancestors are simple one-cell organisms living in the warm waters of the primitive earth. Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows?

10. The last step in our journey: 3.8 billion years ago. There are no signs of living organisms here. The stream of ancestors that we have been following has ended in a series of complex chemical reactions in which non-living elements are becoming the simplest of possible living organisms. Our ancestors: Who were they? Where did they live? How did they live? What were their greatest joys? What were their greatest sorrows? (Allendorf, 1997)



When we want to understand something, we cannot just stand outside and observe it. We have to enter deeply into it

and be one with it in order to really understand. If we want to understand a person, we have to feel his feelings, suffer his sufferings, and enjoy his joy. The word comprehend is made up of the Latin roots cum, which means with, and prehendere, which means to grasp it or to pick it up. To comprehend something means to pick it up and be one with it. There is no other way to understand something. In Buddhism, we call this kind of understanding “non-duality.” Not two. (Thich Nhat Hanh, 1992)

Rituals

One of the prices that modern civilization is presently paying is alienation from the wonders of nature and its laws. Civilization seems to go hand in hand with a continuous process of separating the individual from the whole. While aiming at promoting and satisfying people’s personal desires, science isolates us from nature. Most research focuses upon exploitation of natural resources. Nature is judged by its usefulness in gaining power, wealth or fame. Little thought is given to how we might *give back* to nature.

Many people express a deep feeling of loneliness and loss within, a kind of loss that cannot be satisfied with more materialistic gain. The high suicide rates and violence in developing and developed societies may be an indication of this loneliness and loss of universal identity.

The playful character of the following rituals and games, some of which are adaptations from native rites, have proven a powerful way of helping people to actually feel what otherwise would have been intellectual understanding only. The latter generally provides little to awaken people’s awareness to their habitual separation from their environment.

THE COUNCIL OF ALL BEINGS

(Note: much of the following discussion is adapted from John Seed, *Thinking Like a Mountain*, [New Society Publishing, 1988] with permission of the author).

“The shaman speaks for wild animals, the spirits of plants, the spirits of mountains, of watersheds. He or she sings for them. They sing through her. . . .” (Snyder, 1977)

The first Council of All Beings workshop occurred in March, 1985, just outside of Sydney, Australia. Forty people participated in this workshop, led by Buddhists John Seed, Joanna Macy and Pat Fleming. Inspired by the writings of Arne Naess, Professor Emeritus of Philosophy at Oslo University, the three initiators had long tried to create an experience that would incorporate the inevitable feelings of sadness, regret, or remorse when facing the environmental crisis, with a deep ecological and spiritual connection with all life. The Council of All Beings was created to help people establish a sense of responsibility for the earth on the basis of understanding and compassion. Seed says: “It is a form which permits us to experience consciously both pain and the power of our interconnectedness with all life.” (Seed, 1988)

Seed continues,

In the Council of All Beings, we channel the energies released by despair and empowerment and other rituals into facilitating a profound change to deeply ecological awareness. In our experience, “affective education” learning from the heart and body, and the Council of All Beings is just one example-goes much deeper than the exchange of ideas because it is based on the premise that we already possess within us the knowledge we need, and what is necessary is to bring it to conscious awareness.

The knowledge we require is embedded within us and needs to be awakened. In our mother’s womb, our embryonic

bodies recapitulate the evolution of cellular life on Earth. We can begin to feel the inner body-sense of amphibian, reptilian, and lower mammal because these earlier stages of our life are literally part of the ontogenetic development of our neurological system . . . if we wish to reunite with nature, the first requirement is that we have the intention to establish this contact. (Seed, 1988)

The Council of All Beings, the way it is adapted here, is based on the book *Thinking like a Mountain*, which was written by the above initiators of the workshops. They have led and now lead workshops for a growing number of followers from all over the world where numerous Councils of All Beings have been established.

Conducting a Council of All Beings can be a spontaneous outdoor or indoor activity or it can be planned and conducted in detail in advance. Educators who would like to organize such a council for the first time are advised to plan some time in advance. Information on council workshops can be obtained by contacting Dr. John Seed, Director, Rainforest Information Centre, P.O. Box 368, Lismore, New South Wales, 2480, Australia. Tel. 066-218505.

Seed introduces: “In the Council of All Beings workshops, we participate in a series of processes that weave together three important themes: mourning, remembering and speaking from the perspective of other life-forms.” (Seed, 1988)

The Councils are held in three phases:

1. Preliminary exercise of acknowledging negativity, emotions, mourning, despair, care and love for the environment and remembering the evolutionary roots of all human existence.
2. Council of Beings meeting, where all participants have the opportunity to speak out for a particular non-human being,

such as a mountain, tree, fish, bear, endangered species, grass, lake, soil, rock, etc.

3. Evaluation of the experience and commitment to active personal care in some area of environmental protection.

1. Acknowledging/Mourning/Remembering

Looking at the speed at which whole species on earth are disappearing raises a lot of sadness, rage, feelings of helplessness and weakness in many people. These feelings are often suppressed for “fear of experiencing the despair that such information provokes.” (Seed, 1988).

The Council of All Beings aims at providing a safe surroundings in order for people to confront these feelings of despair, grief, anger or helplessness. Through finding ways of expressing and sharing their emotions, many people feel refreshed and reconfirmed in their care for the Earth and wish to participate in programs to solve global problems. Seed says: “ Often after such experiences, people come together to form ongoing support groups or join existing groups to take action on peace and/or environmental issues.”(Seed, 1988)

“ The first step in despair work is to disabuse ourselves of the notion that grief for our world is morbid. To experience anguish and anxiety in the face of the perils that threaten us is a healthy reaction. Far from being crazy, this pain is a testimony to the unity of life, the deep interconnections that relate us to all beings.” (Macy,1991)

There might be some preliminary sharing of emotions, impressions, perceptions about nature before the actual council starts. They may consist of exercises like:

Sharing Sadness:

The whole group sits together in a circle. Every participant has the chance to talk for a few minutes about a certain sad experience of nature's destruction. No comments are made by listening participants. The meaning of this exercise is to recognize those feelings, that some people have never allowed themselves to express, listening, and to becoming aware that others have similar feelings.

Sharing Joy:

The group sits in a circle. Every participant can talk for a few minutes about joyful moments of interconnectedness with nature. No comments are made by those who listen.

Remembering:

The group sits in a circle. Through guided of all life on earth. visualizing themselves as algae, then slowly climbing up the ladder of evolutionary development, the participants are led through existence as snails, worms, insects to fish, amphibians, mammals, apes to human beings.

These exercises serve as an example and are unlimited in design or structure. Yet at this stage the participants should have enough emotional space for grief, anger or sadness to be expressed, as underlying these emotions they will discover their deep sense of caring: "One by one, people bring forward a stone or twig or flower and, laying it in the center, name what it represents for them—something disappearing from their lives, the meadow becoming a

shopping mall, a paved-over creek, safe food . . . And in the ritual naming of these losses, we retrieve our capacity to care." (Macy, 1991)

2. Council of All Beings: Speaking for another Life Form Ritual

For the ritual of the Council, a quiet pleasant environment should be chosen, preferably in a forest, near a lake, or in the mountains. The evening hours by a campfire or in candlelight may help create an intimate atmosphere of mutual trust and openness.

To support imagination, a simple mask may be worn by the speaker. The participants can easily make them beforehand out of forest materials like leaves, twigs and dead tree bark or cardboard and colored paper with a stick to hold it in front of the face or a rubber band to fasten it around the head. The leader may begin the ritual through playing a drum, introducing and explaining the general structure. Trays with the four elements may be passed around the circle to remind the participants of the basic elements of which all life on earth consists:

- soil or certain minerals representing 'solidity'.
- water representing 'fluidity'.
- a burning candle representing 'heat'.
- incense representing 'motion'.

The four directions may be addressed by the leader while the participants turn their bodies to the directions accordingly: East, South, West and North.

The Council culminates in shedding of one's human dignity and speaking from the perspective of another life form. Before the Council meeting, one takes time alone to be chosen by a plant, animal, or landscape feature that one will represent at the Council.

Seed suggests, “Find a place that feels special to you and simply be there, still and waiting. Let another life form occur to you, one for whom you will speak at this afternoon’s Council of All Beings. No need to try to make this happen. Just relax and let yourself be chosen by the life form that wishes to speak through you. It could be a form of plant or animal life, or an ecological feature like a piece of land or a body of water. Often the first that occurs to you is what is right for you at this gathering.” (Seed, 1988).

Spontaneous expression flows through the structure created for the ritual councils and creative suggestions for human action may emerge. Invocation of powers and knowledge of these other life forms also empowers us.

The participants then put on their masks (if appropriate) and following the circle everybody introduces the being they are going to speak out for:

“I am a mountain, I am speaking for all the peaks of the world.”

“I am an elephant, I speak for all elephants in the jungles.”

“I am a leaf, I speak for all leaves of the forests.”

“I am a squirrel, I speak for all squirrels in the world.”

Then, starting the circle again, the beings have the chance to tell their story. For example:

“I am an elephant. I am a strong animal, I am tall and full of strength. I live with my herd in the jungle and we travel from water hole to water hole to drink and bathe to take the insects out of our skins. We have lived in this area for ages and no other being has ever encroached upon the lands we inhabit. But lately the forest is getting smaller and we often hear from our hiding places the chain saws and the screams of the old trees falling which grew from the bones of our ancestors. Streets have been cut through our habitat and we cannot reach water holes in the far distance when closer ones

dried out. Our home is this shrinking forest, there is nowhere else we can go. . . .”

The group acknowledges: “We hear you, elephant.”

“I am a Redwood tree. I am as older than the history of Buddhism as the first council took place when I already spread my leaves. Generations of humans and animals sought shelter in my shade and I exhaled my oxygen for Jesus Christ, Columbus, Napoleon, Martin Luther King and Marie Curie. I withstood storms and rains over the centuries, but I cannot withstand the machines people use to cut my trunk to make paper bags and chopsticks out of my wood. I ask myself what went wrong with the humans that they have so little reverence for our old age and for all we contribute to their well-being.”

The group acknowledges: “We hear you, redwood tree.”

After some non-human beings have spoken, they turn back into human beings to listen to what the other non-human beings have to say. In similar fashion, everyone in the circle speaks out for a non-human being and then later listens as a human being for some time. The humans may sit in the center of the circle for their listening.



The council may be continued by the humans addressing the non-human beings, expressing their impressions about what they had to listen to. For example, “We hear you, fellow beings. It has been very painful to hear, but we thank you for your honesty. We see what were destroying, we’re in trouble and we’re scared. What we’ve let loose upon the world has such momentum, we feel overwhelmed. Don’t leave us alone—we need your help, and for your own survival too. Are there powers and strengths you can share with us in this hard time?”

Thus the humans may ask the non-human beings to share their strength with the humans in order to find ways to overcome the weaknesses, guilt, and shortcomings the humans felt. The nonhumans take up their masks again:

“I, the eagle, offer you my far-seeing eyes to understand what effects your present actions may yield.”

“I, the weed, offer you our power as weeds-that of tenacity. We keep on growing wherever we are. This is what we share with you our persistence.”

“I, rainforest, offer you my powers in creating balance and harmony that enable many life-forms to live together. Out of this balance and symbiosis new, diverse life can spring. This I can offer you.” (Seed, 1988)

Every non-human being who has offered its gift, joins the human beings again in the center of the circle.

“While the opening of the ritual is preplanned, the nature of its ending can never be foreseen. How it concludes depends on the mood of the group and the dynamics unleashed.”(Seed, 1988)



step to the center of the circle, they may thank the non-human being they had embodied while placing the mask on the pyre or in the fire.

Accordingly, the Council may end in silence or with chanting or singing. Later on, the group may wish to release the non-human beings that they had spoken for through burning the masks in a fire. As the participants, one by one,

BURNING RITUAL FOR HANG-UPS, SHORTCOMINGS, AND ECOLOGICAL DEFILEMENTS:

As water is associated with purifying properties, fire is associated with the transformation from one aggregate to another. Fire is commonly used to address the spiritual world by all religions of the world. The Catholic church’s burning of frankincense, Chinese ancestor-worshippers burning paper money for their deceased and, again, the burning of incense in Hinduism, Taoism, and Buddhism, as an offering to the spiritual world, are but a few examples. Most societies cremate their dead. In many parts of the world where strong seasonal changes occur in nature, ritualistic fires are lighted in spring as a symbol for the burning of the old year. There is something refreshing, invigorating, and transforming in watching a fire eating away the old, the outworn.

In the Burning of shortcomings and hang-ups ritual, this transforming property is addressed to convert the feelings of negativity, helplessness, depression, sadness, of one’s own ignorance and exploitative behavior, into awareness, compassion and active care for the environment and all living beings. In short, it is a rite to remove one’s egocentric attitudes and problems that interfere with one’s environmental work and to change them to ecocentric attitudes and approaches through confession and the flames of purification.

For Buddhists the concepts and images of ignorance, defilements, or delusions might be evoked and burned. They can be replaced by awareness, ethical behavior, and wisdom for a better life and environmental work.

Again, the group of participants may sit in a circle around a fire. (It is interesting that American Indians always form circles during important ceremonies or rituals; a circle is believed to contain spirit and power and to be interconnected and non-ending.) If

space or ground does not permit a fire, a large candle safely placed on a big plate or tray may serve the purpose.

Every participant now takes out a sheet of paper and, in silence, all participants write down aspects of their character, patterns of behavior, negative feelings, short-comings and hang-ups that they would like to change in terms of their lives and in terms of their environmental work, i.e., things or problems that are interfering or reducing their effectiveness in life and environment.

Each one may then individually read aloud what they have written and then burn the paper to ashes, committing themselves to work towards letting go defilement, hang-ups, and shortcomings and toward working on higher goals for themselves and the environment. However, if participants would like to keep the contents of their paper to themselves, they may burn it in silence.

This ritual may be followed by a silent meditation, a prayer, or some chanting. (see under MEDITATION AND PRAYER)

SPIRITUAL SOJOURN/VISION QUEST

Suzanna Head: “Then they enter the alone time, taking nothing but a blanket—no clothes, food or water. For up to four days they sit within a sacred space marked by a circle of stones, sometimes within a pit dug out of the Earth.” (Head, 1990)

“The Buddha taught three kinds of solitude of which the first, physical aloneness, is conducive to the second, the oneness of mind in *jhana* when the hindrances have been suppressed. This ‘solitude’ in turn is helpful for the final aloneness of the mind which has no more assets (*upadhi*), another way of speaking about *Arahantship*” (enlightened state). (Khantipalo, 1977)

“Then Jesus was led by the Spirit into the desert (wilderness) to be tempted by the devil.” (Matthew: 4: 1)

Pipop Udomittipong writes of “. . .the method of teaching which is frequently used among followers of forest monasteries in Thailand. The very beginners in meditation are usually left alone in the forest, because in the darkness, one will realize how scared oneself is. Then this fear will cause them to firmly grasp to their consciousness which is a basic for meditation.” (Udomittipong, 1993).

Spiritual sojourns have been performed and promoted by most of the great spiritual teachers like Buddha and Jesus Christ. Monks and nuns in Tibet, China, India, and Thailand, as well as lay people all over the world, have chosen solitary sojourns in nature for their spiritual practices in the past and present.

The following exercise is based on a traditional ritual called Vision Quest, which is performed by native American Indians. Fasting for four days in the wilderness, members of the tribe seek spiritual guidance or a “vision” from nature and its non-human inhabitants. An eagle, a bear, an insect or the wind may be the carrier of answers to questions these men may have. The answers are often interpreted later by medicine men or elders of the tribe. Through fasting and a continuous contemplative state of mind, powerful visions or dreams may also occur which are also interpreted by the medicine men or elders after returning to the village.

This kind of nature quest has been acknowledged as a powerful means of reintegration into and re-connection with nature and the natural environment. The idea has been modified by John Milton in his Vision Quest program to help those who feel disconnected from their source of life. Although the Native Americans as well as John Milton perform a number of preliminary exercises and rituals to deepen the experience for the participants, here only the solitary

sojourn will be discussed. It is recommended that groups new to a natural environment start with a 24-hour solo. However, the time spent alone may be expanded.

The appropriate equipment for the participants to take depends on the locality. Here some general recommendations:

- 1 blanket (or sleeping-bag)
- mosquito-net if necessary
- water
- vegetarian food (dried fruit, nuts, raisins etc.)
- tooth-brush (used only with water, no soap or tooth-paste)
- Band-Aids
- a whistle (to blow in case of danger)
- clothing as appropriate
- flashlight or candles
- a camp knife

A tent may be necessary in areas of frequent rain.

In a forest or mountain area, the participants can choose their place for themselves in consultation with the advisor. However, there should be considerable space between participants so that they are definitely out of sight or sound of one another. There should be no communication between the participants for as long as the solo lasts. In dense forest 100 meters apart may be enough, whereas in open mountainous areas more space might be needed.

I chose a spot a thousand feet up a cliff near a large cave, whereas the others were down in the riparian area along the creek that flowed from the mountains. There was a lush, mossy area, protected by large old trees. But since I felt the need to be up high where there was a lot of space and a vast view I sacrificed the presence of water. (Head, 1990)

I wanted to go back to the stream where we had been

before. Then I found a nice spot not too close to the stream, I did not want to get into trouble with elephants. (Offerer, 1993)

Before leaving the participants by themselves, some instructions may be given.

- not to try to contact their neighbors
- to use the whistle only in case of danger
- not to write or read during the sojourn
- to use meditation and prayer to connect with nature
- to eat moderately and use the water mindfully
- to practice awareness at all times

Strong feelings such as fear or anxiety may come to the surface since some of the participants may never have spent days and nights out in the wilderness on their own before. These feelings are natural fears of separation, of helplessness and of powerlessness. Fear is a very likely part of the experience. Many spiritual practitioners do solitary sojourns of this nature so they can face their fears which are brought out by the experience.

