

# EARTH AND FAITH

A BOOK *of* REFLECTION  
*for* ACTION



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## UNEP IN BRIEF

The United Nations Environment Programme (UNEP) was created in 1972 as the environmental conscience of the UN system, to create an awareness in other agencies of the environmental impact of their activities. Since then, UNEP has leveraged a small budget into a program of major significance and lasting influence. It assesses the state of the world's environment, helps formulate international environmental law, strengthens the environmental management capacity of developing countries, and raises environmental concerns as social and economic policies and programs are considered.

UNEP advocates environmentally sound "sustainable development," a concept inspiring Agenda 21, the action plan adopted at the 1992 UN Conference on Environment and Development—the Earth Summit—in Rio de Janeiro.

UNEP helps solve problems that cannot be handled by nations acting alone, by providing a forum that allows countries to come to the table for negotiations, to build consensus and forge international agreements. UNEP also promotes the participation of faith traditions, non-governmental organizations, business, the scientific and academic communities, women, youth and others to achieve environmentally sustainable development.

The organization is headquartered in Nairobi, Kenya, with six regional offices: Washington, DC, for North America, Geneva/Europe, Nairobi/Africa, Bangkok/Asia and the Pacific, Mexico City/Latin America and the Caribbean, and Bahrain/West Asia. It also has a New York Office to liaise with UN agencies. UNEP is headed by an Under Secretary-General, and its Governing Council has a rotating membership of 58 countries.

In 1986, the New York Office initiated the Environmental Sabbath (now the celebration of Earth in faith) as a time for people of faith to renew their relationship with the forces of creation. By combining a knowledge of the earth sciences with those of spiritual values, the goal is to transform our fundamental relationship with Earth from one of destruction to one of redemption and rejuvenation.

## UNEP IN ACTION

- 1973** Convention on International Trade in Endangered Species
- 1975** Mediterranean Action Plan (1st of 13 regional plans); International Register of Potentially Toxic Chemicals; Global Environment Monitoring System (GEMS)
- 1979** Convention on the Conservation of Migratory Species of Wild Animals
- 1985** Convention for the Protection of the Ozone Layer
- 1987** Montreal Protocol on Substances that Deplete the Ozone Layer; Global 500 Roll of Honour
- 1988** UNEP-WMO Intergovernmental Panel on Climate Change
- 1989** Basel Convention on the Transboundary Movements of Hazardous Wastes
- 1991** UNEP-UN Development Programme-World Bank Global Environment Facility
- 1992** UN Conference on Environment and Development (Earth Summit);  
UN Convention on Biological Diversity; UN Framework Convention on Climate Change
- 1993** UNEP International Environmental Technology Centre
- 1994** UN Convention to Combat Desertification and Drought
- 1995** Global Program to Protect the Marine Environment from Land-based Activities
- 1996-2000** Negotiations toward treaties on trade in chemicals and persistent organic pollutants
- 2000** Cartagena Protocol on Biosafety

# EARTH AND FAITH



A BOOK *of* REFLECTION  
*for* ACTION

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INTERFAITH PARTNERSHIP FOR THE ENVIRONMENT  
UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

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Printed in the United States of America.

ISBN 92-807-1915-7

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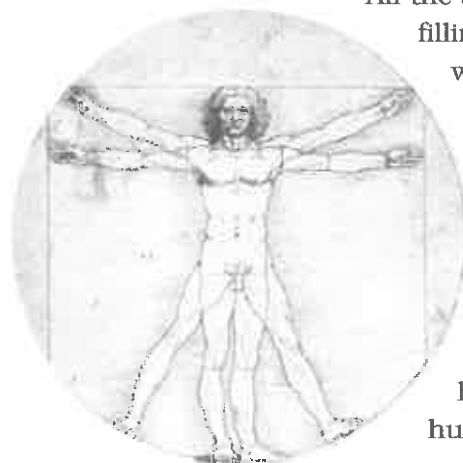
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This book is printed with soy-based inks on paper containing only recycled fiber, with 30% post-consumer waste, and treated with a chlorine-free process.



All the animals languish,  
filling the air  
with lamentations.

The woods fall in ruin.

The mountains are torn open  
in order to carry away the metals  
which are produced there.

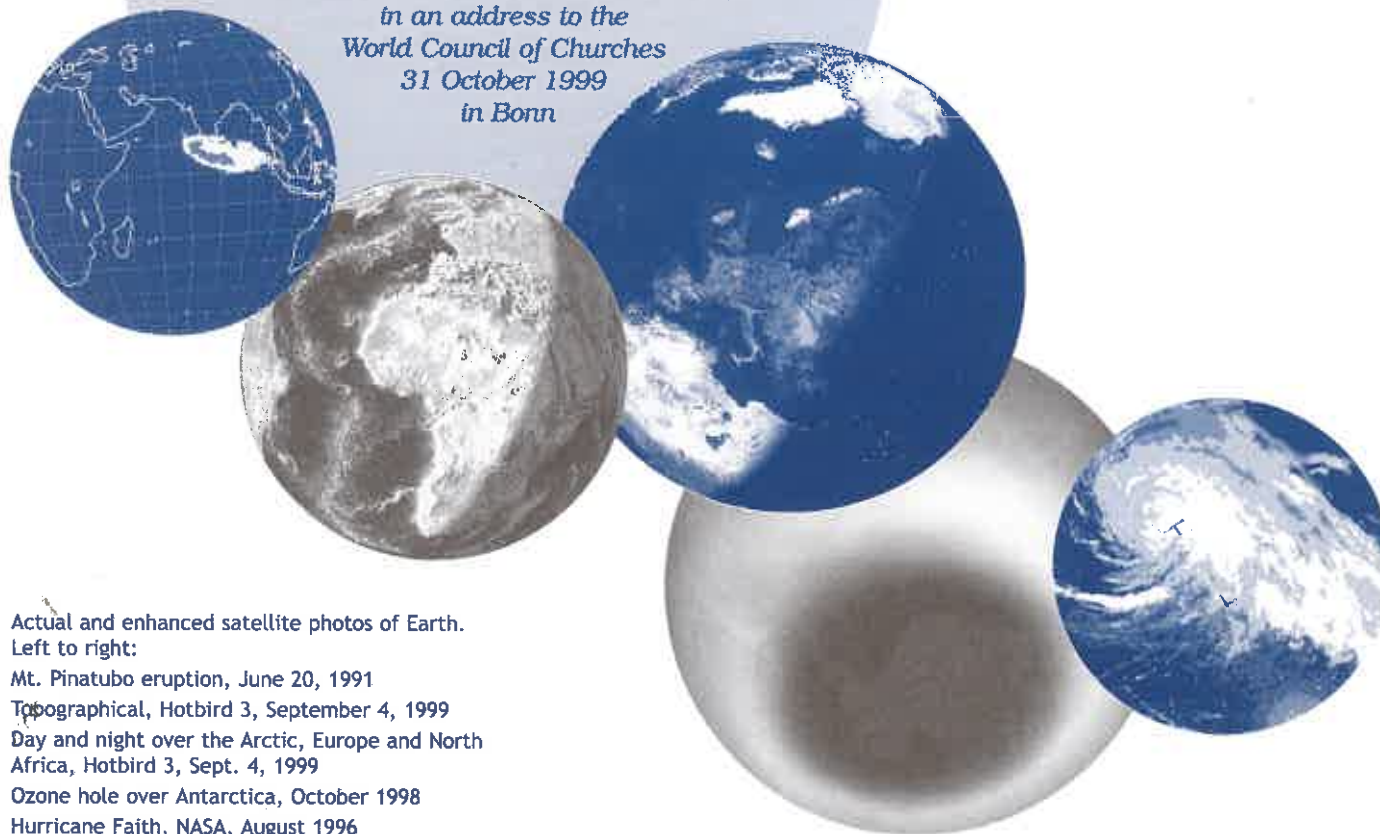
But how can I speak of anything more  
wicked than men who, with greater zeal,  
have injured their country and the  
human race.

*Leonardo da Vinci, Prophecies, 1490s*



**We  
have entered a new  
age. An age where all of us  
will have to sign a new compact  
with our environment . . . and enter  
into the larger community of all living  
beings. A new sense of our communion  
with planet Earth must enter our minds.**

*Klaus Töpfer, United Nations Under-Secretary-General  
and Executive Director, UN Environment Programme  
in an address to the  
World Council of Churches  
31 October 1999  
in Bonn*



Actual and enhanced satellite photos of Earth.  
Left to right:

Mt. Pinatubo eruption, June 20, 1991

Topographical, Hotbird 3, September 4, 1999

Day and night over the Arctic, Europe and North  
Africa, Hotbird 3, Sept. 4, 1999

Ozone hole over Antarctica, October 1998

Hurricane Faith, NASA, August 1996



**Klaus Töpfer**  
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PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

Dear Friend,

As we enter a new century, characterized not only by sweeping and fundamental changes and immense new opportunities but also by greatly increased risks, the need to foster a new spirit of international cooperation has never been greater. As trade, economic and physical barriers among countries have progressively fallen and as wealth has increased in some countries, poverty and misery continue to be the lot of a large and growing segment of humanity.

It is in this context that we increasingly witness new challenges to the security and sustainability of the planet. At the same time, we also are witnessing an era where the fundamental lessons for humanity contained in the religious and faith traditions of the world are increasingly coming to the fore and guiding and motivating our actions to meet those challenges.


One of those challenges, environmental sustainability, is based on the realization that we can no longer blindly trust in the regenerative capacity of ecosystems. The need to meet social demands, address demographic pressures and poverty in developing countries, counterpoised against the excessive and often wasteful consumption habit in the developed countries, continues to provide the rationale for much of the work of the United Nations.

UNEP's "Global Environment Outlook 2000" confirms in its findings that the environmental crisis facing humanity in the new millennium is a world threatened, either because people have too much, or too little. The continued poverty of the majority of the planet's inhabitants and excessive consumption by the minority are the two major causes of environmental degradation. "GEO 2000" concludes that the present course is unsustainable and postponing action is no longer an option. However, no meaningful result can be envisaged without both a reflection on the ethical implications of our plans of action and a moral urgency for their implementation.

"**Earth and Faith: A Book of Reflection for Action**" is the result of a unique effort to continue the dialogue between the scientific and faith communities from which, we hope, will emerge a greater commitment to taking responsible actions for the protection of our environment for our common good. We, at UNEP, view the convergence of spiritual values and their respect for the environment as an inspiration for environmental actions today so that our succeeding generations may all be beneficiaries of a healthy planet and a development that is sustainable.

I would like to invite you to join us, through this publication, in exploring the lessons that the various faith traditions provide through the profound respect they teach for our planet. I would also like to express my sincere gratitude to John Kirk, Director of the New Jersey School of Conservation, and to my predecessor, Noel J. Brown. Through their insight and perseverance, and with the commitment of the Interfaith Partnership for the Environment, they launched one of UNEP's successful initiatives which, "by combining a knowledge of the earth sciences with the forces of spiritual values aims at transforming our fundamental relationship with the earth from one of destruction to one of redemption."

Sincerely,

  
Adnan Z. Amin  
Director UNEP/New York Office

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Dear Friend,

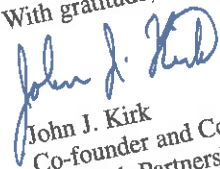
This publication from the Interfaith Partnership for the Environment is the result of nearly 14 years of work with the United Nations and members of many faith communities. It began in the fall of 1986 when a few of us met at UN headquarters in New York with the leaders of several faith communities. With guidance and support from the United Nations Environment Programme, we began developing a project that would inform North American congregations about the serious environmental problems facing life on Earth, so we could work to protect this magnificent work of creation.

In June of 1987, our first Environmental Sabbath kit went to congregations across the United States and Canada. The goal was to create a sabbatical for our beleaguered planet — an Earth Rest Day to be celebrated annually by faith communities, at any time but especially on the weekend nearest the UN World Environment Day, June 5th. From that early effort, the program expanded to faith communities worldwide. Since our very humble beginning in 1986, we have learned that more than 130,000 religion and ecology projects have taken root worldwide. Today, the Interfaith Partnership's outreach is global and includes religions that do not celebrate a sabbath, although all have a powerful environmental ethic.

Today, we dedicate this publication and our efforts to a celebration of Earth in faith, to be held at any time throughout the year, but with the same purpose: to increase the ecological awareness of your congregation so that together we can act to save our sacred Earth.

All of us participating in this project welcome your good faith efforts to help protect all life on Earth. If we may be of any assistance, please feel free to contact us through UNEP in New York.

With gratitude,



John J. Kirk  
Co-founder and Co-chair  
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## INTERRELATED ELEMENTS OF AN EARTH AGENDA

### WATER

Protect fresh water sources.

Protect oceans, coral reefs,  
coastal areas and small islands.

### LAND

Conserve biological diversity.

Combat deforestation and desertification.

Protect land resources from nitrogen overload.

### HEALTH

Protect human health and the quality of life,  
especially the living and working  
environments of the poor, from pollution  
and environmental degradation.

### AIR\*

Protect the atmosphere by combatting  
climate change and transboundary air pollution.

### INDUSTRY

Manage biotechnology in an ecologically safe way.

Manage hazardous wastes and toxic chemicals  
in an environmentally sound manner.


### WELL-BEING

Examine and change production  
and unsustainable consumption patterns.

Analyze the effects of globalization  
on the environment, and take  
appropriate protective measures.