Luang Phor Prachak believed in the necessity of making us open enough to experience the forest with all of our selves. He made the connection between our inner selves and the outer environment, explaining that if we were calm inside we would be able to handle our fears of forest nights, indeed, all our fears. "If you have a tiger inside you, you will meet a tiger outside as well. First get rid of the tiger inside you," he said. "Then his serenity will help us perceive in new ways any threats from outside 'tigers', and if we do by chance discover a tiger near us, we will know better how to respond." (Offerer, 1993)



“The first step in dealing with feelings is to recognize each feeling as it arises. The agent that does this is mindfulness. In the case of fear, for example, you bring out your mindfulness, look at your fear and recognize it as fear. You know that fear springs from yourself and that mindfulness also springs from yourself. They are both in you, not fighting, but one taking care of the other.” (Thich Nhat Hanh, 1992)

“I just sat there and all fear drifted away. At night an animal came to lay beside me. After a couple of minutes I realized that I wasn’t on his menu. It was big and I could hear its breath. We just stayed together.” (Irving, 1993)

The Buddhist concept of equanimous observation in meditation may be very helpful in addressing and dealing with sudden fears or feelings of insecurity. Often encountered fears tell about hidden emotions that come to the surface of the mind through the unusual confrontation with oneself. A woman who spent 24 hours in the forest alone on her first solitary sojourn said that she once was awakened in the middle of the night by an unidentified sound. She realized that she was more afraid that it was a man than an animal. She reflected that people were so irrational whereas animals just followed their instincts and hence she could feel safer with the latter.

Naturally the nights of darkness and sounds of unknown origin may give rise to anxiety. But the nights may also serve as a means of taking refuge in the protective forces of nature. On the Dong Yai Forest Buddhism and Deep Ecology solitary sojourns, the majority of participants reported seeing and hearing nocturnal animals such as cats and other small predators. Also, a small herd of elephants did pass through the general area where some sojourners were located. In tropical forests, much of wildlife activity occurs at night, so sojourns of this nature present excellent

opportunities for wildlife observations besides spending the evening in a forest solitude.

“After counting twenty shooting stars, I surrendered to a sense of wonder.” (Head, 1990)

“I was sitting in the forest. Looking at the green leaves, I was sorting through my personal life. Eventually I lit a candle.” (Greene, 1993)

Many people express the transformation of their fear as a new overwhelming feeling of gratitude and interconnectedness with nature as a whole. Being encompassed by the natural surroundings without civilized means of protection, one replaces the notion of being an intruder or a separate entity within nature. There appears, instead, a deeply reassuring feeling of interbeing with the trees, the insects, the birds, the air, the water, the forest soil, the animals. One feels at home or “in habitat” in his or her sacred place and one cherishes this time and place as unique and spiritual as well as ecological.

“Perhaps it was the dawning of reverence, that poignant mixture of joy and sadness, longing and gratitude that arises when one glimpses the sacredness of the world. I found myself all that day making prayers and offerings to the place. Of the little food that I had left, I offered bits and pieces at small shrines I made on rocks in my favorite places, feeling that I had to give something back.” (Head, 1990)

At the end of the sojourn, all participants may meet again in a circle, sharing their experiences, feelings, and encounters. Many people emphasize afterwards the inner harmony, oneness with nature, and peace they discovered behind their initial uneasiness. While doing walking meditation or just sitting on the forest ground, they become aware of how little power they really had as a human being in nature and how comforting it was to hand over to nature

the burden of a separate self. Many participants express their appreciation towards the close relationship between meditation and nature experience that they had the chance to encounter. Here the connection between Buddhist practice and nature-consciousness becomes very obvious.

Listening and Awareness of the *Devas* of the Place Exercise:

This exercise will help in providing insights and messages from the *Devas* (a Sanskrit term meaning angels, spiritual beings, free flowing energies, or energy fields of a place, i.e., the unseen spirit or soul of an area and its beings). The *Deva* could be the group soul of a species or landscape soul of a place as well as the individual soul of a spiritual being.

Although this exercise can obviously be done without a group, it will now be described as a group exercise which can also be used on an individual basis. Depending on the time available, this exercise can be accomplished in three to several hours. Ideally, the “wilder” the place, the better for this Deep Ecology exercise.

Group members should be instructed to go forth alone in a wandering walk from a central location. They should all depart in different directions and avoid any close proximity to other individuals. It would be helpful to have a short meditation session before they depart to set the right mood for their wandering walk.

As they depart, they should be instructed to keep their hearts and minds open and to listen to their intuitions, instincts, and imaginations. They should be further instructed not to have their own “agenda” or preconceived notions of what they are looking for and what *Devas* or spiritual beings might say or talk to them about. That is, they should avoid all anthropocentric projections.

By staying open to place, they will eventually wander to a

place where they feel more attuned or “at home” with the surrounding areas. When they arrive at this location, they should ask permission of the *Devas* of the area if they can remain there for the purpose of communicating with them. In some cases, the *Devas* or spiritual beings of a given place at a given time may not wish to communicate with human beings and this should be respected by politely moving away while being constantly receptive to other locations in one’s wandering walk.

Usually, the response from the *Devas* or spiritual beings is positive, as based on one’s intuition, instincts, or imagination. It is usually best to go by one’s first impression or inner message in this matter. Then the individual should make herself or himself at home by sitting in a meditative position.

In this spiritual communication, it is best to first focus on: (1) whatever you consider or understand to be your higher spiritual power and its unconditional love for you, (2) this transmitted and unconditional love for yourself, (3) the interrelationship of unconditional love and communication between you and the *Deva* or spiritual being so that your higher spiritual power, you, and the *Devas* become one.

In this Oneness of Spirit, it is important to be attuned and attentive to any messages that the *Deva(s)* or spiritual beings of the selected location or area may wish to give to you at this time. Communication with *Devas* is often a two way process with the individual asking questions of the *Devas* at times. But the key is to be attuned and to listen with an open heart and mind without preconceived agendas, notions, or projections.

The messages from the *Devas* may naturally vary a great deal from the simple to the complex, from the *Deva* of a place (like a river), group of species (forest), individual living beings,

stones, etc. (and may even include messages from unborn living beings about their futures). They may also vary in terms of their Deep Ecology or general messages as well as personal messages or advice to you.

Generally, the messages are helpful and, to a degree, philosophical and loving and a variety of things of this nature. Try to correlate and understand your feelings associated with the messages. Sometimes, it may be necessary to focus on one of these messages or themes so that it can become more meaningful for insight and application.

After you feel you have completed your “session” with the *Deva(s)* and/or when it is the group-designated time to meet, thank the *Deva(s)* and return to the central location for the group. You may wish to write down some of the major points from this experience. When all or some of the group members have returned, select a partner and sit facing each other.

Each partner should share (or what they choose to share) of their personal experiences during the exercise and what messages that the *Devas* may have had for them. Often the personal messages or advice may be paramount, particularly if one is struggling with a particular issue or problem in his or her life (which often may interfere with one’s Deep Ecology work). However, some Deep Ecology messages are often present in some form, directly or indirectly. Both partners might also expound on how the messages can be applied in their personal lives and in Deep Ecology understandings, activities and hopes.

Later, the group should meet as a whole and the two partners can share what they choose to share of their experience and discussion. It is often wise to summarize the messages received by the individuals of the group on a general basis for more understanding of how the process works and of what the collective messages of the *Devas* are. One should not be discouraged in this

exercise process. Sometimes, few or no messages from the *Deva(s)* may come through at a given time and/or place; it is unwise to compare or contrast. The more times one does this overall activity, the more opportunities are presented and the better one gets at tuning into the *Deva(s)* of different places.

In the event of limited time, often the process can be completed by individuals in less than an hour or even a few minutes, so that a major message or insight can be obtained from the *Deva(s)* of a given place if all goes well. The key again is to open your heart and mind and to trust your first impressions or instincts.

As an example of communicating with a group *Deva* or soul of Trees, Dorothy Maclean, from Findhorn, Scotland, made the following presentation on the “Essence of Nature” (transcript of (unpublished) paper presented at the Third Wilderness Congress, Oct. 1983, Edinburgh, Scotland):

We come in with a lordly sweep. We are not just the little trees that you see in your garden. We are denizens of magnificent species of great hills of the sun and the wind. We put up with being hedges, but always in our inner beings is the growing towards sun kissed places where we stand out in clustered grandeur. You feel in use an almost intolerable longing to be fully ourselves. We in the plant world have our pattern and destiny worked out through the ages, and we feel it quite wrong that we and others like us are not allowed to be because of man and his encroachment.

Trees are not so much doers of the world as Be-ers. We have our portion of the plan to fulfill. We have been nurtured for this very reason and now in this day and age many of us can only dream of the spaces where we can fulfill ourselves. The pattern is ever before us, out of reach, a dream that we

are forever growing towards, but which seldom becomes reality. The planet needs the likes of us in our full maturity. We are not a mistake on the part of nature, we have our work to do. Man is now becoming the controller of the world forests, but is beginning to realize that trees are needed.

But he uses silly economic reasons for his selection with no awareness of the planet's needs. He should not cover acres with one quick growing species (Eucalyptus), which, although admittedly better than none, shows ignorance of the purpose of trees and their challenging of diverse forces. The world needs us on a large scale, perhaps if man were in tune with the infinite as we are and were pulling his weight the forces would be balanced. But at present the planet needs more than ever just what it is destroying—the forces that go through the stately trees. Here are these facts of life and none to listen to them. We have rather dumped this on you (and I was feeling dumped on) though you feel at one with us, you feel unable to help. You are only looking at it from a limited view, we know that the very telling of this to you does help. That a truth once in human consciousness then percolates around and does its work, and we feel the better for communicating. Let us both believe that the almighty one knows all this better than both of us, and that something is being done.



Well, whenever I tuned into a tree, I got the variation of this same theme, and the need for trees on the surface of the earth, for example saying that they are the skin of the earth, and that if more than a third of the skin of any being is destroyed then that being perishes. Saying that they have job to do in their maturity, just as child cannot do the work

of an adult, so an immature tree cannot do the work of a mature tree, and I found that in forests, trees are most often

cut down before they are mature, and allowed to develop their canopy.

So they had a job to do in the channeling of forces, which only they can do in their maturity. They said they had a special gift for humans in this day and age when we are so troubled and upset and chaotic that they give us mental stability. I know that when I go for a walk in the forest I emerge at peace again, and they even suggested that we build large forests beside our cities, so that trees can give that gift to us humans.

So every time I attuned to the trees, I got a variation of this same theme.

Another example of communicating with a tree *Deva* follows: “A Tree’s Plea,” by Daniel H. Henning (while a Fulbright Scholar studying tropical forests and protected areas in Thailand):

The four park guards and I climbed a steep hillside in the tropical forest In Tublam National Park, Thailand. Suddenly, we came upon a magnificent tree-huge and noble. It would take three men to get their arms around it. I estimated it to be over 400 years old and 120 feet In height. There were just a few simple branches at the top of the huge trunk that seemed to reach into the heavens. And there were relatively few leaves on the branches. But the top of the tree was like an open hand reaching outward. It was powerful, gorgeous, and natural.

I put my hands on the trunk of the tree and felt captured by its energy. It was like holding another human being. It seemed so powerful, but calm, with a balanced and harmonious energy that was the essence of life itself. I felt the energy flow from the very womb of the earth to reach through the trunk and its open branches to embrace the

sun and the sky. The energy seemed to be flowing both ways between God and the Earth with light and love.

I held onto the tree and was spellbound. The park guards stood watching me as I pretended to be studying the tree scientifically. But I was experiencing one of God's creations. Then I heard (or thought I heard) an appeal emerging from the tree and its energy. It simply said, "Protect me."

Tropical forests are disappearing at approximately 100 acres a minute on a global basis. Many experts believe that tropical rainforest areas will be mostly deforested in Asia and elsewhere by the early 21st century and that they will not regenerate in similar form. National Parks and other protected areas provide a major way for keeping some remaining rainforests. But the protection must be internal as well as external. Tropical forests are fragile and complex ecosystems with diverse and abundant life. Poaching of logging and wildlife can create serious abuses and inroads into the ecosystem and national park integrity, particularly when dominant trees are removed.

When we finally started down the hillside, I felt a sense of tragedy, as if something was very wrong. We were going cross country down a steep slope. Then we came upon a magnificent tree, huge and beautiful like the other. But it was lying down. It had recently been cut down by log poachers. The tree was being cut by a hand saw into small beams to be carried out. The tree would bring about US\$800 on the local market. It had been cut down in a watershed drainage area of a national park. The downed tree and the beams being taken from it gave a sad feeling, almost like a friend had died.

I went over to the tree, touched and blessed it.



TREE TRANSITIONS FOR CHANGES

Buddhism and Deep Ecology-bring many changes to our lives which require us to be still, accept ourselves, have faith in the process, and to be open. We can call upon a tree as a symbol to help in our transition so that we can become more open to change.

Select a tree which you are attracted to and which seems to call to you. Put your arms around the tree-hug it and merge with it as a living symbol for you in transition. Feel the energy vibrations of the tree. Trees are silent and magnificent providers for planet earth. They are wise, patient, balanced and centered. Humble yourself and ask for the gifts and identity of the tree.

The tree reaches deep into the earth with long roots pulling sustenance upward from exposed extremities. Reaching upward with outstretched arms, the tree pulls energy down from the heavens into branches and leaves. The tree is a great mediator upon the earth and serves each day between spirit and substance, between Mother Earth and Father Sky.

The tree accepts your exhalation of carbon dioxide and transforms it back in life giving oxygen. In relationship with the tree, you are dependent on the tree for shelter, food, and air for your existence.

The tree is vulnerable while being a silent server and peaceful observer of the ecosystem. The tree appreciates anything you might give and asks little of you.

In the endless cycle of life and death and the impermanence of rising and falling away, the tree moves as master without clinging. Standing erect as bridge between Mother Earth and Father Sky, the tree has profound wisdom and true humility (humility from humus or soil of the earth). The tree accepts the inevitable as well

as the perfection in all of life and its diversity. The tree remains unchanged with the passing of the seasons.

Thus you can look to the tree as your symbol of transition. For the tree is very much a part of the earth as it reaches toward the stars. The tree is grounded, but always growing and expanding while embodying peace, grace, and serenity. Though the winds of change may try to sway the tree with endless motion, the tree remains steadfast to a commitment to remain still and grounded. The tree is your teacher. Listen to the wisdom of the tree so that your life might be centered, nourished, grounded, balanced, and harmonious with all life.

Use an abandoned leaf as a symbol of those things in your life that are no longer necessary. Although once vital and essential, the life of the leaf has been used up and the tree lets go. Write on the dead leaf those things in your life that are ready to pass away—to let go of. Place these leaves upon a fire that will create a transition from substance to spirit. Any negativity will be transformed and then released in a more positive form.

On another leaf, write those things you wish to hold onto in your life—things you want to encourage and retain in your life. Tie these prayer leaves to a tree which will unite them with their creator or Great Spirit—just as your prayers unite you with all creation.

Choose a tree seed—a symbol of rebirth, continuation, and promise of growth and hope. Plant the seed in the earth along with your prayers. Know that what you ask with sincerity will be delivered. Know that the divine spirit inherent in all life will grant you your highest good so that your dreams, desires, and wishes will mature and grow strong and bear fruit as the seed that you have planted in Mother Earth. (Adapted from Dorian Beitz, “Receptivity to Change”)

MEDITATION AND PRAYER

Prayer is the way we can remind ourselves of the whole thing, and also ask for any divine help which is allowed under “the rules of the game.” And since we don’t know what all the rules are, we have to use our best guesses about how to pray (or what to pray for), and we must accept on faith that every prayer is heard and answered in the best way, for our own good—even when it doesn’t look like it to our limited vision. (Lazoff, 1992)

“Meditation is suitable for people of all ages, cultures, and times. It is a large field of study in theory and practice. The correct practice of meditation has tremendous psychological health and spiritual values.” (Sri-Ruan Keawkungwal, 1989)

Just like true meditation, prayer itself is not really a “method”; it’s more a relationship to God (or to Self, life, the universe, however one wishes to want to say it). Praying as a spiritual practice is just like that: it’s practice. After enough practice, and as we get more mature, prayer just starts happening all day long-again, just like meditation. (Lazoff, 1992)

“When sitting, care should be taken to be at once relaxed yet holding the body erect. There should be no strain but neither should the head droop nor the lumbar regions sag. The body should feel poised and balanced upright.” (Khantipalo, 1992)

“Meditation is to look deeply into things and to see how we can change ourselves and how we can transform our situation. To transform our situation is also to transform our minds. To transform our minds is also to transform our situation, because the situation is mind, and mind is situation. Awakening is important.” (Thich Nhat Hanh, 1992)

Buddhism offers a clearly defined system of ethics, a guide to ecological living, right here, right now. Meditation is its primary tool for raising ecological consciousness. In meditation, awareness of our environment deepens and our identity expands to include the multitude of circumstances and conditions that come together to form an existence. Curiosity and respect for the beauty and power of nature is enhanced, revealing an innate spirituality. Re-sensitized to our feelings and immersed in awareness, we may find ways to avoid irreversible damage and ultimate self-destruction. (Bandiner, 1990)

A. Sitting and walking with mindfulness of breathing:

Meditation in a natural environment can be practiced while sitting, standing, lying down, or walking. The most commonly used are sitting and walking.

-Sitting meditation in mindfulness of breathing:

Sit in any comfortable posture, preferably with crossed legs in full or half lotus. Keep your back straight. Close your eyes and watch your breath as it comes in and goes out. Try not to fight thoughts, but also not to hold onto them. Let thoughts pass like clouds in the sky. There is no time limitation, but for beginners 15 to 30 minutes might be enough.

-Walking meditation:

Select a small trail or clearing in the forest. Determine two turning points at a distance of about 15 steps apart. Walk slowly and attentively. Feel the ground underneath your feet. Try to be aware of the process of walking, without thenotion of I or me who is walking, i.e, walking without a walker.

B) Guided Tree Meditation:

Take off your shoes. Close your eyes and slowly and attentively take ten deep breaths. Slowly move your attention down to your feet . . . Feel how they touch the ground, connecting your body with the Earth. Now feel your feet as they slowly turn into the roots of a tree. Follow your roots on their way into the soil and humus layer, twisting and turning their way into the Earth and along the humus layer of the soil.

Your roots give you stability. You are a tree. You will spend all your life on this one spot where you feel that your roots embrace the Earth. They hold your body erect but yet flexible under strong winds and storms.

Now examine your roots more closely with their root branches and rootlets and pores, where water and nutrients from the soil and its humus layer pass through into little root canals leading up into your body . . . Water flows around your roots and with your attention you now start following it up from the smallest tiny fibers into bigger rootlets, into the flowing stream of life that slowly vibrates up your trunk.

As the planet's juices of nutrients and nourishment flow through your body, you are aware that you are a part of this planet. Slowly spread your arms, naturally, comfortably and open your hands like leaves to the sun. You are a fully grown tree now. Your trunk is strong, it has grown over years of taking in the nutrients and water of the soil and humus layer and returning them back through fallen leaves.

In the tropical forest that you are in, almost all the nutrients are contained in the leaves on the ground and in the trees. Feel the energy vibrating in the myriad lush green leaves. As the water reaches each cell, it floods the leaves with nutrition.

When touched by the rays and energy of the sun, the little green laboratories in your leaves (chloroplasts) produce sugar—pure energy. This is one of nature’s miracles, photosynthesis, taking place within your leaves.

Your leaves have tiny openings, like pores, oozing out life giving oxygen for all breathing beings on Earth after taking in carbon dioxide from them. Your breath is your way of interbeing with the walking beings who inhabit the Earth. They are breathing out the carbon dioxide that you need for your act of transformation it into oxygen. Together with all life on Earth you are breathing in and breathing out, breathing in and breathing out, breathing in and breathing out.

Now turn your attention to your arms. If they feel tired you may lower them slowly, but do not lose the feeling of being drawn towards the light . . . Your arms are your branches . . . You are fully aware that you were placed here to fulfill your destiny as a tree. The elements you consist of are in constant communication with the elements of your surroundings. You feel the warmth of the sun’s power.

Without the sun nothing on Earth would grow—heat. You feel the water flowing through the outer layer of your trunk and the vessels of your leaves like rivers and brooks on the Earth—fluidity. The whole world is nurtured through this element—fluidity.

You feel the lightness of your breath, going in, going out—motion. You are contributing to the winds, exchange of breath—motion. Breathing in and breathing out. Life is a miracle of interchanging elements through impermanence.

Some of your leaves slowly die. They fall to the forest floor and humus layer. The nutrients in the fallen leaves eventually return to

water and nutrients in the forest soil. Yet, new leaves grow on your branches. The cycle of rebirth is illustrated in your leaves with new leaves arising, regular leaves existing, and old leaves dying and returning to the earth to carry on the processes of impermanence.

Now lend your attention to the surface of your trunk. You have many guests in the folds of your bark. Welcome your guests: the little spiders, beetles, ants, caterpillars and butterflies. Your guests are part of the food chain of the forests and when they die they give back their nutrients to the soil and water. Cycle of rebirth . . . arising, existing, and dying. Your leaves and branches provide shelter for squirrels, birds, and other living things.

You are part of the whole ecology. Through the process of birth, decay, death and rebirth you are a true representative of the law of nature, the universe, the *Dhamma*/nature law of arising, existing, and passing away, or impermanence. Your reality is not within yourself; rather, it is in interrelationship—the totality of nature or *Dhamma*. A oneness and interconnectedness with all living and non-living things is reality in nature and *Dhamma*. Feel this oneness, feel this interconnectedness as aggregates in process. You are in the cycle of rebirth or change, arising, existing, and dying, arising, existing, and dying. Breathing in and breathing out, Breathing in and breathing out. You are a living, spiritual bridge between Mother Earth and Father Sky.

As you slowly change back from the solid structure of a tree trunk to the softer human form, you are aware that as a human being you consist of the same elements as the tree: heat, fluidity, solidity and motion . . . And as you fill your legs, your torso, your arms and hands with your consciousness, you also become aware of how gifted you are to be able to move your body. Nature has given you the greatest blessings of thought, motion and compassion so that you can be aware of life in other beings like trees. Realizing these gifts fills one with deep joy and gratitude towards nature

and its trees. Trees are part of the life-giving energy and part of us. Their breath of life is our breath of life. Through breathing, the trees and we inter-are. Thus, harming a tree is harming oneself . . . How can we protect trees more?

C) Metta Meditation:

May I be free from all destructive and exploitative behavior towards nature, of which I am not only a part but dependent upon.

May I be free from all the selfishness, the egocenteredness, the greed and craving for more than I need.

May I be free from all ill-will, animosity and resentment toward those who do not conform with my understanding.

May I understand that all life occurs under the same law of causality and condition and that all beings inter-are within this law.

May I develop the wisdom of understanding this law of inter-relatedness in nature and through my compassionate understanding, may I develop peace and harmony, goodwill and compassion towards all beings, not only humans, but all non-human beings as well.

May all beings share this peace and harmony with nature.

May all beings share this joy and gratitude for having the chance to experience the wise organism we call Earth.

May all beings be free from negativity, unhappiness, and suffering.

May all beings share the joy of care and compassion toward all.

May all beings be able to carry out their own struggle for survival, undisturbed and without disturbing others.

May all beings, visible or invisible, far or near, dwelling in motion or still, be well and happy.

D.) Ecological Meditation:

I recognize that within my mind there is a dark room of separation from universal love, where I cannot see the light.

This room is where my ignorance originates, where my suffering gains its form and where hatred and ill-will raise their ugly heads.

I recognize that it is I, my selfishness, my ego-centeredness which separates me from Dhamma law, that does not neglect anyone.

I recognize that all suffering starts where the light of Dhamma cannot reach.

I recognize that this creation has been exploited and destroyed by mankind. I seek from the universe the help for the world to be healed.

I am an instrument for peace, of love, of care, of light, so that I may allow a brightness into the dark corners of my mind and that of others.

I am an instrument of wisdom, that will enable me to become a caring keeper of Mother Earth.

Where there is injury, may I bring a healing power. where there is despair, may I bring the spirit of hope;

where there is hatred, may I bring the spirit of love;

where there is poverty, hunger and thirst, may I bring the spirit of sharing;

where there is guilt, may I bring the spirit of forgiveness;

where there is waste and exploitation, may I bring the spirit of loving care;

where there is separation, may I bring the spirit of inter-being.

May I rather seek to understand more than criticize and judge, that I may rather seek to serve than to be served.

May I not turn away my head in the face of injustice but try to reconcile and equalize.

While carrying out my mission, may I always be aware that the power-rest in the Dhamma are mine, but yours, which shines through me in oneness.

Buddhist Spiritual Food Reflection from Thailand

The following food reflection was found at Suan Mokkh Buddhist Forest Monastery at Chaiya, Thailand. Now deceased Ajahn Buddhadasa translated this food reflection from Pali, the original language of Buddhism in India,, into Thai and Ajahn Santikaro and Ajahn Dhammabalo translated it from Thai to English.



With wise reflection I eat this food
Not for play, nor for intoxication
Not for fattening, nor for beautification
Only to maintain this body-
To stay alive and healthy
To support the spiritual life.

Thus I let go of unpleasant feelings
And do not stir up new ones
Thereby the process of life goes on
Blameless, at ease, and in peace.

A fundamental aspect of meditative and spiritual life is a mindful and wise use of the necessities of life—clothing, food, shelter, and medicine. Of these, the Lord Buddha gave special emphasis on food and to the practice of moderation in eating.

This food reflection is not a prayer of grace. A wise reflection is a means of working toward right understanding and right intention, the first links of the middle way. We begin by considering what food is not for—some silly, frivolous, and dangerous reasons for eating: games, entertainment, culinary competition, sensual indulgence, and vain shaping of the body. Then we consider what food is for: to maintain physical health for the Brahma Cariya—the highest most exalted spiritual life.

To let go of unpleasant feelings or to get rid of them, refers to the mental dissatisfaction or disliking that we know as hunger. To not cause new ones to arise means not to cause new Dukkha (problems or troubles), feeling bloated, cramped, lazy, sleepy—by overeating or eating too quickly or ravenously. Thus when practiced wisely, eating helps to clean up old Dukkha without causing any new Dukkha. In this way, life continues with fewer difficulties, in purity and peace and in physical/spiritual health.

CHAPTER FIVE

PUBLIC PARTICIPATION

Forests are not saved by governmental enlightenment.

Keeping streams pristine has never been the aim of giant corporations bent on making profit.

No environmental protection measure was ever successful without public pressure.

Conservation begins at the grass roots. If the people clamor to save or restore a habitat, they might succeed. If they are silent, the natural treasure is lost.

SOCIALLY ENGAGED BUDDHISM

A human being, like a tiger, tree or ant, is part of the environment. Like ants, we do our most constructive or destructive work collectively. But, unlike the instincts in an ant colony, humanity's social consciousness can be changed. We find this truth illustrated in isolated colonies of the human animal, in societies that live in harmony with nature, in cultures that consider earth their mother rather than a rival to be conquered.

Socially engaged Buddhism is a vehicle for change. To save this planet, we must first change the social consciousness of the earth's most destructive creature.

In his "Ecology of the Mind" meditation, Thich Nhat Hanh states,

We need harmony, we need peace. Peace is based on respect for life, the spirit of reverence for life. Not only do we have to respect the lives of human beings, but we have to respect the lives of animals, vegetables, and minerals . . . Ecology

should be Deep Ecology. Not only deep but universal, because there is pollution in our consciousness.

Television, for instance, is a form of pollution for us and our children. Television sows the seeds of violence and anxiety in our children and pollutes our consciousness, just as we destroy our environment by chemicals, tree cutting, and polluting the water. We need to protect the ecology of the mind, or this kind of violence and recklessness will continue to spill over into many other areas of life. (Thich Nhat Hanh, 1991).

Elizabeth Roberts writes,

. . . to engage the silence in every moment leads to a true ecological activism. It asks a deep slowing down, achieving more by doing less. Meditation and mindfulness give character to our actions. They prevent us from being too driven in the pursuit of success. Since they show that no action is final, they keep us from taking ourselves too seriously . . . While our environmental actions may be turned aside from their purpose or taken over by the milieu in which they occur, our practice cannot be taken over. It attains its goals because it is its goal. It brings an end to living in front of things and a beginning to truly living with them. (Roberts, 1990)



In the spirit of *Dhamma* practice, there is meaning in socially engaged work within an organization. Olendski states, "One very

true and sincere manifestation of *Dhamma* is a fundamental and uncompromising regard for the preservation of life and a recurring impulse toward simplification and purification in both oneself and in a organization.” (Olendski, 1990). International Buddhist organizations have been (relatively) recently formed to engage in more societal and environmental “outside” work.

For example, during the Vietnam war, the Tiep Hien Order or Order of Interbeing was created by Thich Nhat Hanh. The order recommends that Buddhism be taken outside of the meditation hall into daily life and society. It addresses social justice, peace, and ecological issues. By directing people to focus on their interconnection with other beings, Thich Nhat Hanh is asking people to act in collaboration and mutuality with others in the dynamic unfolding of the greater truths which nurture peace, justice, and ecological balance so that they can experience true development of the continuity between the inner and outer world. (Sivaraksa, 1990).

In 1978, the Buddhist Peace Fellowship was formed. It is an international Buddhist organization that promotes awareness of the need for ecological balance in our economic and social development. The Buddhist Peace Fellowship offers Buddhists a way to take their practice into the world of political and social action. The mandate includes raising peace and ecology concerns among Buddhists. It also includes bringing the Buddhist perspective to contemporary peace and ecology movements. (Sivaraksa, 1990)

In February 1989, the International Network of Engaged Buddhists (INEB with headquarters in Bangkok) was formed to link concerned organizations and individuals. The network emphasizes non-violence and self-transformation through insight meditation, to address problems on both the social and spiritual levels. It has the following objectives:

_ Promoting understanding and cooperation among Buddhist countries, different Buddhist sects, and socially conscious Buddhist groups.

_ Facilitating and carrying out solutions to the many problems facing our communities, societies, and the world. (Two priority areas for INEB are environmental issues and women discrimination issues).

_ Articulating the perspective of Engaged Buddhism regarding these problems and training Buddhist activists accordingly.

_ Serving as a clearing house of information on existing Engaged Buddhist groups.

_ Cooperating with activists from other spiritual traditions. (INEB, 1993)

The orientation of these and similar organizations and efforts in socially engaged Buddhism and environmental affairs (as well as other societal areas) reflect the changing needs and conditions of modern society. Schalk notes, “Socially engaged Buddhism, which has cultivated diaconical work and social questions is of course an adequate answer to the demands of a new developing functionally differentiated society, which demands from the religious sector border transgressing achievements.” (Schalk, 1990)

Sivaraksa concurs, “We cannot retreat from the problems and needs of others or our society. We can and must extinguish greed, hate, and delusion by combining spiritual practice and action. We must transform ourselves and our societies if we are to survive.” (Sivaraksa, 1993).

Many Buddhists may not accept the interplay between Buddhist practice and activism. Although Buddhists may accept

that every being has a purposeful existence and that everything is interdependent, it is difficult for some to accept that one has a responsibility for all that occurs. At the same time, many leading Buddhist writers have recently encouraged Buddhist participation in social and political activities as an extension of spiritual practice. There is a need for some to remain in the temple while others attend to those injured by arrows at the gate. However, when critical destruction of other living beings presents itself, it is difficult to turn away from an opportunity to alleviate suffering and death. (Deike, 1990)

Maha Goshananda, the leading monk in the Cambodian Peace Movement, observes, “We Buddhists must find the courage to leave our temples and enter the temples of human experience, temples that are filled with suffering. This will be a slow transformation, for many people throughout Asia have been trained to rely on the traditional monkhood, but we monks must answer the increasingly loud cries of suffering. We only need to remember that our temple is with us always. We are our temple.” (Goshananda, 1992)

Along this line, Kotler argues,

To think that we can practice Buddhism independently, in an isolated cell, is to fail to grasp the Buddha’s teaching of non-self meditation practice helps us to learn to act with composure. Equanimity ensures us that we are able to sustain the duress of witnessing such extreme suffering. But meditation is not an end in itself. It is a practice which can help us live more peacefully, and share our peace with others I have come to discover that the phrase, ‘engaged Buddhism,’ is redundant.

We know that an awakened life is possible and our chanting ‘May all being be happy’ is not just a sacred litany, but our daily responsibility. The Four Noble Truths and the Eightfold Path are no other than a call to know ourselves

and to engage in the world in the most enlightened way we can. (Kotler, 1990)

In this sense, Buddhist forest monasteries and temples need to be more open to the world so that they can become the true carriers of the message of *Dhamma*, a message of engagement and active care. This means being more aware and responsive to people and environmental situations outside as well as inside by providing more access to the monasteries and temples for the purpose of environmental education and public participation activities aside from traditional and meditation practices.

Although the *Sangha* was originally considered a community for priests and nuns, it was later expanded to include all, including laypeople, who practiced the Buddhist Way in mindfulness and harmony. The *Sangha* can serve as a bridge for participation between the public, government, private enterprise, and interested parties involved with the environment in a variety of ways. This is particularly true for situations involving villagers and forests where experienced and respected *Sanghas* are familiar with local problems and the possible alternatives to solving them. The basic objective of Buddhism and the *Sangha*, the extinguishing of suffering for all beings, can become a strong motive for public participation of all parties in a given conflict.

Thus the *Sangha* can serve as a basis for environmental education and public participation based upon the teaching of *Dhamma* with its love of nature. Phra Deevi notes, “Buddhism teaches that in order to make people love nature they have to be happy with nature. If people are happy with nature, then they will love nature automatically. Therefore we do not need to ‘teach’ them to love nature. In the Buddhist way of self development, people do not feel forced at all.” (Debedi, 1993)

A love of nature for its own sake will automatically inspire public participation efforts to protect nature. Much of this love can come from extending one’s ecological identity to a oneness with nature through the *Sangha* and practice of *Dhamma*. Through this liberation, compassion, selfishness, greed, and egoism are

removed so that mindfulness, awareness, loving kindness, and wisdom emerge for a true merging with nature. By really recognizing one is a part of nature, one then wants to participate in protecting nature out of love rather than from the “shoulds” of morals and ethics, i.e., a free and flowing love of nature for its own sake without attachments or ego.

GENERAL

Public participation must be based on integrity and truth, both personally and professionally. The Buddha warns against lying and has created a precept to avoid this problem. When one lies, one distorts or muddles one’s perception of reality as well as the perceptions/realities of others. Consequently, it is not possible to make good decisions based on false and untrue perceptions and assumptions of the real problems or issues involved. The end result can then accentuate or increase the problem issues by poor and misguided decisions which actually do more harm than good, let alone provide effective and long term solutions. This is particularly true in the environmental field where governments and industries may sometimes not deal with the full truth of environmental issues while providing the public with only distorted or partial information that may make the public participation ineffective and/or a farce.

In the same vein, manipulations, which are a form of lying, may try to get the public and other sources to do what the vested interests want while providing selected and biased information that does not reveal the true picture for a given environmental problem or issue. With the resulting distorted perceptions for the parties involved, it becomes very difficult to address the

environmental realities of the problems or issues on a causal or effective basis. Thus lying and its manipulative forms may become a kind of ignorance (the Buddha observed that ignorance and greed with attachments are causes of suffering) which results in the actual *ignoring* of environmental problems and issues.