\*When UNEP's first Earth and Faith book, *Only One Earth*, was published in 1991, atmospheric ozone was on this agenda. Today, the effort to combat ozone depletion is a success story! By early 2000, 172 countries had ratified the UNEP-brokered Montreal Protocol on Substances that Deplete the Ozone Layer. Without it, levels of those substances would have been five times higher by 2050 than they are today. The purpose of the 1987 Protocol is to phase out production and consumption of ozone-depleting substances to protect human health and the environment. The level of these substances peaked in the late-1990s and is now starting to decline, but the incidence of skin cancer may not begin to fall until about 2060 due to the time lag involved while these long-lasting substances dissipate in the stratosphere.





We are aware that the earth was born and is borne by a delicate dynamic of forces which converged to become the integrity of our planet. We are enchanted by the splendor of its life emergence, of which we are but a part.

Today, humankind is increasingly aware of the expanding universe and its myriad transformations. We are now, as never before, aware of the emerging sequence revealing the origin and destiny of an incomparable universe.

We have but recently become witnesses to the unfolding of cosmic events that could not have been expected or presumed. We experience the elements of matter as the core of our existence.

Yet at the very time we are awestruck by this wondrous disclosure, we are stunned by the cumulative significance of human insensitivity to the natural world. We are informed, as never before, that the earth is subject to possibly irreparable damage to the primordial pattern of life-sustaining processes.

The spiritual challenge of the ecological crisis draws us back to our religious traditions, to reflect on and celebrate the natural world in its most profound sense of mystery as a manifestation and experience of the sacred. We humans find not only our place but also our presence to the sacred in this phenomenal emergence.

*The birth of twin star clusters as seen by the Hubble Space Telescope in a neighboring galaxy in the early universe 166,000 light-years away, From NASA, October 1994*



# THE ASSISI DECLARATIONS

**I**N SEPTEMBER 1986, the World Wide Fund for Nature (WWF) celebrated its 25th anniversary by bringing together, for the first time in history, five major world religions to declare how their faith leads each of them to care for nature.

What resulted were the Assisi Declarations: calls from Buddhist, Christian, Hindu, Jewish and Islamic leaders to their own faithful. After Assisi, three more faiths – Bahá'í, Jainism and Sikhism – produced declarations to accompany those of the other religions. Their messages, excerpts of which follow as they were issued, are of tremendous significance for the future of the environment.

In these calls, the interconnectedness of religious and environmental concerns was acknowledged, along with the fundamental importance to all traditions of safeguarding the planet as a common inheritance.

*"We are convinced of the inestimable value of our respective traditions and of what they can offer to re-establish ecological harmony; but, at the same time, we are humble enough to desire to learn from each other. The very richness of our diversity lends strength to our shared concern and responsibility for our Planet Earth."*

Father Lanfranco Serrini, OFM Conv.  
Opening ceremony, Assisi, 1986

## BAHÁ'Í DECLARATION

"Nature is God's Will and is its expression in and through the contingent world. It is a dispensation of Providence ordained by the Ordainer, the All-Wise." (Bahá'u'lláh)

With those words, Bahá'u'lláh, Prophet-founder of the Bahá'í faith, outlines the essential relationship between humanity and the environment: that the grandeur and diversity of the natural world are purposeful reflections of the majesty and bounty of God. For Bahá'ís, there follows an implicit understanding that nature is to be respected and protected, a divine trust for which we are answerable.

As the most recent of God's revelations, however, the Bahá'í teachings have a special relevance to present-day circumstances when the whole of nature is threatened by man-made perils ranging from the wholesale destruction of the world's rainforests to the final nightmare of nuclear annihilation.

A century ago, Bahá'u'lláh proclaimed that humanity has entered a new age. Promised by all the religious Messengers of the past, this new epoch will ultimately bring peace and enlightenment for humanity. To reach that point, however, humankind must first recognize its fundamental unity — as well as the unity of God and religion. Until there is a general recognition of this wholeness and interdependence, humanity's problems will only worsen.

## BUDDHIST DECLARATION

Buddhism is a religion of love, understanding and compassion and is committed towards the ideal of non-violence. As such it also attaches great importance towards wildlife and the protection of the environment on which every being in this world depends for survival.

The underlying reason why beings other than humans need to be taken into account is that, like human beings, they too are sensitive to happiness and suffering. We should therefore be wary of justifying the right of any species to survive solely on the basis of its usefulness to human beings.

We are told that history is a record of human society in the past. From existing sources there is evidence to suggest that for all their limitations, people in the past were aware of the need for harmony between human beings and nature. They loved the environment. They revered it as the source of life and well-being in the world.

We regard our survival as an undeniable right; as coinhabitants of this planet, other species too have this right for survival. And since human beings as well as non-human sentient beings depend upon the environment as the ultimate source of life and well-being, let us share the conviction that the conservation of the environment, the restoration of the imbalance caused by our negligence in the past, be implemented with courage and determination.



These teachings lead us to the following words by His Holiness the Dalai Lama: "As we all know, disregard for the Natural Inheritance of human beings has brought about the danger that now threatens the peace of the world as well as the chance to live of endangered species.

"Such destruction of the environment and the life depending upon it is a result of ignorance, greed and disregard for the richness of all living things. This disregard is gaining great influence. If peace does not become a reality in the world, and if the destruction of the environment continues as it does today, there is no doubt that future generations will inherit a dead world.

"It is clear that this generation is at an important crossroad. On the one hand the International community is able now to communicate each other's views, on the other hand the common fact is that confrontation far outweighs constructive dialogue for peace.

"We are the generation with the awareness of a great danger. We are the ones with the responsibility and the ability to take steps of concrete action, before it is too late."

*by the Venerable Lungrig Nomgayal  
Abbot, Gyuto Tantric University*

## CHRISTIAN DECLARATION

Because of the responsibilities which flow from his dual citizenship, man's dominion cannot be understood as license to abuse, spoil, squander or destroy what God has made to manifest his glory. That dominion cannot be anything else than a stewardship in symbiosis with all creatures. On the other

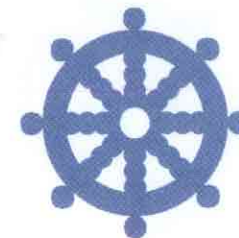
hand, his self-mastery in symbiosis with creation must manifest the Lord's exclusive and absolute dominion over everything, over man and over his stewardship. At the risk of destroying himself, man may not reduce to chaos or disorder, or, worse still, destroy God's bountiful treasures.

For St. Francis, work was a God-given grace to be exercised in that spirit of faith and devotion to which every temporal consideration must be subordinate: uncontrolled use of technology for immediate economic growth, with little or no consideration for the planet's resources and their possible renewal; disregard for just and peaceful relations among peoples; destruction of cultures and environments during war; ill-considered exploitation of natural resources by consumer-oriented societies; unmastered and unregulated urbanization; and, the exclusive preoccupation with the present without any regard for the future quality of life.

Therefore, in the name of Christ who will come to Judge the living and the dead, Christians repudiate:

1. All forms of human activity — wars, discrimination, and destruction of cultures — which do not respect the authentic interests of the human race, in accordance with God's will and design, and do not enable men as individuals and as members of society to pursue and fulfill their total vocation within the harmony of the universe.
2. All ill-considered exploitation of nature which risks to destroy it and, in turn, to make man the victim of degradation.