These special interests cloud and distort the issues so that some members of the public may actually assume that “things are being done” in many cases. Yet the *STATE OF THE WORLD*, 1992, finds that not a single serious environmental trend has been reversed over the years, including the thinning of the ozone layer, 200 plant and animal species condemned to extinction every day, global warming, 17 million hectares of forests vanishing every year, the world population growing at over 92 million annually with 88 million of this total being added to the developing world, over 150 acres of tropical forest destroyed every minute (or half the size of Germany each year). According to studies associated with UN/ ESCAP, approximately 10,000 vertebrates which include birds, amphibians, etc. are destroyed with each square mile of rainforest that is destroyed.

Until ignorance, with its lying and manipulations, are removed, these trends will continue to become extremely grave and call for more complex responses and changes, especially effective and strong public participation.

Much of the public may recognize the overall environmental picture as very tragic with denial. Thus there is the need to acknowledge denial and to ask these questions: (a) When you consider the world being left to your children, how do you feel? (b) What happens when you try to share your feelings with other people? (c) How can you help others to overcome their denial of these problems? In this sense, people need to open their hearts to these questions (much of Buddhism calls for thinking with the

heart rather than the mind) and recognize their feelings of grief and helplessness so that they can make the best choices.

Based on a “web chart model,” it is possible to identify various causes behind environmental issues such as water pollution and erosion due

to the destruction of watersheds, the effects of industrial and agricultural pollution, etc. These problems can be further traced to spiritual corruptions such as greed, ignorance, selfishness and indifference as recognized both by Buddhism and Deep Ecology. It is these deeper causes that must be addressed in public participation, yet they seldom are. Thus Buddhism and Deep Ecology both call for spiritual answers such as loving kindness, compassion, and equanimity as well as recognizing the living forms of land.

There is an interconnectedness and correlation between social and economic structures and their effects upon spiritual problems such as greed and ignorance. These effects are nowhere more clear than in the exploitation of the Southern, or developing countries, by the Northern industrialized nations. But this generalization becomes complicated as newly industrial countries such as Thailand emerge to join the exploitation of other countries. The important consideration here for public participation, however, is to get at the basic causative forces and values in social and economic structures behind the initial developmental proposals which may threaten the environment and its living beings.

In this sense, Deep Ecology of the last twenty-some years gets at the causes and asks deeper questions in a deeper dialogue. The old reform environmentalists of the US and elsewhere from the early 1900's to the present did not challenge the basic assumptions of the system. It simply is not working, and the educational system has also failed. The social, economic, and political systems are at fault in asking merely, "How much is enough?" without really addressing the consequences of this posture. Thus, Deep Ecology brings out the spiritual side of the above. It creates a deeper dialogue

for real public participation to address the basic values and causes for change.

The above posture also requires a change of perspective toward

science and "experts" for effective public participation. It requires that we put on our "Deep Ecology Glasses" to see things correctly, particularly interrelationships and causes. Too often, the public is intimidated or manipulated by science and its spokesmen for governments and industries. The old science is reductionist and separate, with fixed forms based on control, competition, and assumptions not connected, simple to complex.

The new science recognizes life as a flow of energy in what outwardly might be called fixed forms. It recognizes that everything is connected and interrelated to everything else, e.g. co-dependent origination with no hierarchy of simple to complex. Everything is related to everything else and everything is changing. Through using a web chart model, it is possible to identify these energy flows, interrelationships, causes, and basic values behind various environmental problems and developments relative to public participation without being deluded or rebuffed by the old science and "experts."

A major point here is that effective public participation, through Deep Ecology, needs to transcend the old science and establishment experts who tend to intimidate or manipulate the real issues. (Some of the above points on "new" science were gleaned from the Advanced Deep Ecology Workshop with Elias Amidon and Elizabeth Roberts on Dec. 8-17, 1996 at Children's Village School, Kanchanaburi, Thailand).

Professor Arne Naess, in his paper on "Experts and Deep Ecology" warns people about the role of "experts" in public participation and environmental/developmental concerns. He notes that private and governmental policies and programs are basically justified by referring only to what hired "experts" say in their official

reports. The experts are asked certain carefully selected questions and only these questions are answered in publications by the agency. (Naess, 1984)

Further, officials who pay the experts choose those who will give them answers best suited to justify the policies they wish, or have decided to carry out. This is further complicated by governments having private industries carry out their own environmental assessments and/or impact statements and hence be their own “experts” for the official environmental report to the governments, which, in turn, are also used as official documents for public participation. (Naess, 1984)

Thus Professor Naess says, “On the whole, argumentation must be one-sided and shallow, because the questions are of that character. The aim of government seems to be to justify their economic growth policy, a policy with vast, largely unknown, social and ecological consequences. Because of the kind of questions put and the one-sided choice of experts, the public tend to think that experts on the whole favor the policies their governments and other big institutions and organizations adopt.” He recommends that the public seek out experts who are in sympathy with Deep Ecology as well as take a skeptical approach toward experts of government and industry, i.e, to apply Deep Ecology to their public participation efforts. (Naess, 1984)



CASE STUDY (The following represents a Deep Ecology and Buddhism study report by Ajahn Santikaro of Wat Suann Mokkh, Chaiya, Thailand, April, 1996; used with permission of the author).

***DHAMMA-YATRA* AROUND SONGKHLA LAKE**

“Si Nuan, Si Nuan.” These were the most commonly heard words in our recent three week circumambulation of Siam’s largest lake. Si Nuan literally means “soft tawny tan color” and is the name of the dog that adopted us from day one. She originally came along with the temple boys from Wat Talae Noi that we pressed into carrying our lead banner on day one. After the boys escaped at the end of the day, Si Nuan displayed a more intrepid ecological spirit and stayed even through the organizers’ evaluation sessions at the end. Her name was introduced to thousands of villagers around the lake and the “fans” who followed the progress of the walk through various call-in radio programs. So it was that people who had never seen her before called out her name as she wandered and wagged among our straggling crew of monks, lay folks, students, foreigners, and for the last week a single nun.

The Songkhla Lake Dhamma Walk was conceived and planned by national and local members of *Phra Sekhiyadhamma* with help from Southern NGOs, village leaders and some government officials. *Phra Sekhiyadhamma* is a small but growing network of grassroots monks struggling to integrate our study and practice of *Buddha-Dhamma* with responsibility for the communities, culture, and society we see crumbling around us. Modernity brings many wonders but we ponder why so much is destroyed in exchange. Further, we ask why the poor ordinary majority of the people seem to pay the most for and benefit the least from the wonders of “spinning according to the world” (the literal meaning of *lokanuiwat*, the most common Thai translation for globalization), while having little or no say in the decision making. We believe that Buddha-Dhamma is relevant to all forms of suffering, including these. We believe that Sangha is more than yellow-robed shavelings chanting for meals and ought to be a “Sangha of the People” fully engaged in solving their communal, ecological, and economic

problems (*dukkha*). (It is still too controversial to suggest that monks might have a role in solving political problems, although senior monks have been meddling for centuries and local monks are allowed to broker villagers' votes in so-called "elections.") We dedicate ourselves to "the *Dhamma* for training ourselves" (the literal meaning of *sekhiyadhamma*) that enables us to effectively serve the Triple Gem and all beings within the present realities and structures of *dukkha*.

Our network organized the walk to test the value and effectiveness of peace walks as a form of moral persuasion within Thai Buddhist & Muslim cultures. Our first goal was to help bring attention to the dilemma of the lake, Siam's largest and uniquely complex and prolific ecosystem. In doing so, we wanted to establish a middle way between protest marches and apathetic silence. Some of us see ever more violent clashes over natural resources in Siam's future and hope that monks, nuns, and other Buddhist leaders can help mediate just and peaceful resolutions. A second goal was to help build up the peoples' network around the lake in order to give them a greater voice in working out policies and projects. We see a natural role for monks as facilitators of such a network and wanted to encourage such participation from local monks. A few were already involved in their own areas but not yet effectively cooperating with other monks, village leaders, and NGO workers in other parts of the lake. Lastly, we wanted to identify local monks who would be willing to join us in our engaged Buddhist work, both around the lake and on national issues.

We were moderately successful in these goals. We stirred up publicity for the lake and the voices of the people living close to it (see below). We were accepted and praised by some senior monks, while no serious criticisms arose. We were blessed with the presence, sharing, and advice of Samdech Mahaghosananda from Cambodia. A precedent has been set. And the strands of a Songkhla Lake *Sekhiyadhamma* that is able to work with the peoples' and NGO's

networks are being woven together. The progress may not yet be large but it is nonetheless significant. New ground has been tilled. It was our first large-scale activity. Finally, we proved that such walks are possible here and that they have potential for popularity.

THE ISSUES

We generally presented ourselves to the people living around the lake as concerned "outsiders" who wanted to learn more about what the residents themselves thought than to offer our own analysis and solutions. We wanted to strengthen the voice of the lake's people, especially the poor and marginalized. Here, we must be forthright about a certain bias *for* the poor community members, while trying to avoid being *against* the developers, land speculators, factory owners, middle-class suburbanites, and others who are slowly buying off, tempting away, and pushing out the locals. The latter group already has a voice, plenty of influence, and significant political-economic power. We are not against them and are delighted to have some of them with us. (Most of the lay walkers were from middle-class urban lifestyles.) Yet it is crucial to create a space in which the ignored members of society the intimidated and downtrodden silent majority are encouraged to speak. Only then can there be true dialog and democracy on the issues facing us all (even *farang* like myself).

The issues we heard, then, from representatives of the people were many. I will summarize the main five.

(1). No fish to eat. The amount and diversity of fish and shrimp have deteriorated grievously, especially within the last 3 to 5 years. Many species have disappeared, including delicious ones. We heard stories of bow fish used to jump into people's boats, there were so many! People blamed the problem on over-fishing (by themselves and others); use of intensive fishing technologies,

such as drag nets, electric shock and poison; fishing during the spawning seasons; and the deterioration of the water (see below). Manmade disruptions in the normal circulation of sea, rain, and brackish water through various channels between the sea and lake have interfered with the migrations of the fish fry that swam in the once interchanging currents. Destructions of mangroves and other spawning grounds due to “development” and prawn farms has cut the bottom out from under efforts of the marine life to reproduce.

(2). Bad water, and there isn't as much water as there used to be. Depending on your perspective, the water is either much more shallow than before, the bottom is silting up, or the whole system is drier. Further, the remaining water is dirty and unable to clean itself naturally. Erosion due to deforestation on the mountains has to the North and East, the conversion of wetlands to rice fields, and the building of roads has led to dramatic levels of siltation. The pollution from towns, factories, agricultural chemicals, and tiger prawn farms has poisoned the water in many places. In some places, bathers end up with skin rashes where not long ago the water was potable.

(3). Theft of water. Increasingly, water is taken up for urban and industrial uses resulting in less drainage into the lake. Had Yai, in particular, is the primary excuse for a dam that most of the lake people do not want. This is on top of the use of lake water for irrigation some parts of the lake and tiger prawn farms in others.

(4). Loss of land: With the spread of Had Yai and other large southern towns, increasing land is covered with concrete subdivisions. Wetlands are turned into “Songhia Lagunas” for the middle class (while former residents are denied entry or even passage through these new “villages”).

(5). Breakdown of community. With the loss of traditional livelihoods, the siphoning off of the young into towns, relocation of homes to the new roads, domination of former village leaders (“headmen”) by government, and the deterioration of the Wats, the lake's communities have little strength left to hold them together. Too often, the unifying factor is the lack of opportunities elsewhere. This is a tragic dilemma for a society to impose on its people, to deprive them of old joys, bonds, and strengths while denying them new ones. Seeing this convinced many of us that ecological problems are inevitably cultural and moral problems with profound cultural and moral consequences.

In addition, let me add a couple observations of my own. I was shocked to find that the area we passed through at the beginning of the walk, the northwest shore of the upper lake, which had been converted from rich and diverse flood forests into rice fields, was as poor as areas in Siam's Isaan. Isaan, the Northeast, with poor soils, a harsher climate, and more patient, docile, happy-go-lucky inhabitants is the poorest part of the country, while the South is much richer in resources and incomes. What was such poverty doing here? The common denominator was rice! Farmers have been taught to deplete their soils and invest in chemicals. If they only kept books they would realize that there is no way they can make a profit on the rice crop. Thus, poverty by policy.

There is not yet a strong enough coalition of peoples' leaders to arrive at the people's consensus needed to save the lake and its human resources. In fact, we often heard villagers in one area blaming their difficulties on their peers in another part of the lake. We suspect this is encouraged by some government agents. We tried to be a channel through which villagers could begin to hear each other and begged them to visit their counterparts around the

lake. Thus, in identifying the main issues of the people, and in a more detailed analysis to be published in Thai, we are hoping to work towards such a consensus in order that the people themselves will have a determining role in the activities undertaken to preserve the lake's ecosystem and cultural systems. The basis for such a comprehensive approach is:

1. Dialogue among village and religious leaders from all around the lake.
2. Collective analysis of the problems and their causes.
3. Freedom from domination by the government, politicians, and business interests (although they must be brought into the process eventually).
4. And a solidarity plan of action determined by the people themselves, supported by NGO's and the government, with the moral guidance of engaged religious leaders.

Such an approach will not happen easily. The people have been effectively brainwashed against such action.



WALKING LESSONS LEARNED

In addition to what we learned about the lake, we were forced to learn and rethink about the walk itself. There were surprises and disappointments. Let me mention a few of the main ones.

1. There is always the danger that such walks will be seen merely as a "protest walk" and rejected. A walk led by monks would come under much criticism for overtly protesting, especially when many of us were from outside the area. Fortunately, we were able to establish a "middle way" of walking. Our role was to listen to the people rather than tell them what was going on and what to do. We avoided taking sides (although individual walkers often had their points of view).

2. With monks in the lead, a number of Buddhist customs and traditions came into play. Some were unexpected, even troublesome. At times, we didn't know what to do with the flood of food and the expectation of a sermon delayed our setting out until the sun was full up in the sky, that is, blazing hot in the middle of the hot, dry season. On the other hand, lots of people came out to see us, motivated by *saddha*, and raised our spirits.

3. We were warned to avoid the word "environment" by Ven PA Payuddho, Siam's leading scholar-monk and an advisor to Phra Sekhiyadhamma. He feels that the word, betraying its Western origins, separates human beings from the rest of Nature. In Buddhism, we ought to speak of Nature or ecology inclusive of everything, especially ourselves.

4. People kept giving us water bottled in throw-away plastic. We had not taken precautions to avoid this and similar ecologically destructive habits.



5. Those who came out to the Wats and joined us on the roads were primarily the old. This partly reflects the reality of village Buddhism; it is trapped in a time no longer relevant to the young. It also reflects the economic reality where young people are collected in pickup trucks to work in fish & prawn packing factories. We must be very creative in reaching out to all members of the community.

6. Many of the old people were delighted to see us walking. In their youth, everyone walked daily. A ten km trip to the market was ordinary. Now, the young need motor-scooters to get anywhere. It was much harder to get the young to join us for a stroll to the next village than the old folks.

7. As a minority of the community around the lake are Muslim, we hoped to involve them in the walk, too. With some exceptions, we were not very successful in this. The exceptions give us hope that we will do better next year. Especially as the monks (*Phra Sekhiyadhamma*) will share more of the organizing with local groups. Perhaps a few Muslim leaders will join us in reflections about the walk.

8. There has been little experience of monks and NGO's working together beyond the personal level. This was the first time we knew of that a group of monks worked with NGO's to plan a large-scale activity. A lot of learning and unlearning was required. Different working cultures, turf battles, prejudices about each other, communication styles, and the like only got in the way, but in the end, we found that we can work together in the spirit of Dhamma. Sometimes the monks were able to help the NGO workers to let go of an attachment, sometimes it was the other way around.

9. We were let down by some senior monks and our own Abbot (the chief organizer lives with me here at Dawn Kiam) who tried to talk us out of the walk. Paradoxically, one of them, a nationally respected preacher, has frequently praised Gandhi over the years, but in typical monkish fashion divorces Gandhi's actions from his words. Beautiful ideals are OK, but please don't stir up any trouble by putting them into serious practice. Yes, friends, Thai Buddhism is dying of hypocrisy masquerading as "objective Dhamma teaching." Still, there is a growing movement trying to breathe life back into the not-quite-corpse.

10. Walking together gave many opportunities for making friends, sharing hardships & joys, learning, and growing in Dhamma. These opportunities can be nurtured with good group process, which must be adequately prepared in advance. When we were able to include time for inter-personal work within the group, the results were satisfying and conflicts dissolved. The many friendships forged and strengthened are an important sign of the walk's value.

BUDDHIST REVIVAL

At heart, *Phra Sekhiyadhamma* is working for a revival of Thai Buddhism. We fear that the current hierarchy, used by politicians and bedazzled by the wealthy, is leading Thai Buddhism down the tubes. Along the walk, we saw pathetic signs of decay. Wats cluttered with garbage left over from festivals. The festivals put on by businessmen, not community members, who make big profits off of the gambling and drinking (and give the Wat a percentage). Monks hanging out all day with cigarettes drooping from bored lips and eyes gazing blankly. The Wat's crockery tossed into back rooms with no respect for the donors. Many Wats with just one octogenarian monk unable to look after the place or to

communicate with people less than half his age (they lived in different worlds, eras).