*by Father Lanfranco Serrini  
Minister General, OFM Conv.*





## HINDU DECLARATION

Not only in the Vedas, but in later scriptures such as the Upanishads, the Puranas and subsequent texts, the Hindu viewpoint on nature has been clearly enunciated. It is permeated by a reverence for life, and an awareness that the great forces of nature the earth, the sky, the air, the water and fire — as well as various orders of life including plants and trees, forests and animals are all bound to each other within the great rhythms of nature. The divine is not exterior to creation, but expresses itself through natural phenomena.

In addition, according to the Vaishnava tradition, the evolution of life on this planet is symbolized by a series of divine incarnations beginning with fish, moving through amphibious forms and mammals, and then on into human incarnations. This view clearly holds that man did not spring fully formed to dominate the lesser life forms, but rather evolved out of these forms, and is therefore integrally linked to the whole of creation.

This leads necessarily to a reverence for animal life. The Yajurveda lays down that “no person should kill animals helpful to all. Rather, by serving them, one should attain happiness” (*Yajurveda* 13:46). This view was later developed by the great Jain Tirthankara, Lord Mahavira, who regenerated the ancient Jain faith that lives down to the present day. For the Jains, *ahimsa*, or non-violence, is the greatest good, and on no account should life be taken. This philosophy was emphasized more recently by Mahatma Gandhi who always spoke of the importance of *ahimsa* and looked upon the cow as a symbol of the benign element in animal life. All this strengthens the attitude of reverence for all life including animals and insects.



The Hindu tradition of reverence for nature and all forms of life, vegetable or animal, represents a powerful tradition which needs to be re-nurtured and re-applied in our contemporary context. India, the population of which is over 80 percent Hindu, has in recent years taken a special interest in conservation.

What is needed today is to remind ourselves that nature cannot be destroyed without mankind ultimately being destroyed itself. With nuclear weapons representing the ultimate pollutant, threatening to convert this beautiful planet of ours into a scorched cinder unable to support even the most primitive life forms, mankind is finally forced to face its dilemma. Centuries of rapacious exploitation of the environment have finally caught up with us, and a radically changed attitude towards nature is now not a question of spiritual merit or condescension, but of sheer survival.

Let us declare our determination to halt the present slide towards destruction, to rediscover the ancient tradition of reverence for all life and, even at this late hour, to reverse the suicidal course upon which we have embarked. Let us recall the ancient Hindu dictum — “The Earth is our mother, and we are all her children.”

*by Dr. Karan Singh  
President, Hindu Virat Samaj*

## JAIN DECLARATION

The Jain ecological philosophy is virtually synonymous with the principle of *ahimsa* (non-violence) which runs through the tradition like a golden thread.

*Ahimsa* is a principle that Jains teach and practice not only towards human beings but towards all nature. It is an unequivocal teaching that is at once ancient and contemporary.



There is nothing so small and subtle as the atom nor any element so vast as space. Similarly, there is no human quality more subtle than non-violence and no virtue of spirit greater than reverence for life.

The teaching of *ahimsa* refers not only to physical acts of violence but also to violence in the hearts and minds of human beings, their lack of concern and compassion for their fellow humans and for the natural world. Ancient Jain texts explain that violence (*himsa*) is not defined by actual harms, for this may be unintentional. It is the intention to harm, the absence of compassion, that makes an action violent. Without violent thought there could be no violent actions.

Jain cosmology recognizes the fundamental natural phenomenon of symbiosis or mutual dependence. All aspects of nature belong together and are bound in a physical as well as a metaphysical relationship. Life is viewed as a gift of togetherness, accommodation and assistance in a universe teeming with interdependent constituents.

## JEWISH DECLARATION

The festivals of the Jewish religion do call upon us to stand before God, in awe at His majesty, trembling before His judgments, but that is not the dominant mood of the Jewish faith. The festivals celebrate, in joy, the cycle of three seasons of nature. The rabbis even insisted that “he who has denied himself any one of the rightful joys of this work is a sinner” (*Baba Kama* 91b). The highest form of obedience to God’s commandments is to do them not in mere acceptance but in the nature of union with Him. In such a joyous encounter between man and God, the very rightness of the world is affirmed.

The encounter of God and man in nature is thus conceived in Judaism as a seamless web with man as the leader, and custodian, of the natural world. Even in the many centuries when Jews were most involved in their own immediate dangers and destiny, this universalist concern has never withered ... Now, when the whole world is in peril, when the environment is in danger of being poisoned, and various species, both plant and animal, are becoming extinct, it is our Jewish responsibility to put the defense of the whole of nature at the very center of our concern . . . Man was given dominion over nature, but he was commanded to behave towards the rest of creation with justice and compassion. Man lives, always, in tension between his power and the limits set by conscience.

Our ancestor Abraham inherited his passion for nature from Adam. The later rabbis never forgot it. Some 20 centuries ago they told the story of two men who were out on the water in a rowboat. Suddenly, one of them started to saw under his feet. He maintained that it was his right to do whatever he wished with the place that belonged to him. The other answered him that they were in the rowboat together — the hole that he was making would sink both of them (*Vayikra Rabbah* 4:6).

We have a responsibility to life, to defend everywhere, not only against our own sins, but also against those of others. We are now all passengers, together, in this same fragile and glorious world. Let us safeguard our rowboat — and let us row together.

by Rabbi Arthur Hertzberg  
Vice President, World Jewish Congress

## MUSLIM DECLARATION

Unity, trusteeship and accountability, that is *tawheed*, *khalifa* and *akhrah*, the three central con-







cepts of Islam, are also the pillars of the environmental ethics of Islam. They constitute the basic values taught by the Qur'an. It is these values which led Muhammad, the Prophet of Islam to say: "Whoever plants a tree and diligently looks after it until it matures and bears fruit is rewarded," and "If a Muslim plants a tree or sows a field and men and beasts and birds eat from it, all of it is charity on his part," and again, "The world is green and beautiful and God has appointed you his stewards over it." Environmental consciousness is born when such values are adopted and become an intrinsic part of our mental and physical makeup.

Muslims need to return to this nexus of values, this way of understanding themselves and their environment. The notions of unity, trusteeship and accountability should not be reduced to matters of personal piety; they must guide all aspects of life and work. *Shariah* [Islamic law] must not be relegated just to issues of crime and punishment, it must also become the vanguard for environmental legislation. We often say that Islam is a complete way of life, by which it is meant that our ethical systems provide the bearings for all our actions. Yet our actions often undermine the very values we cherish. We must judge our actions by them. They furnish us with a world-view which enables us to ask environmentally appropriate questions, draw up the right balance sheet of possibilities, properly weigh the environmental costs and benefits of what we want, what we can do within the ethical boundaries established by God, without violating the rights of His other creations. If we use the same values, the same understanding in our work as a scientist and technologist, economist or politician as we do to know ourselves as Muslims — those who subject themselves to the



Will of God — then, I believe, we will create a true Islamic alternative, a caring and practical way of being, doing and knowing, to the environmentally destructive thought and action which dominate the world today.