Yet all was not hopeless and doomed. There were well kept Wats and on-the-ball monks here and there. The people came out in mass at Wat after Wat to greet and feed us. Seeds of faith remain, but must be watered with Dhamma teachings and cultivated with community development. Thus, we see grassroots engaged Buddhism as one way to salvage what is alive in the tradition and adjust to the future. It is a crucial element in any reversal of the cultural decay that is taking the Thainess (“Siamness”) out of Thailand. The basic responsibilities of study, meditation, and service must be rejuvenated and encouraged in all monks, especially the young, and often aimless, ones. Then they will be able to find their way in partnership with the people. Although we did not find many nuns, they, too, must be supported to grow into a meaningful role within the temples and communities.

NEXT YEAR

Throughout the walk, villagers asked if we would be back next year. My reply was always, “It depends on whether local groups care enough to do the organizing.” At the closing, the walkers themselves overwhelmingly wished for another walk next year. Some even wanted two: a second around the Lake and another elsewhere in Siam (tragically, there is plenty of ecological & cultural destruction going on in this “Tiger Cub”). Southern NGO’s have agreed to help organize it, so plans are already underway for next year (mid-April through mid-May). Only four years behind our Khmer friends, *Dhammayatra* is now set to be enshrined as a legitimate form of social statement in Siam. With popularity, however, will come the danger that the Dhamma is watered down or filtered out by interest groups. For

this reason, *Phra Sekhiyadhamma* and its friends will remain mindfully vigilant.

Lastly, it is clear that the presence of foreigners—American, Bangladeshi, Chakma, Australian, Haitian, Canadian—helped to spark interest among local residents and to spread the word to other countries. Thus, we invite you all to join us next year. Perhaps you could walk with us for a week or two of Dhammayatra II, then join the Cambodians for part of Dhammayatra VI.

And Si Nuan, our mascot, will probably be there, too. She has been adopted by Phramaha Jaroen Dejadhammo, the leading activist monk at the south end of the lake and is being pampered, or prepared for next year. She was a bit ragged at the end, too, but her tail kept wagging and she joined all the meetings. (Santikara, 1996)
(End of case study)

APPROACHES TO PUBLIC PARTICIPATION

The Deep Ecology movement can often be considered a response and resistance to the excesses of the exploitative use and destruction of nature through human domination. As a visionary movement, it encourages community building, bioregional approaches, culture of place, and public participation activism. Ecological resistance actions can be considered creative public participation to protect biological and cultural diversity as well as to draw attention to agents, institutions, and their impacting activities which threaten this diversity. Deep Ecology activists are committed to creating sustainable alternatives based on the integrity of ecosystems and a joyous vision of healthy and natural interrelationships.

The Deep Ecology movement strives to transform biologically and socially destructive world views and behavior of modern civilization into life supporting activities on a holistic and value

basis for spiritual, intellectual, psychological, and social arenas. The Deep Ecology movement draws on insights and liberation factors of other ecological resistance movements, including ecofeminism, anti-nuclear, social justice, peace, and animal rights movements. (Roberts and Amidon, 1996)

The belief that we are all part of all living things kindles an awareness that destruction of any part of the environment is a personal injury. Destruction of the Amazon rain forest wounds the stock broker living in New York. Pollution of a river in Ohio diminishes the life of a monk in the mountains of Tibet. Extinction of a species in Africa alters the life of a baby born today in Charles City, Iowa.

Public participation in environmental assessments, planning, and decision-making has become increasingly important in recent years. Up to now, public participation in conservation decisions has been rare and inadequate. Consequently, the decisions being made may not reflect sufficiently the experience, values and wishes of the people affected, and the benefits of the program or project may be fewer than expected. Lack of awareness of the benefits of conservation and of its relevance to everyday concerns prevents the public from seeing the urgent need to achieve conservation objectives. Ultimately, ecosystems and species are destroyed because people do not see that it is in their interests not to destroy them.

Participation tends to build public confidence and improve the public's understanding of management objectives. It provides additional data for planners and policy makers. Public participation is particularly important in rural development, for without the active involvement of the people—including identification by them of the problems that most need tackling and how to deal with them—little can be achieved.

Effective planning and implementation require specific information of the sort only local people can provide efficiently. . . . people usually cooperate more willingly in decisions in which they have participated. Integration of activities and services created under government auspices are those identified as more important and valuable. "The judgment of the people affected by development programmes is essential for the evaluation of such programmes." (IUCN, 1980)

To be successful, a country's environmental management effort must enjoy a high level of public support. This is particularly true of initiatives which affect the rural and urban poor. The importance of programs for forest protection, sanitation, family planning, pesticide management, and the like must be understood by citizens if long-term success is to be realized.

Many developing countries may use mass media to generate popular support for environmental management programs. In many areas, however, it may be fair to say that the most important stimulus to public support has been the public's direct experience of the consequences of inadequate environmental management.

Ultimately the behavior of entire societies towards the biosphere must be transformed if the achievement of conservation objectives is to be assured. A new ecological ethic, embracing plants and animals as well as people, is required for human societies to live in harmony with the natural world on which they depend for survival and well-being. "The long-term task of responsible societies is to foster or reinforce attitudes (values) and behavior compatible with this new ethic." (IUCN, 1980)

Until people understand *why* they should safeguard the environment, they usually will not do so.

Some overall objectives for public participation should include:

- (1) to promote public involvement in planning and actions with emphasis on the non-technical aspects.
- (2) to keep the public informed about significant issues, problems, and changes in programs, associated values and alternatives.
- (3) to make sure that government and personnel understand public concerns and values and that they are responsive to them, including public identification of issues and alternatives.
- (4) to demonstrate that the government and agencies consult with affected segments of the public and takes public viewpoints and values into consideration when decisions are made.
- (5) to foster public involvement in identifying problems, laying out and exploring alternatives, and setting forth a preferred alternative.
- (6) to foster a spirit of mutual trust, support and openness between government and the public through contacts for public participation.

The following represents a random list of some techniques available for public participation, as adapted and summarized from the U.S. Forest Service, *A Guide to Public Involvement in Decision Making* and the National Park Service, *Public Involvement in Planning*.

(1) Formal Public Hearings: Formal hearings produce official hearing records of all information presented by all individuals, groups, and organizations. Although public hearings comply with legal requirements, they tend to involve high costs for recording, slow down the decision-making processes, and often intimidate the general public. Thus, public hearings are often employed because they are officially required.

(2) Public Meetings: Open public meetings permit participation by all interested people. They may involve panel discussions and public forums. The former provide expert testimony and information to the public on complicated issues in a number of professional areas. A panel of experts can provide the public with all information pertinent to a plan or decision. A public forum is organized so members of the public can present their viewpoints, critiques and proposals to other people and to the agency itself. The stage for public forums should be set with a brief presentation of facts upon which the decision can be based. A group of alternative solutions with or without their pros and cons may be introduced. Clear guidelines, time limits, and “rules” should be given to those making presentation so that all have adequate time and orientations. All participants should be free to ask questions and make their views known.

(3) Guided Workshops: These provide an opportunity for public discussion, debate and clarification of issues, proposed actions, and consequences of actions. If values, self-interests, and arguments are expressed, it is possible to correct rumors, create mitigating elements, and provide information. Public opinion is seldom organized or consistent over time and guided workshops

create an opportunity for public judgment to crystallize and become consistent. Decision-making can be eased to the extent that the atmosphere of public opinion is clear.

A guided workshop is characterized by two activities: facilitation of commentary and recording of ideas. Facilitation is a method of verbal communication intended to clarify messages by reducing distracting effects. It serves to check the accuracy of what is being heard. Recording is the creation of a written record of the points which are being made. This is usually done with a large notation pad completed in full view of the people in attendance. The joint efforts of facilitating and recording are to maintain a focus on the topic issues and to avoid ambiguity.

(4) Informal Small Group Meetings: These can be invitational meetings with interested individuals or groups. A series of meetings may be necessary to cover the variety of groups as well as to keep the attendance small enough for informality and thorough discussion. The subject matter covered and the format of the meetings should stick to the basic issues. Informal meetings are productive if they are used early in the decision-making process,



especially when personnel are gathering information and developing alternatives. This technique permits concerned people to participate and to have a meaningful input at a time when informed points of view are most helpful.

(5) Advisory Committees: An advisory committee (board or commission) is a standing body formally established to advise or make recommendations. The background knowledge and the understanding of policies and programs of a committee allows it to provide sound advice. It should represent a wide range of groups and interests. Advisory committees can be very effective as a sounding board for proposals and as an indicator of public attitudes and interests. However, the selection of members may introduce bias so that the membership may not represent the entire range of the public interests. Regularly scheduled meetings of advisory committees can provide a continued forum for disseminating information, clarifying issues, obtaining advice, and gaining support.

(6) Ad Hoc Committees: An ad hoc committee is a temporary committee to address specific issues and recommend solutions. When an issue is resolved or recommendations completed, the committee is dissolved. Committee recommendations can be by majority, consensus, or expression of individual points of view. Selection of membership should be oriented toward fair representation from sources and views that reflect general public opinion.

(7) Working Groups: A working group consists of a manageable number (usually under twelve) of motivated members of the general public who want to be involved in the long term management and planning of an agency or governmental area. The group has autonomy and no formal relationships with the agency. Ideally, the working group will have a spectrum of viewpoints associated with the diversity of its membership. The working group is usually served by a

resource person from the agency or organization. This individual basically supplies information. The agency assigns tasks to the working group and indicates that their inputs will be considered in decision-making. After various meetings, the working group presents its consensus recommendations in the form of written responses to the tasks after studying and discussing the issues and working out their own intergroup compromises.

(8) Key Contacts: Advice obtained from key knowledgeable individuals about public issues provides counsel worthwhile to the decision-making process. Key contacts include people who are opinion leaders within the local community or region such as elected or appointed officials, media representatives, active members of organized groups, businessmen, and respected citizens. Too close a relationship with a few selected individuals should be avoided so that opportunities for the broad solicitation of public points of view are not overlooked.

The emphasis should be on gathering their opinions and values about issues, ideas, etc., while not asking them to support any position. Strengths of key contacts are: (a) input and valuable insights can be obtained from informed, influential people who can often indicate important aspects of public opinion; (b) key people can inform others about issues and stimulate input; (c) the involvement of key people can contribute to public understanding and acceptance of decisions; (d) input can be obtained personally, and in depth and detail; and (e) they are sounding boards for ideas, issues, or approaches before they are finalized.

(9) Letter Requests for Comments: Letters can be very effective when the individuals contacted have the necessary knowledge of the issues. Letters should address the broad interests and not be limited to the local area. Letters may be used with other methods to provide a public feeling of involvement to assure good decisionmaking. For example, fact sheets on development and/or management alternatives can be included in the letters. Follow-up on letter contacts and responses is essential.

(10) Show Me Trips: Field trips early in the planning stage are very effective in involving the public and assuring an understanding of the issue(s). Show-me trips set the stage for quality and meaningful participation. Interplay among participant help clarify the issues and identify possible consequences. Show-me trips require detailed preparation, and trial runs are advisable.

(11) Personnel Contacts with Public: Many organizational personnel routinely contact the public in carrying out their jobs and through community activities. For example, personnel serving on local and regional committees have excellent opportunities to influence planning on regional or community projects, and to acquire information on current attitudes and interests of local and regional people by listening to their comments. Personnel need to be thoroughly informed so they can be a valuable bridge to greater understanding.

(12) Standard Information Techniques: Standard information techniques include: (a) the type of audience to be reached, (b) the length of time available to prepare materials, (c) the amount of detail expected to be covered, and (d) the scope of the audience to be reached.

Several different information techniques can be used to fit the situation, such as visual aids, pamphlets, flyers and feature articles. The multiplying factor of newspapers, TV, radio and magazines will greatly expand the scope and impact of any message. Press releases, for example, can invite comments to assure that anyone may provide input into the decision making process. The news media may require background facts with which to inform the public, or may print a statement for which additional information can be obtained by writing the agency. Individual responses to press releases provide opportunities for input and follow-up.

The above techniques can be adapted and used in environmental education sessions dealing with public participation and related training areas. Role playing, with the participants acting out roles of group leaders or officials, can enhance understanding and increase skills of many of the techniques, including switching roles. Demonstrations of selected techniques using local people and situations can also be valuable. Case studies and audio-visual materials may be used to illustrate the above techniques. Environmental education can provide a basic orientation for public participation activities and techniques, particularly with emphasis on values and Deep Ecology.

A government agency generally may try to maximize public values within the limits of its policy, values, and management. The values of a given agency will seldom be represented by any single segment of public input. However, a value approach would permit greater responsiveness to public values.

Following a public participation program or time period, agency personnel must interpret public responses so that their decision making can use it effectively. They should review all oral and written inputs. Informational categories can be developed to provide

personnel and interested parties to evaluate the public input. Categories might include the following:

Who is replying to the issue or proposal under consideration? Is it the general public, developmental organizations, conservation organizations, key people, or others?

What are they saying? Do they agree or disagree with the matter at hand or are their opinions (values) coupled with no important qualifications? Skimming letters and other written responses is helpful in determining the numbers and categories that may be needed.

Why are they saying what they do? Understanding the motivation (values) that underlie a person's stand may prove useful to the administrator. It may provide insight as to the gaps in public knowledge and understanding of management goals and conservation. Thus, it may also suggest directions for public environmental education programs of the agency.

Where are the responses coming from? The geographical location of the letter writer can demonstrate the spatial extent of public concern. This, in turn, can provide personnel with some notion of how local versus non-local residents perceive and understand the problem at hand. Analyzing responses may also indicate where positive or adverse responses are coming from. For example, the majority of support for a development proposal may come from a local industry.

The evaluation and interpretation of public input is an art rather than a science. It can be qualified and objectively analyzed only in parts. Then the decision-maker must evaluate it qualitatively on an "art" basis. This is basically value interpretation and analysis to seek the overall "truth" and honesty in a creative manner. Thus, a value approach permits the identification and analysis of public inputs in terms of value considerations for decision-making.

Training in communications is very important. Communication “gaps” create vagueness and uncertainties which negatively affect public participation and increases the conflict between values and issues. These problems are difficult to resolve.

It is essential to identify and surface, at the earliest stage of public review, the difficult problems and thorny issues that have the greatest potential for causing public concern and reaction. By urging the public to have the fullest and (earliest) possible involvement and input in developing alternative solutions, it is possible to build open lines of communication and trust for effective public participation.

But much depends upon what is our hearts and minds as noted by a statement by Phra Prachak, a Buddhist Forest Monk who lead us on a Deep Ecology walk in Dong Yai National Forest, Thailand, in December of 1994:

Many of us have heard the Buddha’s teachings and understand them here, in our minds—but not in our hearts. It’s the same with the environment. We hear of its importance. We know that it is a home for the animals and trees, which also give us fresh, cool water. But the problem’s in our talking as if there is a difference between the environment and ourselves.

Meditation, the process of self-examination, teaches us the natural law of impermanence. It teaches us about the inter-relatedness of all things. And when we truly see and understand this in our hearts, we see the forest as something more than something which needs to be protected or something useful. The forest is life itself. It is us and we are it. When we destroy or harm the forest, we are doing the same thing to ourselves. And without the forest, it will not be possible for us to fully understand our proper place in the world. We simply will not survive. (Prachak, 1994)

A DOVE IN THE FOREST (old Jataka Tale)

A long time ago, there was a thick forest. Trees were fresh and deep. The air was crystal clear; it was sending the echoes of birds singing a beautiful melody, enchanting comfortable life there. The sky was so blue and open. The forest was full of grace, hope and peace. In this forest, there were thousands and thousands of creatures living together as one in harmony with nature.

One day, a dove flew over the forest to look for food for its babies. When she returned, the dove saw a big fire rising up in the forest! All the living creatures, including birds, animals, plants, and flowers were trying to escape, desperately crying for help in this terrible disaster.

The dove was astonished to see this happening, yet had no time to think. She immediately flew off to a lake far away. When the dove arrived at the lake, she jumped into the water and had its body completely soaked. The dove flew up again and hurried into the burning forest. Flying back to where the fire was blazing briskly, the dove shook its body and dropped a few portions of water. Then she took off to a long flight to get to the lake again. In this way, the dove made many trips between the lake and the forest.

The Heaven above, upon watching what was happening in the forest on the earth, asked the dove,
“Do you think that you, of humble body, can stop the fire with those few shakes of water?”

The dove answered,

“The fire must be stopped as soon as possible. There are children. There are my fellows. And there is the very forest who nurtures all of our lives. Everything is caught in a big fire now. I have something to do. I will continue making trips this way, until I die.” Eventually, the earnest wish and the prayer of this one little dove was taken to the Heaven. a heavy rain was brought to the forest and the fire ceased. The forest returned to a peaceful, beautiful place which it once was.

APPENDIX : A

GLOSSARY OF TERMS (Dhamma and Ecology)

ACCULTURATION: The processes and results of external change imposed on a human population with loss, or degrees of loss, of traditional social and cultural->VALUES and institutions.

adhithana: Pali = strong determination (->parami).

AEROBIC: Life or process that depend on the presence of oxygen. (->ANAEROBIC)

AESTHETICS: Considerations, values, and judgements pertaining to the quality of the human perceptual experience (including sight, sound, smell, touch, taste and movement) evoked by phenomena or components of the environment (Buddhist->ayatana).

ahimsa: nonviolence, peaceful attitude towards all beings, part of first precept of not-killing (->pancha sila;->sila).

ANAEROBIC: Life or processes that occur without free oxygen or in absence of air (->AEROBIC).

anapanasati: mindfulness of breath, meditation teaching from satipatthana sutta.

anatta: Pali, no-self, teaching that all manifestation of mind and matter is void of any permanent self or soul, one of the three characteristics of existence (->anicca,->dukkha)

anicca: Pali, impermanence, one of the three characteristics of existence, (->anatta,->dukkha)

ANTHROPOCENTRIC: A view conceiving of everything in the environment/ universe in terms of human values, ends, or aims without recognition or consideration of other forms (plant or animal) of life or responsibilities thereof. Interpreting reality (environment) exclusively in terms of human values, interests, and experiences (->ECOCENTRIC).