*by Dr. Abdullah Omar Nassef  
Secretary General, Muslim World League*

## SIKH DECLARATION

Since the beginning of the Sikh religion in the late fifteenth century, the faith has been built upon the message of the "oneness of Creation." Sikhism believes the universe was created by an almighty God. He Himself is the creator and the master of all forms in the universe, responsible for all modes of nature and all elements in the world.

Sikhism firmly believes God to be the source of the birth, life and death of all beings. God is the omniscient, the basic cause of the creation and the personal God of them all.

From the Divine command occurs the creation and the dissolution of the universe (p 117, *Guru Granth Sahib*). As their creator, the natural beauty which exists and can be found in all living things whether animals, birds, fish, belongs to Him, and He alone is their master, and without His *Hukum* (order) nothing exists, changes or develops.

Having brought the world into being, God sustains, nourishes and protects it. Nothing is overlooked. Even creatures in rocks and stones are well provided for. Birds who fly thousands of miles away leaving their young ones behind know that they would be sustained and taught to fend for themselves by God (Guru Arjan, in *Rehras*). The creatures of nature lead their lives under God's command and with God's grace.



*From an address by Klaus Töpfer, Executive Director, United Nations Environment Programme, to the World Council of Churches, 31 October 1999*



**W**hen God said:

“Be fruitful, and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth...”

- ◇ did God intend that we would multiply at the rate of nearly 80 million additional people a year, and be rapidly approaching a global population of ten billion in the next century...
- ◇ that every day we would push an estimated 150 species of plant, animal and other living things that moveth upon the earth into extinction....

Was it God's plan that under human dominion, the global climate would be altered, with consequences ranging from more severe drought and more torrential rainfall not merely anticipated but being experienced today...

- ◇ that we would put chemicals into the air, water and soil that would return to poison us and dramatically reduce our ability to reproduce...
- ◇ that we would produce chemicals that destroy the ozone layer, exposing ourselves and all life forms to harmful solar radiation...causing higher incidents of skin cancer and suppressing our immune systems...
- ◇ that we would mow down an estimated 11.4 million acres of tropical forests each year...
- ◇ that we would allow over a billion people to live in conditions of extreme poverty, and allow 35,000 children to die each day of entirely preventable causes.

Surely this is not what God intended. The Hebrew word translated as “dominion” meant having responsibility for the well-being of the creation, not the right to destroy it. Man's dominion cannot be understood as license to abuse, spoil, squander or destroy what God has made to manifest His glory....

By acknowledging our rightful place within nature, we are accepting our responsibilities for its well-being, just as we take responsibility for the well-being of members of our families and friends. It's a matter of drawing a larger circle, not around your house, or your city or even your country, but around all life on Earth....

Gandhi said it best — we must *be* the change we wish to see in the world.

## FRESH WATER

**T**he planet is running out of fresh water. Less than one percent of all water on Earth is fresh; the rest is sea water or polar ice. Imagine a giant bucket holding all the water on the planet. Dip in a finger. According to *H<sub>2</sub>O* by Philip Ball (Weidenfeld & Nicolson, 1999), that single drop is all that's fit to drink, one hundredth of the one percent that is fresh water.

You make springs gush forth in the valleys; they flow between the hills, giving drink to every wild animal.

*Psalm 104*

### WATER AND HUMAN HEALTH

In the year 2000, one billion of Earth's six billion people do not have access to safe water and two billion lack proper sanitation, the UN-sponsored World Commission on Water for the 21st Century reported. It found that half the world's 500 major rivers are seriously polluted and depleted; only the Amazon and Congo are considered healthy. The cause: population growth, the related demand for irrigation, and the fact that less than 10% of the world's waste (farm runoff, industrial pollution and sewage) is treated before entering rivers.

UNEP's *GEO 2000* reported, "In many developing countries, rivers downstream of major cities are little cleaner than open sewers." In Latin America, only about 2 percent of sewage receives any treatment, and the fecal coliform count in Asia's rivers is 50 times higher than World Health Organization guidelines. Forty percent of U.S. rivers and streams are too dangerous for fishing, swimming or drinking. Worldwide, polluted water affects the health of a staggering 1.2 billion people and contributes to the death of about 15 million children under age 5 every year.

The use of Earth's fresh water has outstripped population growth in the 20th century — by two to one.

One-third of humanity now lives in countries where water consumption exceeds the renewable supply. Yet 90 percent of the planet's fresh water goes to agriculture — mostly agroindustry — and other industrial uses. If present use patterns continue, the World Meteorological Organization predicts that two out of every three persons on Earth will live in water-stressed areas in just 25 years.

### ECONOMIC DEVELOPMENT NEEDS WATER

While water shortages are most acute in Africa and West Asia (the Middle East), the problem is global, constraining economic growth in China and India. Even in water-abundant North America, the competition between municipal, agricultural and industrial demands has led to conflicts over water rights — especially in the west and southwest.

Using water faster than it can be replaced has affected groundwater quality and led to a drop in the water table — tens of meters (yards) in many places and the subsidence of land in several regions. As the fresh water table drops, salt water intrudes into coastal farmlands and irrigation wells, rendering them useless.

Explaining that the water table beneath Beijing had fallen 2.6 meters (8.5 feet) in the previous year and nearly 60 meters (195 feet) since the late 1960s, in January 2000 Chinese authorities announced they would undertake a huge project to transport water from the south of the country to the north. Three routes were being considered, one taking water from the Mekong River, which would reduce its water flow to several downstream rice-growing countries on the Indochina Peninsula.



## AGRICULTURE DEMANDS WATER

Worldwide, agriculture accounts for more than 70 percent of fresh water use, and demand is expected to increase sharply. Most of the food needed for a population of up to nine billion in 2050 will likely come from increased irrigated land.

In recent decades, intensive agriculture has led to increased fresh water pollution. Not only do animal wastes contaminate water supplies but the extensive use of pesticides and fertilizers causes chemicals to runoff and leach into groundwater. In 1999, the U.S. Geological Survey found that much of America's groundwater and many streams are contaminated with pesticides and fertilizers, a potential threat to the aquifers that supply water to tens of millions of people. In 2000, it determined that most of the nitrogen pollution killing marine life in the Gulf of Mexico — the infamous “dead zone” — comes from areas near Midwestern U.S. rivers. Worldwide, nitrate pollution from fertilizers has become a serious water quality problem. Nitrates also are dangerous to human health, and can lead to brain damage and even death in some infants.

## LOSS OF LIFE

Scientists from more than 90 countries analyzed trends for 281 fresh water species — mammals, birds, reptiles, amphibians and fishes — for the World Wide Fund for Nature's *Living Planet Report 1999* and found a greater than 50 percent decline overall in populations.

Worldwide evidence suggests a number of forces at work, even in parks, nature reserves and other protected areas, indicating just how pervasive the

threats can be. While habitat loss plays a major role, particularly as fresh water ecosystems continue to be modified on a massive scale by human activity, other likely causes are disease, pollutants, climate change, ultraviolet radiation (from a depleted ozone layer) and invasive species.

## POWER AND INDUSTRY

Many northern lakes and streams — and the life within them — continue to be damaged by acid rain, which is formed when rainclouds meet emissions from dirty power plants. Although waterways in northern Europe are becoming less acid, an international team of scientists found that North America's have not recovered, possibly because the U.S. imposed sulfur dioxide regulations later than Europe did. China is urging cities to shut down old coal-fired power plants, factories and unlicensed coal mines to cut emissions of sulfur dioxide, since acid rain now falls on 40 percent of the country. New standards require Chinese cities to develop pollution control programs before 2000 and some 80 percent of major industrial firms to reduce their emissions.

Currently, Europe and North America are the only regions using more water in industry than in agriculture. Industrial wastes have contaminated water supplies ever since the Industrial Revolution began, putting heavy metals such as lead, mercury, arsenic, cadmium into the water and food chain along with PCBs and other persistent organic pollutants. If current trends continue, industrial water use will more than double by 2025, with a four-fold increase in watercourse pollution; in China industrial water use is projected to increase five-fold by the year 2030.

Environmental scientists from 50 countries, in a survey commissioned for UNEP, identified the shortage and pollution of fresh water as one of the most pressing problems facing humanity.



Between 1900 and 1995, global water consumption rose sixfold, more than double the rate of population growth.



The amount of irrigated land has grown from 9 million hectares (20 million acres) in 1800 to 255 million (630 million acres) in 1995.



In 1950, there were 5,170 large dams worldwide; today, there are more than 36,500. In the U.S. only 2 percent of rivers have *not* been dammed.



Restoration efforts have improved the Rhine, Thames, St. Lawrence, and Hudson Rivers.



## THE GREEN PATRIARCH

For ten days in October 1999, 150 churchmen, environmentalists, politicians and scientists sailed the Danube from Germany to the Black Sea. Literally looking into its pollution, at the end of the trip they urgently demanded the river's restoration.

For decades toxins and sewage have flowed into the Danube from all ten countries along its path. The situation worsened in the spring of 1999 when NATO bombed petrochemical plants, oil refineries and fuel depots in Yugoslavia. Because the Danube was blocked by bridges destroyed in the bombardment of Novi Sad, the group had to disembark and travel through Serbia by road.

The floating conference was organized by one of Europe's foremost "greens," not a politician but Bartholomew I, the Ecumenical Patriarch of Constantinople, spiritual leader of 300 million Orthodox Christians worldwide. Since his enthronement in Istanbul in 1991, Bartholomew has made environmental protection an official policy of his patriarchy, labeling pollution a "sin" against creation. With environmental protection opening the door to other, related issues, he has traveled the

world promoting peace, justice, inter-faith tolerance and coexistence — important in a church with 15 separate Orthodox branches and in a patriarchate with headquarters in a predominantly Muslim country.

Bartholomew I has hosted other floating conferences in the Aegean and Black Sea, and with Prince Philip, who chairs the World Wide Fund for Nature, organized environmental seminars at the Theological School of Halki, Turkey. "The idea is to help the priests understand that part of worshipping God is to respect the natural world. In modernity we have separated the soul from nature. We are saying that we should bring them back together again," the Halki coordinator, The Rev. John Chryssavgis, explained.

The "Green Patriarch," as Bartholomew is now known, has established the first day of September as the occasion of an annual Message on the protection of creation, as well as establishing it as a day of prayer in the Ecumenical Patriarchate and throughout the Orthodox world.

To learn more, visit the web site: [www.patriarchate.org](http://www.patriarchate.org)

The good news is that in recent years cleaner production practices coupled with environmental regulations have contributed to an overall slowdown in industry-related pollution in the developed economies — and more efficient and profitable industries. Developing countries, however, continue on a rising curve of industrial production — and pollution.

## ASSESSING INEQUITY

Water shortages increase social inequity. In Gujarat, India, where groundwater levels have dropped considerably, poor farmers cannot afford to sink deep boreholes, while wealthier farmers can move inland.

Ironically, the world's poor pay far more for water than the wealthy. Developing country water systems tend to reach richer citizens first, even though they often are built with international aid intended for the poor. The poor then are forced to buy water from private dealers, who charge high prices, often for unclean water.

Major social and environmental problems are certain to emerge as growing demand leads to decreasing usable water. "The potential for disputes and even conflict, both within and among States over water resources" is real, UNEP Executive Director Klaus Töpfer warned in October 1999 as he announced a four-year project to assess the water situation worldwide: shortages, pollution, over-exploitation, habitat and other changes.

This international scientific, political and economic water assessment will provide the hard data that governments need to negotiate agreements on water management, nationally and internationally, which they will — only if they feel political water pressure.

## OCEANS, CORAL REEFS, COASTAL AREAS AND SMALL ISLANDS

Oceans are largely unexplored although they are the largest ecosystems on Earth, as rich and diverse as anything on land. While the ocean deep remains generally unpolluted, evidence of environmental degradation is emerging, and some deepwater species are in decline.

The major threats to the health, productivity and biodiversity of the marine environment result from human activities on land — in coastal areas and further inland. Some 80 percent of ocean pollution comes from land-based activities, including municipal, industrial, and agricultural wastes and run-off, and atmospheric pollution. These contaminants affect the most productive areas of the marine environment: estuaries, lagoons and near-shore coastal waters. Enclosed seas are the most endangered: the Aral Sea in Central Asia is effectively dead, and semi-enclosed seas like the Mediterranean, Black and Baltic are highly polluted.

### COASTAL ASSAULT

More than one-third of all people on Earth live within 100 kilometers (62 miles) of a seashore, and about one billion live in coastal urban centers. The health, well-being and, in some cases, the very survival of coastal populations depends upon the health and well-being of coastal systems such as estuaries and wetlands. The intense pressures put on the coastal systems requires serious commitment and preventive action at all levels: local, national, and international.

Estimates show that nearly 50 percent of the world's coasts are threatened by urban development, agricul-

ture, factories, port and road construction, dredging and filling, tourism and aquaculture. Dam construction upriver alters the flow of water that supports important fisheries and diminishes the sediments that maintain deltas and coastlines.

This sediment often is contaminated by microbes and organic nutrients. Nitrogen from sewage discharges, acid rain, agricultural and municipal run-off is a growing problem. Scientists recognize that we are fertilizing Earth on a global scale in a largely uncontrolled experiment. Excessive nitrogen, wastes, oil contamination, accidental spills from shipping, combined with the destruction of wetlands and mangroves, which are natural filters for sediment, have led to polluted coastal areas, unwanted plant and algae growth and a decline in coastal fisheries.