ANTIBIOSIS: The process during which the growth of one species of organism inhibits another (->SYMBIOSIS).

AQUATIC LIFE: Growing or living in or frequenting water (plants and animals).

arahat: lit. “worthy one”, one who has realized the highest truth and destroyed all his mental impurities.

ASSOCIATION: All organisms occupying a given habitat (->COMMUNITY).

AUTOPOIETIC: self-creating or self-generating, i.e. something which brings itself into existence.

avijja: Pali = ignorance, delusion, being the cause of the chain of dependent origination (->paticca samuppada), one of three principal mental defilements (->dosa,->raga)

ayatana: Pali, 'sphere'. The six spheres of perception and their corresponding objects: (1) eye and visible form; (2) ear and sound; (3) nose and odor; (4) tongue and taste; (5) body and tangible things; (6) mind and mind objects (->AESTHETICS).

BASIC NEEDS: Necessities required for satisfactory human existence, such as food, shelter, clothing, good health, education and creative employment (->QUALITY OF LIFE).

bhavana: Pali, mental development, meditation (bhavana-maya panna: wisdom as a result from direct experience)(->samadhi).

bhikkhu: Pali, Buddhist monk (bhikkhuni: nun)(->sangha).
BIOCENOSIS: A loosely defined group of interacting organisms occupying the same habitat and utilizing the same resources.

BIODIVERSITY: The biological complexity of species of organisms of an->ECOSYSTEM, the numbers of species in a community or region. In many instances, the ecosystem becomes more stable as diversity increases.

BIOMASS: The amount of living matter in the->ENVIRONMENT. It is usually expressed as the weight per unit area.

BIOME: The complex of communities maintained by the climate of the region and characterized by a distinctive type of vegetation. A major biotic community composed of all the plants and animals and smaller biotic communities, including the successive stages of the area (->BIOREGION).

BIOREGION: a particular area of natural environment with its characteristic plant, animal or human life, i.e. forests, lakes, mountains etc. (->BIOME).

BIOSPHERE: The portion of the earth and its atmosphere capable of supporting life. The thin covering of the planet that contains and sustains, extending from up to 6,000 m above to 10,000 m below sea level.

BIOSPHERE RESERVES: Protected land, water, and/or coastal environments that, together, constitute a world-wide network of scientific information and include significant examples of natural->BIOMES and/or unique, representative biological areas throughout the world.

BIOTA: All living organisms, both plant and animal, that exist within a given area or period.

BIOTIC POTENTIAL: The inherent capacity of an organism to reproduce and survive, which is pitted against limiting influences of the environment.

BIOTOPE: The smallest geographical unit of a habitat, characterized by a high degree of uniformity in the environment and its plant and animal life; e.g., a decaying stump.

BIOTYPE: A small geographical unit occupied by a community of plants and/or animals and characterized by a high degree of uniformity.

bodhi: Pali = enlightenment (->bodhisatta). 'Ficus religiosa', the Bodhi Tree, a tropical tree under which Buddha reached enlightenment.

bodhisatta: one who has tasted the spirit of enlightenment but has vowed not to leave the cycle of rebirth before with his help all other beings have reached enlightenment as well.

Buddha: Pali., the awakened one; title given to a person who has found the path of enlightenment, has practiced accordingly and realized the highest goal through his own efforts.

BUFFER ZONE: A designated land or water area along the edge of some land (often nature or other reserves) use, whose own use is regulated so as to absorb, or otherwise preclude unwanted development or other intrusions into areas beyond the buffer.

CARNIVORE: An animal that feeds chiefly on other animals (->HERBIVORE).

CARRYING CAPACITY: The maximum number of living things that can be supported indefinitely by a given->ECOSYSTEM or area without deterioration. The limit as to the number of individuals of any one species that can be maintained in a particular->ENVIRONMENT during the "pinch" period (dry, winter, etc.) of the year.

CASE STUDY: Deal with a problem or situation that has existed or that now exists in an organizational context. The problem or situation typically involves a decision that needs to be made or has been made. Case studies require analysis and offer opportunities and participation for learning from another's experiences as well as developing generalizations and understandings for other situations/problems.

CASUAL SPECIES: Species which occur rarely or without regularity in a given community.

CHLOROPHYLL: Green pigment found in algae and higher plants, located in chloroplasts, which capture light->ENERGY and enable plants to maintain->PHOTOSYNTHESIS.

CITES: Convention on International Trade in->ENDANGERED Species of wild plants and animals. Composed of various nations and has a regulatory network to control trade of endangered species on a world-wide basis.

citta: Pali, mind.

CLASSIFICATION: Biological classification is based mainly on structural criteria and arranges organisms in a hierarchy of groups; species; genus, family, order, class, subphylum, phylum, subkingdom, kingdom.

CLIMATE: Long-term weather conditions and factors peculiar to a given environmental segment/area due to its geographical situation. One of the major factors that determines the distribution of plant and animal species on the earth.

CLIMATIC STRESS: At the level of exchange between the organism and the->ENVIRONMENT a geographic boundary will establish at which the stress cannot be overcome by an organism.

COMMUNITY: All the plants and animals in a particular habitat that are bound together by food chains and other interactions that are self-perpetuating.

COMMUNITY/CLIMAX: A relatively stable, biotic community that appears to perpetuate itself in the absence of disturbance. The final, culminating stage of ecological succession for a given environment.

COMPETITION: An interaction involving two or more organisms trying to gain control of a limited resource/factor. Potentially may have negative impact on the less effective organism in the rivalry. Competition may be interspecific (exist between different species) or intraspecific (exist between individuals of the same species).

CONSERVATION: Management of the->BIOSPHERE so that it may yield the greatest sustainable benefits to present generations while maintaining its potential to meet the needs and aspirations of future generations.

CONSERVATION/LIVING RESOURCES: Processes to: (a) maintain essential ecological processes and life support systems, (b) preserve genetic diversity (range of genetic material found in world's species), and (c) to ensure the sustainable utilization of species and->ECOSYSTEMS.

CONSERVATION OF MATTER: The principle that matter is neither created nor destroyed during any physical or chemical change (->CONSERVATION).

CONSUMERISM: One of the major factors for exploitation of natural resources and environmental pollution. Industries produce cheap mass products of poor quality or limited use to encourage future purchases of these throw away products.

CONSUMERS: Organisms of a food chain which feed upon other organisms. Usually classified as primary consumers (->HERBIVORES—plant eating), secondary consumers (->CARNIVORES—animal eating) and micro consumers (microorganisms—decomposers).

COORDINATED APPROACH: Effective communications and “working together” of various organizations, groups, individuals, and disciplines on a cross sectional basis toward environmental goals and problems. A coordinated approach (and arrangements) bridges the gap, deals with neglected areas, reduces conflicts, and avoids duplications.

COSMOS: The universe considered as a harmonious and orderly system.

COUNCIL OF BEINGS: Creative and imaginative environmental education exercise, where the participants associate with a particular non-human being and speak out for its rights, aiming at raising people's consciousness towards the interconnectedness with all beings and the latter's inherent right for their own struggle for survival without human interference (->DEEP ECOLOGY,->interbeing).

COVER: Plants and/or other objects used by animals for feeding, raising of young, and protection from->PREDATORS and adverse environmental conditions.

CULTURE: The complex whole of knowledge, achievements, technology, traditions, perceptions, customs, values, habits, and other capabilities of society and human inherited traditions and patterns. Culture influences societal/individual behavior and its environmental relationships.

CULTURAL ECOLOGY: Study of human relationship to the->ENVIRONMENT, including the adaptation of culture to the habitat.

CULTURAL RESOURCE: Any building, site, district, structure, or object significant in history, architecture, archeology, culture, or science.

dana: Pali = charity, generosity, donation

DECIDUOUS: Falling off at an end of a growing period (season) or at maturity, as some leaves, antlers, insect wings etc. Commonly used term to distinguish trees which shed their leaves as opposed to evergreens which retain their leaves.

DECOMPOSERS: Organisms, usually fungi or bacteria, which use dead plants/animals as sources of food by breaking them down and releasing minerals and nutrients.

DEEP ECOLOGY: Ecological approach which correlates with a deep spiritual and value(s) understanding of nature, endowing equal rights to all living beings;->ECOCENTRIC (as opposed to->ANTHROPOCENTRIC) view, which relates to the Buddhist concept of ->interbeing.

DEFAUNATION: Destruction of animals in terrestrial->ECOSYSTEMS; elimination of life in aquatic systems.

DEFORESTATION: Permanent removal of forest and its undergrowth to transfer area into other uses.

DENSITY: (1) Number of a given species per unit area and time, (2) The ratio of the weight of an object to its volume, e.g. density of wood.

DESERTIFICATION: The gradual destruction or reduction of the capacity of drylands (low rainfall with high evaporations) for plant and animal production due to the inherent vulnerability of the land and to the pressure of human activities, e.g., overgrazing, deforestation, poor soil management, etc.

DESPAIRWORK: Developed by Joanna Macy, based on the experience, that facing the environmental crisis leaves many concerned people in feelings of apathy, hopelessness and despair. Despairwork aims at confronting, accepting and transforming such emotions into hope and active care in the field of environmental protection (->DEEP ECOLOGY,->COUNCIL OF BEINGS,->EVOLUTIONARY REMEMBERING).

DEVELOPMENT: The modification of the->BIOSPHERE through the application of human, financial, living, and non-living resources to satisfy human needs and to improve the quality of life.

DEVELOPMENT/SUSTAINABLE: Integrates->DEVELOPMENT and conservation of living resources. Sustainable development comprehensively takes into consideration social, ecological, and economic factors, the living and non-living resource base as well as short and long term advantages and disadvantages of alternative actions.

dhamma: Pali, nature, the law of nature, the truth, the teaching of the Buddha.(Sanskrit: *dharma*)

dhatu: Pali, element, the four elements are: earth (weight), water (cohesion), fire (temperature), air (motion).

DIVERSITY: The number of species per unit area or volume. Areas of high diversity are characterized by high numbers of species, e.g.,->TROPICAL FOREST.

DIURNAL: Occurring every day, generally in daylight. Diurnal animals are generally active only during the daylight hours.

dosa: Pali, aversion, one of three principal mental defilements (->avijja,->raga).

dukkha: Pali, unsatisfactoriness, suffering, one of the three characteristics of existence (->anicca,->anatta).

ECOCENTRIC: Understanding that puts nature as a whole into the center of our experience (>ANTHROPOCENTRIC;->DEEP ECOLOGY)

ECOCIDE: Used in the destruction of the->ENVIRONMENT,->ECOSYSTEMS, etc. by pollutants or defoliants; e.g., in Vietnam.

ECOLOGICAL BACKLASH: Unexpected and often undesirable, side effects of human actions and changes on an->ECOSYSTEM.

ECOLOGICAL BALANCE: The state of dynamic equilibrium of an->ECOSYSTEM of biotic community whereby the species/populations comprising it tend to fluctuate or maintain their numbers within limits and without extinction.

ECOLOGICAL FACTOR: An environmental factor that, under some definite conditions, can exert appreciable influence on organisms or their communities, causing the increase or decrease in the number of organisms and/or changes in the communities.

ECOLOGICAL IMPACT: The total effect of an environmental change, either natural or human, caused on the ecology of an area.

ECOLOGICAL INDICATORS: Factors, organisms, species, and communities with specific characteristics that can be used for the determination of certain environmental conditions.

ECOLOGICAL NICHE: The role, status, and position of a species in the->ENVIRONMENT, its activities and relationships to the biotic and a biotic environment. Also refers to specific places and functions where individual organisms can live.

ECOLOGICAL SUCCESSION: The gradual and progressive sequence of communities and organisms which replace each other in a given place. The changes, over time, in the structure and function of an->ECOSYSTEM with the replacement of one kind of->COMMUNITY of organisms with a different one. Primary succession occurs on sites with no previous vegetation while secondary succession occurs on sites that supported vegetation previously.

ECOLOGY: The branch of biological science that studies the relationships of living organisms with each other and with their environment (->DEEP ECOLOGY).

ECONOMICS: The study of how humans allocate scarce, productive resources in the production of different commodities over time and how these commodities are distributed for consumption between time periods and among members of a society.

ECOSPHERE: The layer of earth and surface air inhabited by or suitable for the existence of living organisms. Also, the conception characterizing the earth's->BIOSPHERE as a unified and global->ECOSPHERE.

ECOSYSTEM: A natural complex or functional unit of living organisms and the a biotic environment interacting to form a stable and self-sustaining system with the exchange of materials and energy.

ECOTONE: A boundary and/or transition area (zone) between two or more communities. Commonly contains some of the organisms of overlapping communities besides those organisms characteristic of the ecotone.

ECOTYPE: A genetically specified subpopulation that is restricted to a certain habitat.

EDAPHIC: The chemical, physical, or biological characteristics of a given water and soil environment that influence organisms.

ENDANGERED: Generally taken to mean any species or subspecies of an organism whose immediate survival is threatened with->EXTINCTION if the casual factors (threats) continue.

ENDEMIC: A species restricted to a given geographical location. Native species to a given locate.

ENERGY: The capacity to do work or transfer heat. Energy may take a number of forms, among them mechanical, chemical, and radiant, and can be transferred from one form to another.

ENERGY FLOW: The one way passage (transfer) of->ENERGY through an->ECOSYSTEM, including the way in which energy is converted and used at each trophic (food) level on an ecosystem.

ENERGY PYRAMID: Because so much->ENERGY is lost as heat (80 to 90 percent) in each transfer at each trophic level of an->ECOSYSTEM, the shape of the energy flow is in pyramid form. The conventional distribution of the biomass of an ecosystem tends to conform to the energy pyramid.

Engaged Buddhism: The application of Buddhist philosophy in environmental, social, political and cultural issues.

ENVIRONMENT: The aggregate of surrounding things (biotic and abiotic) and conditions that influence the life of an individual organism or population, including humans. The sum of all external things (living and non-living), conditions, and influences that affect the development and, ultimately, the survival of an organism.(->BIODIVERSITY)

ENVIRONMENTAL ADMINISTRATION: The process of directing and managing public policies and activities in environmental affairs under broad, governmental guidelines which protect and promote the public interest. It is basically concerned with the management of the relationships of people, society, and development to living resources/environment on a holistic basis and involves->VALUES and->VALUE JUDGMENTS in the policy/decision-making processes under comprehensive and interdisciplinary orientations.

ENVIRONMENTAL ATTITUDE: A state of mind or feeling which represents a behavioral predisposition toward a given environmental object. Attitudes are produced by groups of beliefs which collectively cluster around given objects/ environments, e.g., attitudes of concern, apathy, etc.

ENVIRONMENTAL AWARENESS: The growth and development of awareness, understanding, and consciousness toward the biophysical environment and its problems, including human interactions and effects. Thinking “ecologically” or in terms of an ecological consciousness.

ENVIRONMENTAL DEGRADATION: Any action which makes the environment less fit for human, plant, or animal life. Also associated with the lowering and reduction of environmental quality.

ENVIRONMENTAL EDUCATION: The educational process that deals with human interrelationships with the->ENVIRONMENT and that utilizes an interdisciplinary, problem-solving approach with->VALUE CLARIFICATION. Concerned with education progress of knowledge, understanding, attitudes, skills, and commitment for environmental problems and considerations. The need for environmental education is continuous because each new generation needs to learn->CONSERVATION for itself.

ENVIRONMENTAL EDUCATION, GOALS: Directed at developing a world population that is aware of, and concerned about, the total environment, and its associated problems, and which has the knowledge, understanding, attitudes, skills and commitment to work individually and collectively toward the solution of current problems and prevention of new ones.

ENVIRONMENTAL ETHIC: An ecological conscience or moral that reflects a commitment and responsibility toward the->ENVIRONMENT, including plants and animals as well as present and future generations of people. Oriented toward human societies living in harmony with the natural world on which they depend for survival and well being.

ENVIRONMENTAL IMPACT ASSESSMENT: An activity designed to identify, predict, interpret and communicate information about the effects of an action and to ensure ecological and sociological information is included with physical and economic information as the basis for making decisions.

ENVIRONMENTAL INDICATORS: Characteristics and factors for determining present and future conditions of the environment.

ENVIRONMENTAL PERCEPTION: Consciousness, understanding, and awareness of elements, interrelationships, and problems of the->ENVIRONMENT through sensory knowledge and judgment (for Buddhist concept of perception and the elements see->khandha;->dhatu;->kalapa).

ENVIRONMENTAL PROBLEMS: Largely result from the interaction between humanity, culture, technology, and the biophysical environment (e.g.,->POLLUTION, land abuse, etc.) and are caused by a complex set of biological, physical, and social factors which affect the total->ENVIRONMENT, including the survival and quality of life.

ENVIRONMENTAL PROTECTION: Measures and controls to prevent damage and degradation of the->ENVIRONMENT, including the sustainability of its living resources. To protect the environment from negative or destructive effects, influences, and consequences.

ENVIRONMENTAL QUALITY: The degree or quality related to the condition of the—>ENVIRONMENT that allows humans to physically utilize resources and obtain amenity values from their surroundings. The sum total, harmony, and evaluations of environmental factors and forces which influence human work, living conditions, communities, and leisure. Absence of negative or destructive effects and influences in a given environment.

ERODE: To wear away or remove the land surface by wind, water, or other agents.

EROSION: The wearing away of the land surface/soil by water or wind. Erosion occurs naturally from weather or runoff, but is often intensified by land clearing or disruption.

ESTHETICS: Pertains to the beautiful or pleasing. Is generally an emotional judgment of that perceived.

EVERGREEN: A tree or shrub which has green leaves throughout the year.

EVOLUTION: The biological theory or process whereby species of plants and animals change with the passage of time so that their descendants differ from their ancestors, i.e., development from earlier forms by hereditary transmission of slight variations in successive generations.

EVOLUTIONARY REMEMBERING: Common contemplative exercise (created by John Seed & Pat Fleming) used in environmental education, aiming at replacing the perception of a separate self with the notion of ecological, all-encompassing self. Experiential recognition of the evolutionary development of all life on earth, starting with the first cell, through amphibians, mammals, apes to human beings (->DEEP ECOLOGY,->interbeing).

EXOTICS: Plants, animals, or microorganisms which are introduced by humans into areas where they are not native. Exotics are often associated with negative ecological consequences for native species and the->ECOSYSTEM.

EXTINCTION: The process by which a species ceases to exist.

EXTIRPATE: To eliminate or cause to be eliminated.

FACIATION: In ecology, a subdivision of an association determined by species composition.

FAUNA: All animal life associated with a given habitat, area, country, or period.

FEEDBACK: The informational response to a cause that tends to inhibit further repetition of the cause.

FERAL: An animal or population of animals which has escaped from cultivation or domestication and exists in the wild.

FLORA: All plant life associated with a given habitat, area, country, or period. Bacteria are considered flora.

FOOD CHAIN: A sequence of transfers of food energy from organisms in one trophic (food) level to those in another.

FOOD PYRAMID: The concept of diminishing->BIOMASS when considering trophic levels along the->FOOD CHAINS from producers to consumers.

FOOD WEB: The complex and interlocking series of food chains. A given organism may obtain nourishment from many types of organisms in a food web. The->BIOMASS and energy flow of the food web are in pyramid form (bottom to top).

FOREST: Generally, an->ECOSYSTEM characterized by a more or less dense and extensive tree cover. Specifically, a plant->COMMUNITY composed mainly of trees and other woody vegetation that grow, more or less, closely together. Coniferous forests (evergreen) retain their leaves throughout the seasons while deciduous forests shed their leaves at the end of the growing period or season.

FORESTER: A professional individual who has the responsibility for planning and execution of activities that allow the full values of forest resources to be perpetually obtained for human benefit and that recognize the forest as a living biological->COMMUNITY with interrelationships.

FOREST INFLUENCES: Total effect of forests on soil, water supply, climate and an—>ENVIRONMENT in general.

FORESTRY: Management of forest lands for the provision of the various goods and services that forests can continuously supply with attention that such yields are sustainable and that the resource base (essential ecological processes and->GENETIC DIVERSITY) is secured.

GAIA: ancient Greek name for the Goddess of the Earth; term used in->DEEP ECOLOGY to refer to the Earth as a holistic sentient being with intelligence and life of its own.

GENE POOL: Total genetic material possessed by a given reproducing population or species. As the basis of continuing->EVOLUTION, wild gene pools are the common heritage of mankind.

GENETIC DIVERSITY: The genetic materials associated with a variety and number of species of organisms. Protection of genetic diversity is essential to sustain and improve agriculture,->FORESTRY, and fisheries, to keep open future options, to provide for a buffer against harmful change, and to have raw materials for scientific investigation as well as a moral principle to prevent species->EXTINCTION.

GENETIC EROSION: Term applied when many varieties of species are allowed to die out so that they are no longer available for breeding. (->GENE POOL)

GENOTYPE: The fundamental constitution of an organism in terms of its inherited characteristics (->PHENOTYPE).

GRASSROOTS MOVEMENT: A formal or informal environmental action group which develops from local activism on environmental problems. “Think globally—act locally.”

HABITAT: The sum of environmental conditions in a specific place that is occupied by an organism,->POPULATION, or->COMMUNITY and where it naturally lives and grows.

HERBIVORE: An animal that feeds chiefly on plants (->CARNIVORE).

hinayana: lit. ‘lesser vehicle’. Belittling term used for->theravada Buddhism by later Buddhist schools of thought.

HOLISTIC APPROACH: Thorough and comprehensive analysis of interrelations between the natural->ENVIRONMENT, social, cultural, technological, and other factors, i.e., that the environment can only be understood by viewing it as a general complex of its parts.

HOMEOSTASIS: The abilities and mechanisms of organisms and->ECOSYSTEMS for self regulation which enable them to constantly adjust themselves to the changing conditions of their environments and to maintain a stable state of dynamic equilibrium.

HOST: An organism which supplies benefits to another organism, generally a->PREDATOR.

HUMUS: Complex organic matter resulting from decomposition of plant and animal tissue in the soil, which gives to the surface layer of soil its characteristically dark color. It is of great importance for plant growth through retention of nutrients and moisture.

HYBRID: An organism resulting from a cross breeding between parents of different—>GENOTYPES.

INDICATOR: An organism, species, or->COMMUNITY which indicates the presence of certain environmental conditions.

INDIGENOUS: Refers to plant or animal species which is restricted to and characteristic of a certain area or location. A native species (not introduced).

IN SITU: In its original position or place.

INSTINCT: Unlearned behavior, based on elaborate system of reflexes which when activated produce a fixed pattern of action.

interbeing: Buddhist teaching, derives from->dependent origination, all things are interdependent and interconnected, nothing can exist by itself (->DEEP ECOLOGY).

INTERDISCIPLINARY APPROACH: The utilization, combination, and coordination of (two or more) appropriate disciplines/specialists from the natural sciences, social sciences, applied sciences/technologies, and humanities in an integrated approach toward environmental problems. It generally includes frequent interactions/contacts between the disciplines/specialists under an ecological orientation.

INTERSPECIFIC: Relations between species.

INTERSPECIFIC COMPETITION:->COMPETITION between single members of different species.(->INTRASPECIFIC COMPETITION).

INTRASPECIFIC COMPETITION:->COMPETITION between single members of the same species.(->INTERSPECIFIC COMPETITION).

INVERTEBRATA: One of the two great divisions (sub-kingdom) of animals including those without a backbone, or spinal column.

ISSUE: A conflict (real or apparent) between the ends and/or interests of different individuals, groups or organizations.

jataka: Collection of 550 stories of the Buddha's previous lives, many of which are in non-human form.

JUNGLE: Land covered with dense growth of trees, tall interwoven vegetation. Sometimes applied to secondary vegetation types in the tropics (->TROPICAL FOREST;->RAINFOREST).

JUVENILE: Young of a species.

kalapa: Pali, subatomic particle, smallest unit of matter composed of the four elements (->dhatu)

kamma: Pali, (Sanskrit: karma) action, law of cause and its inevitable effect. (->paticca samuppada;->sankhara)

karuna: Pali, compassion, sympathetic suffering with other beings (->mudita,->metta).

katannu-katavedi: Pali, gratitude, thankfulness.

kaya: Pali, body.

khandha: Pali, aggregate. The five aggregates that a human consists of: (1) matter (->rupa), (2) consciousness (->vinnana), (3) perception (->sanna), (4) feeling (->vedana), (5) reaction (->sankhara)

kilesa: Pali, defilements, passions, impurities.

LAND CAPABILITY: Suitability and feasibility of an area of land for use(s) on a sustained basis. Possibilities of degradation and depletion should be taken into account when assessing land capability (suitability).

LIFE CYCLE: The phases, changes, or stages through which an organism passes throughout its lifetime.

LIFE EXPECTANCY: The average time an animal is expected to live after reaching a certain age.

LIFE FORM: The characteristic form of a plant or animal species at maturity.

LIFE SPAN: The length of time between the inception and death of an individual.

LIFE STYLE: A characteristically different way and pattern (style) of living for a given culture is often referred to as “mainstream” life styles while those which are uncommon are considered to be “alternate” life styles. Life styles vary in their interactions and effects on the->ENVIRONMENT, i.e., harmonious, exploitive, etc.

LIFE ZONE: Any of a series of biogeographical zones into which a continent, region, etc. is divided by both latitude and altitude on the basis of characteristic animal and plant life.

LIMITING FACTOR: A condition or factor whose absence, short supply, or excessive concentration exerts some restraining or negative influence upon a population which is incompatible with a given species requirements or tolerance.

LIMNOLOGY: The study of the physical, chemical and biological processes and features of fresh waters, especially lakes and ponds.

LITTER: The surface layer of loose organic debris in forests consisting of freshly fallen or slightly decomposed organic materials (->HUMUS).

magga: Pali, *Ariya atthangika magga*: Noble Eightfold Path, the Fourth Noble Truth (->sacca) leading to cessation of all suffering. Divided in three parts: (1)->sila/morality: right speech, right actions, right livelihood; (2)->samadhi/mental discipline: right effort, right awareness, right concentration; (3)->panna/wisdom: right thought, right understanding.

mahayana: lit. Great Vehicle, school of Buddhism, established around the third century after Buddha, introduced the bodhisattva ideal, focusing on compassion and liberation of all beings.

MAMMAL: A large class of vertebrates, which are warm-blooded, usually hairy and whose offspring are fed with milk secreted by the female mammary glands.

mara: Pali, evil force, personified worldly temptation.

metta: Pali, loving kindness, selfless love and good will, subject of meditation to develop friendliness and nonviolence towards all beings.

MICRO-CLIMATE: The climate of a particular->ENVIRONMENT resulting from the modification of the general climatic conditions by local differences, e.g., underground nest of ants.

MIGRATION: Movement of organisms generally determined by seasonality (birds), population pressure and/or environmental change.

MIMICRY: Protective similarity in appearance and imitation of one species of animal or plant by another.

MONOCULTURE: The raising of a single crop or product over large areas, often over long periods, destroying biodiversity in the given area.

MONSOON FOREST: Forest of monsoon regions, where seasons of heavy rainfall alternate with dry periods; both evergreen and deciduous (->TROPICAL FOREST;->RAINFOREST).

mudita: Pali, sympathetic joy, joy for other's well-being, success or happiness (->karuna).

MULTI DISCIPLINARY APPROACH: The combined utilization of selected disciplines/specialists wherein each is assigned a portion or segment of a given environmental problem; their partial recommendations are linked together at the end to form the final solution.

MUTUALISM: Association between organisms with mutual advantage to both or all organisms involved.

NATIONAL PARK: Relatively large land or water areas which contain representative samples and sites of major natural regions, features, scenery, and/or plant and animal species of national or international significance and are of special scientific, educational, and recreational interest. They contain one or several entire->ECOSYSTEMS that are not materially altered by human exploitation or occupation. National Parks are protected and managed by the government in a natural or near natural state. Visitors enter under special conditions for inspirational, educational, cultural, and recreational purposes.

NATIVE (of Species): Belonging to a locality as a part of the original->FLORA or->FAUNA.

NATURAL AREA: A physical and biological unit in as near a natural condition as possible which exemplifies typical or unique vegetation and associated biological, geological, and/or aquatic features.

NATURAL RESOURCES: A feature or component of the natural environment that is of value in serving human needs, e.g., soil, water, plant life, wildlife, etc. Some natural resources have an economic value (e.g., timber) while others have a "noneconomic" value (e.g., scenic beauty).

NATURAL RESOURCES MANAGEMENT: The integrated and harmonious management of natural resources through utilization, protection, manipulation (change) and conflict reduction measures and activities. The management of human use of natural resources on a sustained use basis for present and future generations of human, animal, and plant life.

NATURAL SELECTION (Evolutionary concept): The process by which, in a specific—>ENVIRONMENT, those organisms well adapted to it are more likely to transmit their characteristics to descendants than those not so well adapted, e.g., survival of those individuals adapted to prevailing patterns of food,->COMPETITION, etc.

NATURE TRAIL: A route or trail designed so that students/visitors may observe and learn about the natural features, plants, and animal life. Ecological and conservation concepts and themes can be integrated into nature trails.

NEGATIVE FEEDBACK: Inclination of a system to counteract external influences and return to its own state of stability.

NICHE: The specific part or smallest unit of->HABITAT occupied by an organism. (->ECOLOGICAL NICHE)

nibbana: Pali, 'blowing out' (Sanskrit: nirvana), liberation from cycle of rebirth, cessation of suffering, enlightenment.

nivarana: Pali, hindrance, obstacle on the path of purification: (1) craving, (2) aversion, (3) torpor or languor, (4) restlessness, (5) doubt.

nivata: Pali, humility, non-greed.

OMNIVORE: An animal that feeds upon both plant and animal life (->CARNIVORE,->HERBIVORE).

OUTDOOR RECREATION: Leisure time activities which utilize an outdoor area or facility. A self-rewarding experience occurring in outdoor settings during non-obligated time, which results from free personal choice and commitment by the individual.

OVERPOPULATION: Vast multiplication of a species in a given area, which accordingly puts pressure onto the->ENVIRONMENT. (overpopulation of human beings one major factor of exploitation and destruction of ecological systems).

OVERSTORY: The layer of foliage in a forest canopy (->UNDERSTORY).

pali: language in North India during time of the Buddha. (->pali canon)

pali canon: Oldest collection of Buddhist scriptures, known as Tripitaka, or the Three Baskets. Consists of (1) *Vinaya-Pitaka*, Basket of Discipline; (2) *Sutta-Pitaka*, Basket of Discourses; and (3) *Abhidhamma-Pitaka*, Basket of Further Teachings.

pancha sila: the basic five Buddhist precepts of morality: (1) not to kill; (2) not to steal; (3) not to indulge in sexual misconduct; (4) not to lie; (5) not to use intoxicants. (->sila)

panna: Pali, wisdom, insight into the ultimate truth, result of practice of->sila and->samadhi, third of the three stages of the Noble Eightfold Path (->magga;->bhavana-maya panna)

parami: Pali, virtue, ten mental qualities that help attaining liberation: (1) charity (->dana), (2) morality (->sila), (3) renunciation (nekkhamma), (4) wisdom (->panna), (5) effort (->viriyā), (6) tolerance (->khanti), (7) truth (->sacca), (8) strong determination (->adhitthana), (9) loving kindness (->metta), (10) equanimity (->upekkha)

PARASITE: An organism living in or on another organism at the expense of the latter. (->HOST)

paticca samuppada: Pali, 'dependent origination' of phenomena, profound teaching of the arising and cessation of kammaformations, or chain of cause and effect, all manifestations of mind and matter are codependent and interrelated (->interbeing,->ECOLOGICAL BALANCE).

PESTICIDE: Any chemical substance used to kill plant and animal (and insect) pests. Some pesticides can contaminate water, air, or soil and can accumulate in humans, plants, animals, and the->ENVIRONMENT with negative effects.

PHENOLOGY: A study of natural phenomena that occur periodically such as migration of birds and how these events are influenced by environmental factors.

PHENOMENOLOGY: The study of all manifestation of mind and matter.

PHENOTYPE: The manifest characteristics of an organism, the appearance of an individual as opposed to->GENOTYPE.

PHOTOSYNTHESIS: The process by which plants form the sugar glucose from carbon dioxide of air and water by utilizing->CHLOROPHYLL and light.

PLANNING, ENVIRONMENTAL: Concerned with the consequences of human activities on the->ENVIRONMENT in terms of forecasting, anticipating, evaluating, and reconciling the demands for and impacts upon the environmental resources/amenities and->ECOLOGY with reference to the present and future->VALUES and options at stake.

PLANKTON: Microscopic floating aquatic plants and animals (->AQUATIC LIFE).

POLICY, ENVIRONMENTAL: Official statements of principles, intentions, values, and objectives which are based on legislation and the governing authority of a state and which serve as a guide for the operations of governmental and private activities in environmental affairs.

POLICY, ANTICIPATORY: Policies that attempt to anticipate significant economic, social, and ecological events rather than simply react to them. Involves actions to ensure that ->CONSERVATION and other environmental requirements are taken fully into account at the earliest possible stage of any major decision likely to affect the->ENVIRONMENT. A policy/planning process which attempts to foresee potential problems and to develop solutions to them before they become real and current problems.

POLITICS: The conflicts between competing->VALUES and interest through human interaction in the struggle for power to attain a governmental decision/policy/solution. The activity by which an issue or problem is agitated or settled. All efforts/pursuits by involved interest to resolve conflicts by getting government to impose decisions/solutions.

POLLUTANT: Any extraneous material or form of->ENERGY whose rate of transfer between two components/factors of the->ENVIRONMENT is changed so that the well-being of organisms/ECOSYSTEMS is negatively affected. Any introduced gas, liquid, or solid that makes a resource unfit for a specific purpose or that adversely affects human, plant, or animal life.

POLLUTION: The presence of matter or energy whose nature, location, or quantity produces undesirable environmental effects. The contamination or alteration of the quality of some portion or aspect of the->ENVIRONMENT and its living organisms by the addition of harmful impurities.

POPULATION: An interbreeding group of plants or animals. The entire group of organisms of one species.

POPULATION CONTROL: All methods utilized for conception/ birth control in order to control population growth, including natural or deliberate changes in economic, political, and social conditions. All factors that regulate the size of a population.

POPULATION DENSITY: Number of organisms in a particular population in a given area at a given time.

POPULATION CYCLE: Regular patterns of changes in a population over a period of time. The cycle is affected by food supply, physical conditions, disease and->COMPETITION.

POPULATION PRESSURE: The force exerted by a growing population upon its->ENVIRONMENT.
(->OVERPOPULATION).

PREDATOR: An interaction in which one organism (predator) kills and eats another organism (prey).

PREY: An animal hunted or killed and used as a food source by another animal.

PRIMARY PRODUCTIVITY: The productivity of green plants.

PRIMARY SUCCESSION: Progression of communities into a newly exposed habitat devoid of life.

PRODUCERS: Mainly green plants that synthesize their own organic compounds from inorganic substances. Self nourishing and the first group in the food chain.

PRODUCTIVITY: The ability of a population to recruit new members by reproduction.

PUBLIC INTEREST: An abstract and symbolic concept which refers to the ends,->VALUES, benefits, or costs for the general or common interests of all of the public. The public interest is often subject to various justifications and interpretations, but implies the overall interest of the general public of the whole society over short and long term considerations as contrasted to the private interests of given individuals, groups, and organizations which make up part of society over short term/ immediate considerations.