In 1999, to take one example, the Gulf of Mexico's summer "Dead Zone" was bigger than ever: 7,728 square miles — 700 square miles larger than the previous peak in 1995. Agricultural runoff into the Mississippi River was the main cause. Researchers at the Louisiana Universities Marine Consortium said an excess of nutrients such as nitrogen starves the water of the oxygen needed by marine life to survive.

Muds dredged from shipping channels and dumped also are contaminants. In North America, 100 ocean dumpsites receive 60 million tons of toxic mud dredged from harbors every year, while some 400 million tons of contaminated sediments are dumped into rivers, lakes, bays and estuaries. Chemicals dumped in these sites include PCBs, dioxin, mercury, lead and hydrocarbons, which can cause cancer, birth

It is He Who has made the sea subject that ye may eat thereof flesh that is fresh and tender and that ye may extract therefrom ornaments to wear; and thou seest the ships therein that plough the waves that ye may seek [thus] of the bounty of Allah and that ye may be grateful.

*Qur'an 16:14*



Regulations imposed by the UN International Maritime Organization in 1981 have reduced the volume of oil spilled into the oceans by 60 percent.

Some 1.2 million barrels of oil are spilled into the Persian Gulf annually, making it nearly three times more oil-polluted than the North Sea.

Nearly 70 percent of the world's major marine fish stocks are overfished or are being fished at their biological limit.

Fish stocks off the east coast of North America have nearly collapsed.

Fishing fleets are 40 percent larger than the oceans can sustain.

A 1995 UN treaty to protect fisheries in international waters will go into effect soon.

defects and compromised immune systems. At the end of 1999, a coalition of U.S. scientists and ocean protection groups urged a ban on all ocean dumping and national protection standards to require the use of better treatment technologies.

Evidence is emerging of the accelerating destruction of the world's coral reefs by pollution and climate stress. More than half of all reefs are threatened by sedimentation and run-off, sewage from hotels and shipping, coastal construction and mining; up to 80 percent are at risk in more populated areas. Coral bleaching, caused by environmental stresses such as higher sea temperatures and ultraviolet-ray exposure, has spread worldwide and now occurs in at least 60 countries. Some reefs can still be saved, but UNEP says it is too late for many others.

While coastal pollution is gradually being controlled in many industrialized countries, it is rising rapidly in developing regions as a result of population growth, urbanization and industrial development.

## THE ROLE OF CLIMATE CHANGE

The world's oceans have warmed dramatically over the past 40 years, the journal *Science* reported in March 2000, citing the first study ever conducted on a global scale, by the U.S. National Oceanic and Atmospheric Administration. There is growing understanding of the possible impact of climate change on the marine environment. If warming continues, fresh water from melted Arctic ice could change deep ocean circulation patterns, possibly diverting the Gulf Stream that keeps western Europe warm in winter. Surface warming, an increase in ultraviolet radiation and thermal stratification could affect the entire marine food chain. It could also change the chemical

## EL NIÑOS ARE NOT NATURAL DISASTERS

— indeed, some of their effects may be beneficial. They are natural variations in climate, a warming of the eastern Pacific near the equator. Their opposite numbers, *La Niñas*, produce lower than normal sea-surface temperatures in the same area of the Pacific. Both set off a train events that affect weather patterns around the globe. *El Niños* activate unusual climate change, from drought to floods, up to thousands of miles away. *La Niñas* can cause highly variable winters. They occur, usually alternately, every three to five years and last six to 18 months. Today, *El Niños* and *La Niñas* are predictable, thanks to a comprehensive observing network that spans the Pacific Ocean and a network of observational satellites. The question still to be answered is whether global warming is increasing the incidence or severity of *El Niños*.

makeup of surface waters, interfering with coral growth. In July 1999, the journal *Nature* reported that large areas of Earth's oceans already are becoming less salty as global warming causes more rain to fall in sub-Arctic waters.

## A FRIGHTENING FISH STORY

Fish are the primary source of protein for nearly one billion people, and demand is expected to rise proportionately as Earth's population increases. The world fish catch could be sustainably increased, but scientists and fishermen alike worry that if no effective action is taken soon, production will plummet.

Over the past 50 years, the world's fishing fleets have become industrialized with high-tech gear, sonar fish tracing systems, mile-long nets, on-board processing and refrigeration that enable boats to stay at sea for weeks. The global fish catch has nearly doubled in the past 25 years. But this increase masks a compli-

cated picture in which fish species and fishing grounds have been successively exploited and depleted. Repeated failures to implement measures to control over-fishing mean that approximately 60 percent of the world's ocean fisheries are now at or near the point at which their yields will decline. Already, many fishing communities have suffered catastrophic reductions in their annual harvest.

Some of the most biologically productive and commercially valuable marine habitats, such as mangroves and coral reefs, are being degraded by the aquaculture industry. Intensive forms of aquaculture, now accounting for almost 20 percent of all fish and shellfish produced, are causing environmental problems. As aquaculture expands, it will increase environmental risks through water pollution by fish feces and other organic debris, the accidental escape of non-indigenous species, and the possibility of disease transferred from cultured to wild stock.

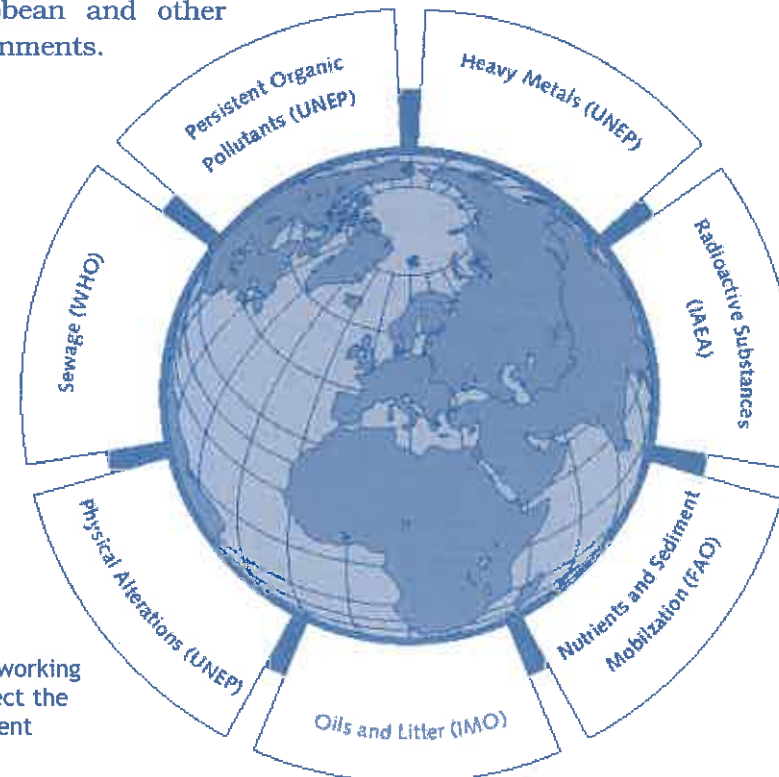
Domestic and international demand for fish and fish products is likely to grow. At the same time intensifying human activity will aggravate the environmental problems that marine and coastal ecosystems already suffer. Growing oil exports and imports increase the incidence of accidental oil spills. And human health is threatened as toxic micro-organisms appear more frequently in coastal waters.