PUBLIC PARTICIPATION: The involvement, informing, and consultation of the public in planning, decision-making, and management activities in environmental affairs. The public actively sharing in the decisions that government makes in environmental affairs by having individual and group views taken into account through various participation measures which involve the public. Public participation requires adequate non-technical information for inputs as well as adequate encouragement and opportunities.

puja: religious ceremony, ritual, worship.

PYRAMID (of->BIOMASS): The biomass measured at producer/ consumer levels (->FOOD PYRAMID).

QUALITY OF LIFE: A subjective concept which characterizes the measure of the degree to which a given society offers effective opportunity to a combination of physical, social, and cultural components in the total->ENVIRONMENT. A broad and all-encompassing concept which refers to the quality characteristics of all aspects of one's environment and life.

raga: Pali, craving, one of three principal mental defilements (->avijja,->dosa).

RAINFOREST: A dense, close vegetation type containing a large number of species per unit area. Associated with high rainfall and humidity (->TROPICAL FOREST,->MONSOON FOREST).

RANGE: The geographical distribution of biological forms.

RED DATA BOOK: A book listing threatened and ->ENDANGERED species and subspecies of vertebrates (animals with backbones) animals, including information on their status and measure for protection. Red Data books are published through the Survival Commission of the International Union for Conservation of Nature and Natural Resources as well as by other nations.

RESERVES: Natural or near natural areas of land and/or genetic resources (threatened or—>ENDANGERED species) interest, including representative or unique ecological communities. Economic and human activity is usually controlled, compatible, or prohibited in terms of the natural state of the reserve and its category, e.g., strict nature reserve, managed nature reserve,->WILDLIFE sanctuary, etc.

rupa: Pali, matter, form (->khanda)

sacca: Pali, truth; *Ariya-sacca* The Four Noble Truths: (1) truth of suffering, (2) truth of origin of suffering, (3) truth of cessation of suffering, (4) truth of path leading to cessation of suffering. (->magga)

samadhi: Pali = concentration, mental discipline, collectedness of mind to gain the wisdom (->panna) of insight into ultimate truth; one of three stages of the Noble Eightfold Path (->magga,->sila).

samsara: Pali, continuity of existence, cycle of rebirth.

SANCTUARY: An area, usually in natural condition, which is reserved (set aside) by a governmental or private agency for the protection of particular species of animals during part or all of the year.

sangha: Pali, orig. community of Buddhist monks and nuns, later including lay-devotees (->bhikkhu).

sanna: Pali, perception, is conditioned by past mental formations (->kamma)

sankhara: Pali, conditioned things and states, mental formation that leads to certain reactions and new conditionings (->kamma). Part of->paticca samuppada and one of five ->khandhas.

sanskrit: classical language of Hindu India.

sati: Pali, mindfulness, careful attention, alertness.

SERE: A series of stages of community change in a particular area leading towards a stable state (->ECOLOGICAL SUCCESSION).

sila: Pali, morality, ethical conduct, preparatory refinement of attitude and action for progress towards enlightenment; one of three stages of Noble Eightfold Path (->magga,->samadhi,->panna).

SOIL: A natural body, synthesized in profile from a variable mixture of broken and weathered materials and decaying organic matter, which covers the earth in a thin layer and which serves as a natural medium for the growth of land plants. Soil usually takes long periods of time to form through the natural processes. Soil types include sand, clay, silt, loam and peat or any mixture of these.

SOIL EROSION: The detachment and movement of->SOIL from the land surface by wind or water.

SOIL FERTILITY: The quality of->SOIL that enables it to provide nutrients in adequate amounts and in proper balance for the growth of plants.

SOIL HORIZONS: Characteristic strata below the surface distinguishable as (1) topsoil, (2) subsoil and (3) parent material.

SPACESHIP EARTH: A concept/philosophy for understanding the earth as a spaceship with a limited life supporting system or as a finite, complex->ECOSYSTEM in which survival requires wise management of limited resources and harmonious human and environmental relationships.

SPECIES: Natural population or group of populations of plants or animals which transmit specific characteristics from parent to offspring. They are reproductively isolated from other populations (species).

SPECIES, DIVERSITY: The number of different species occurring in a given location or under some condition. The ratio between the number of species in a biotic community and number of individuals in a given species. Diversity is generally correlated with ecological stability.(->BIODIVERSITY)

SPECIES, ENDANGERED: In danger of->EXTINCTION; survival unlikely if the causal factors (threats) continue to operate. It is recognized that numerous->ENDANGERED species (as well as other threatened categories of species) may not have been formally “discovered” or officially classified at this point, particularly those in->TROPICAL FORESTS which contain the greatest abundance and diversity of species.

SPECIES, INDICATOR: A species whose presence, absence, distribution, or abundance can be used to measure the effect of some influence, action, or factor on the biotic community, e.g.,->POLLUTION, development, etc.

SPECIES, RARE: World population is small and “at risk” but not yet->ENDANGERED or vulnerable. However, it would be possible to endanger them, or even make them extinct, with sudden or anticipated changes. This is particularly true of rare species which have a restricted world range.

SPECIES, VULNERABLE: A species not yet->ENDANGERED, but likely to be if the casual factors (threats) continue to operate.

SPORADIC: Widely scattered biological form.

STENOTOPIC: Organisms which display a very narrow range of tolerance.

STEWARDSHIP: The wise use and management of the->ENVIRONMENT and its resources in terms of the recognition of living relationships and responsibilities for the environment and for future generations of all forms of life. Stewardship implies that humankind respect, oversee, and conserve the environment for present and future considerations for all life through individual and collective efforts and responsibilities.

stupa: usually dome-shaped building as a memorial or reliquary to the Buddha or other important teachers of Dhamma.

SUBCLIMAX: A stage of succession prevented from progressing to the climatic climax by fire, soil deficiencies, grazing and similar factors.

SUBSOIL: The layer of soil beneath the surface soil, in which the roots normally grow.

SUBSPECIES: A division of a species based most often on geographical distribution and/or taxonomic characteristics. Subspecies have interbreeding potential.

SUCCESSION:->ECOLOGICAL SUCCESSION.

SURVIVAL OF THE FITTEST: Popular term for->NATURAL SELECTION.

SUSTAINABLE: The concept of maintaining continues productivity; application of systems and measures which will maintain the capacity of production without decline.

sutta: Pali, lit. 'thread', Buddhist scriptures.

SYMBIOSIS: An association of two or more organisms of different species in which one or more may benefit and none are harmed (->ANTIBIOSIS).

SYMPATRIC: Pertaining to two or more substances being greater than the action of each individual substance.

SYNECOLOGY: The study of a group of organisms associated with another as a composite unit; organized at community level (e.g.->POPULATIONS).

tathagata: Pali, lit. 'truth-arrived', a term used by the Buddha referring to himself or other Buddhas.

TELEOLOGY: View that developments in nature occur because of the purpose that is served by them. Attributing use(s) or parts of plants and animals, often in terms of projected utilization, e.g. a pattern of eyes on a butterfly to scare away birds (->ANTHROPOCENTRIC,->ECOCENTRIC,->DEEP ECOLOGY).

TERRESTRIAL: Of the land, not the water.

TERRITORY: An area over which an animal or group of animals establishes jurisdiction. Activity associated with an organism claiming an area and defending it against members of its own (or similar) species. Area within the home range of an organism that is actively defended against other organisms.

theravada: lit. teaching of the elders; school of Buddhism found mainly in Southeast Asia (->mahayana,->vajrayana).

THRESHOLD: The maximum or minimum duration of intensity of a stimulus that is required to produce a response in an organism Also called the critical level.

TOLERANCE: The ability of an organism to adjust to or endure changes in its—>ENVIRONMENT. A species is confined by the extremes of environmental adversities that it can withstand. Also the safe level of any chemical applied to crops.

TOPOGRAPHY: The relief of an area of land, e.g., mountains, flat, hills, meadows, swamp, etc. The physical shape of the ground surface.

TRAINING, ENVIRONMENTAL: Instructional programs, courses and workshops on environmental affairs/topics for governmental personnel relative to their organizational responsibilities and activities. Training increases and enhances the knowledge, skills, and attitudes needed by personnel to work toward the prevention and solutions of environmental problems. A major constraint on the implementation of conservation measures is the lack of trained personnel.

TRAINING, ENVIRONMENTAL IN-SERVICE: Centered upon the participant (personnel) within governmental settings and responsibilities. Provides one of the most effective, economical, and practical ways for reaching large numbers of personnel with environmental training through short courses, seminars, and workshops, and through integrative/infusion approaches in regular training programs. It is particularly advantageous for training personnel at the regional and field locations of their organizational settings.

TRANSIENT SPECIES: A species that migrates through a locality without breeding or over wintering.

TREE: A wooden perennial plant with one main stem or trunk and a definite crown shape, usually at least five meters tall when mature.

TREE LIMIT (Line): The altitude in mountains, or in the southern or northern latitude, at which only isolated trees grow and beyond which only stunted forms occur.

TROPHIC LEVEL: The level at which food energy is transferred from one organism to another. The place of an animal in the food chain.

TROPHIC STRUCTURE: Organization of the->COMMUNITY based on feeding relationships of->POPULATIONS.

TROPHIC WEB: A descriptive network, showing the feeding relationship of an—>ECOSYSTEM.

TROPICAL FORESTS: Forest communities which are maintained by the rain/moist climates of tropical regions. Contain the greatest abundance and diversity of plant and animal species and are identified as a conservation priority by the World Conservation Strategy due to their rapid rate of exploitation and disappearance. Two types of tropical forest: (1) dry forest with seasonal rain and (2) wet forest with rain over extended periods.

TROPISM: The tendency of a plant, animal or part to grow or turn in response to an external stimulus either by attraction or repulsion, e.g., a sunflower turns toward light.

UBIQUITOUS: A plant or animal species which is capable of thriving under varying environmental conditions. Present or giving the impression of being present everywhere.

UNDERGROWTH: Collectively, the shrubs, sprouts, seedling and sapling trees, and all herbaceous plants in a forest.

UNDERSTORY: A layer of foliage below the level of the main tree canopy (->OVERSTORY).

upekkha: Pali. equanimity, evenmindedness, (->parami).

upadana: Pali, grasping, clinging, attachment.

vajrayana: Diamond Vehicle, school of Buddhism derived from ->mahayana, manifest in Tibetan Buddhism.

VALUES: Formed by groups of attitudes which cluster. Values produce behavior as contrasted to attitudes which represent a behavioral disposition, potential, or tendency. Values are an individual or collective conception (emotional, judgmental and symbolic components) of that which is of worth, importance, or desirable.

VALUES CHANGE: Occurs when values held by an individual, groups, or society are no longer satisfying to those who hold them. Environmental education and training implies change toward the development and encompassment of values which are more responsive and attuned to human/environmental ends and interrelationships, including toward harmony with the environment.

VALUES CLARIFICATION: An approach which helps individuals to become more aware of their personal->VALUES, attitudes, beliefs, and behavior toward the->ENVIRONMENT as well as to develop their own set of values and commitments in issues/ problem-solving activities. It involves considering alternatives, the consequences of alternatives, and personal feelings (values and attitudes) toward each alternative before deciding or acting.

VALUES, ENVIRONMENTAL: An individual or collective conception of objects/factors which are worthwhile or desirable in the->ENVIRONMENT. Usually associated with emotional, judgmental, and symbolic components toward the environment.

VALUES, INTANGIBLE: Values that are difficult or impossible to define, formulate or quantify. Pertain to resources, aspects, and factors of the environment that are not directly quantifiable, describable, or assigned market/ monetary values. They often include psychic and indirect benefits and are associated with aesthetic, scientific, historical, and recreational considerations and aspects of the natural environment. Intangible values greatly contribute to humanity and the human spirit through contact with nature/environment.

VALUES JUDGMENT: An estimate and/or more or less subjective opinion about the worth, good, desirability, negativity, harm, etc., of a thing, action, proposal, or entity. Value judgments influence the selection and evaluation of the ends and means of action criteria and underlie developmental and environmental decisions.

VARIATION: Divergences in the characteristics of organisms caused by the—>ENVIRONMENT or by differences in genetic constitution (->GENOTYPE;->PHENOTYPE).

VARIETY: A group of organisms which differ from others within the same species.

vedana: Pali, sensation, feeling. (->khandha)

VEGETATION: All plants in general in a given area. Total plant cover on the Earth (->FLORA).

VERTEBRATA (CRANIATA): Animals that have an internal skeletal system. Contains the fish, amphibians, reptiles, birds and mammals. (->MAMMALS).

VIABLE: Living, reproducing systems.

vinaya: Pali, discipline, first part of the tripitaka (three baskets) of the->pali canon, the oldest Buddhist scriptures.

vinnana: Pali, consciousness, cognition (->khandha)

vipassana: Pali, insight, meditation based on satipatthana sutta, contemplative investigation into the nature of all phenomena, leading to wisdom (->panna).

viriya: Pali, effort, (->parami).

viveka: Pali, detachment.

WATERSHED: An area of land from which all precipitation drains to a specific water course or outlet. The boundary line of a watershed is the natural ridge which divides one drainage area from another. The area drained by a stream.

WETLAND: An area that is regularly wet or flooded, and where the water table (the upper level of the groundwater) stands at or above the land surface for at least part of the year.

WILDERNESS: A large, wild land area where the earth and its of undeveloped land which retains its primeval character and influence community of life are untrampled by people and where people are visitors who do not remain. An area without permanent improvements or permanent human habitation and which is protected and managed so as to preserve and protect its natural conditions and life. Many->ENDANGERED and threatened species need wilderness type areas to carry on their struggle for survival.

WILDLIFE: All non-domesticated (wild) mammals, birds, reptiles, and amphibians living in a natural environment.

ZONATION: Distribution of organisms and communities into well marked bands, zones.

ZONING: System of land use planning based on boundaries inside which areas can be used only for specific purposes, e.g., agriculture, dwellings, etc.



APPENDIX : B

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APPENDIX : C

THE AUTHOR AND HIS WORKSHOPS

Daniel H. Henning, Ph.D. is Professor Emeritus of Political Science and Environmental Affairs, and Distinguished Scholar Professor, Montana State University, Billings. He has had over 12 years of experience studying and working with Buddhism, Deep Ecology, and Tropical Forests in Asia while residing in Thailand, often living in Buddhist Forest Monasteries. Dr. Henning has served as a protected area consultant/trainer for the United Nations, IUCN, and other international organizations. He has completed a United Nations study on the ecological and environmental teaching of Buddha and was invited by the Dalai Lama to participate in the Ecological Responsibility Conference in India.

A past Senior Fulbright Research Scholar for Southeast Asia, Dr. Henning has written numerous books and articles in the environmental field, including *Managing the Environmental Crisis*, Duke University Press, 1999, and has presented a number of environmental papers at international conferences in Asia and Europe. He is the recipient of numerous honors and travel awards from the Smithsonian (India), National Academy of Science, Interacademy

Exchange Visiting Scientist (Czechoslovakia), National Science Foundation, Resources for the Future, National Wildlife Federation, etc. He has served as a park ranger naturalist at Rocky Mountain, Yellowstone, and Glacier National Parks and as a wilderness ranger in western national forests.

In his travels, Dr. Henning has made numerous presentations and workshops dealing with Buddhism and Deep Ecology, internationally and nationally. These included the World Fellowship of Buddhism, Bangkok; Wat Suan Mokkh, Thailand; the Chenrezig Institute, Australia; Kopan Monastery, Nepal; World

Wilderness Congress, India; University of Oslo, Norway; Flathead Lake Biological Research Station, Montana; Bowling Green State University, Ohio, the American Center, United States Embassy, Myanmar, etc. He is currently doing consulting and volunteer work in helping to bring Buddhism and Deep Ecology into tropical forest protection in Asia during the winter, and to old-growth temperate forests of Montana during his summers in that part of the world.



WORKSHOPS

This workshop will deal with Buddhism and Deep Ecology (considered the spiritual dimension of environmentalism), on an interdisciplinary, value, and holistic basis with attention to the needs and interests of the participants. The presentations will consider some of the basic ideas of Buddhism (*Dhamma*) and Deep Ecology as they relate to each other and to protecting natural forests and the environment. The workshop will include ecological experiential exercises such as the Council of All Beings, the burning of ecological defilements, guided tree, evolution, and oneness meditations, vision quest, ecology walks, etc. Shorter versions of the workshop, including talks and lectures on the subject, are also available.

First Day:

Introduction
Buddhism and Deep Ecology Talk (1)
Oneness Guided Meditation

Second Day:

Forest Talk
Deep Ecology Walk
Tree Meditation

Buddhism and Deep Ecology Talk (2)
Ecological Grieving
Evolution Guided Meditation
Burning of defilements

Vision Quest
Council Preparation
Council of All Beings
Ecology Stories

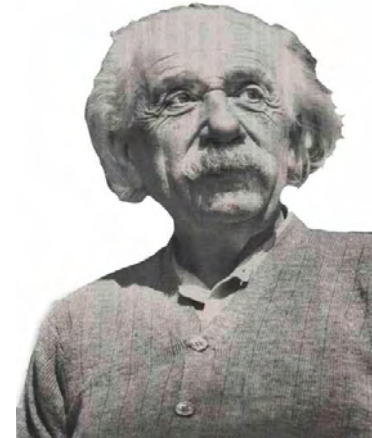
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UNIVERSE AND COMPASSION BY ALBERT EINSTEIN

A human being is part of a whole, called by us, Universe, a part limited in time and space. He experiences himself, his thoughts and his feelings as something separated from the rest; a kind of optical illusion of his B consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and affections for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole nature in its beauty.

THE END