### THE GLOBAL PROGRAMME OF ACTION

Confronted with these problems, 108 governments and the European Commission have declared their commitment to protect and preserve the marine environment. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities was adopted in 1995. UNEP has

established a coordination office in The Hague to strengthen the collaboration of all concerned UN agencies, including The World Bank, UN Development Programme, International Maritime Organization, International Atomic Energy Agency, Food and Agriculture Organization and World Health Organization.

Implementation is primarily the task of governments, in partnership with local communities, public organizations, non-governmental organizations and the private sector. The key to this implementation process is an information and data clearing-house that provides advice and assistance, drawing on the Regional Seas Programme that UNEP began in 1974 to protect the North Sea, Mediterranean, South-East Pacific, Caribbean and other marine environments.



UN agencies are working together to protect the marine environment



## CLIMATE CHANGE

Supreme Lord,  
Let there be peace in  
the sky and  
in the atmosphere...

*Atharva Veda*

If one issue has dominated the environmental debate over the last decade, it is global warming. Debate no longer centers on whether but on the how much and when. Most reliable sources now agree that if we fail to control the emission of greenhouse gases, temperatures will rise between 1°-5°Celsius (2°-9°F) over the next 100 years.

The grave consequences are well known. They include a projected rise in sea levels of about 50 centimeters (20 inches) or more, displacing millions of people in low-lying delta areas and island states; diminished

### THE NEXT ATLANTIS

For more than 5,000 years, my people have inhabited what the ancient mariners called "Pleasant Island." Rainforests once abounded on Nauru, anchored by the Tomano tree and decorated by hanging orchids. Hundreds of bird species, including our treasured Noddy bird, made Nauru their home.

But the 20th century has not been gentle with our island. First we lost our land; 80 percent of my country has been destroyed by phosphate mining, initiated by colonial powers.... My people have been confined to the narrow coastal fringe that separates this wasteland from our mother the sea.

And now we face a new threat: the emission of greenhouse gases in distant lands is warming the Earth and causing the sea level to rise. The coastal fringe where my people live is but two meters above the sea surface.

[T]he willful destruction of entire countries and cultures with foreknowledge would represent an unspeakable crime against humanity. No nation has the right to place its own, misconstrued national interest before the physical and cultural survival of whole countries.

*H.E. Kinza Clodumar, President and Minister for External Affairs,  
Republic of Nauru, at the United Nations, December 8, 1997*

agricultural production in the tropics and sub-tropics where there is already widespread food deficiency; unpredictable fresh water supplies; the reintroduction of serious diseases like malaria to northern countries; and the wholesale loss of important ecosystems and biodiversity.

### NATURAL DISASTERS?

Climate change also appears to be a major contributor to the nightly news where increasingly frequent and severe natural disasters, like floods and drought, have become a depressingly regular feature.

The UN estimates that three million, mostly poor, people died in natural disasters — windstorms, fires and floods — over the past three decades, with tens of millions more affected. The Munich Reinsurance Company recorded more than 700 "large loss events" in 1998, compared to 530 to 600 a year previously, and estimated that economic losses from natural disasters reached \$120 billion in just two years: 1997 and 1998.

### INTERNATIONAL ACTION

Efforts are underway, through the UN-sponsored Kyoto Protocol, to slow greenhouse gas emissions, though there is little sign that these are sufficiently far-reaching to have a major impact on the problem. Meeting the Kyoto targets, UNEP believes, is a formidable challenge for some countries but only a first step in bringing under control what is generally agreed to be the most critical environmental issue the world faces. Even if all the targets agreed at Kyoto in

1997 were met, they would not do enough to stabilize levels of carbon dioxide in the atmosphere.

The Kyoto agreement requires industrialized countries to make significant reductions in their emissions of warming gases over the next 10 to 15 years by reducing their use of fossil fuels, such as coal and oil, and increasing efforts toward a new energy system based on efficiency and renewable energy. In 1998, the nations met again in Buenos Aires and agreed, among other things, that they would set up rules for compliance and a system of international trading in emission rights by the year 2000.

Though industrialized countries lead the world in per capita greenhouse gas production, the total emissions of developing nations are growing at a faster rate and will soon surpass those of the industrial world. Whether these countries can be persuaded to enter into binding agreements to cap their emissions will probably depend on whether they believe they can develop by adopting clean, efficient energy systems and whether they will be assisted in doing so by the richer, industrial nations.

A start was made in December 1999 when China announced plans to cut its dependence on coal from 72 percent of the country's total energy needs to 50 percent by 2050. At the same time, Chinese and Canadian scientists were working on finding ways to use the 200 million tons of fly ash produced annually to nurture new trees and combat desertification.

Powerful economic interests are fighting decisive action, including the fossil fuel corporations and allied unions, OPEC countries, and the many industries that rely heavily on fossil fuels, such as auto and chemical companies. However, a small but influential

number of multinational companies, including Ford, DaimlerChrysler, Texaco, Royal Dutch/Shell, BP Amoco, IBM, Johnson & Johnson, and DuPont, have accepted the threat of global warming and pledged to reduce greenhouse gas emissions.

The Kyoto Protocol is not yet international law. It will become legally binding when ratified by at least 55 countries, including industrialized countries accounting for at least 55 percent of their emissions. As of January 2000, of 84 countries that signed the agreement, only 22 — all from the developing world — had ratified it.

## THE SCIENCE BEHIND THE POLITICS

Earth's atmosphere allows sunlight to enter and warm its surface. Some gases in the atmosphere, including water vapor, carbon dioxide, methane and nitrous oxide, are called greenhouse gases because they can trap heat. Without the natural greenhouse effect, most of the sun's warmth would be lost in space, and Earth's surface would be too frigid for most forms of life.

With industrialization, the levels of many greenhouse gases have risen substantially, due mainly to the combustion of fossil fuels that produce electricity, power cars, run factories, heat and cool houses. Greenhouse gases also come from deforestation and certain agricultural practices. Their accumulation is changing Earth's climate by trapping more of the sun's energy. Since the 19th century, Earth's surface has warmed about .4°C (1°F) and the sea level risen 10 to 25 centimeters (4-10 inches), due primarily to melting glaciers and the thermal expansion of the oceans — phenomena attributed to global warming.

Climate change has been linked to the increasing ferocity of natural disasters, with 3 million people lost in the past three decades. Losses from natural disasters in the decade 1986-95 were eight times higher than in the 1960s.

The concentration of heat-trapping gases in the atmosphere is higher than at any time in the past 200,000 years.

Deforestation contributes 20-25 percent of total carbon emissions into the atmosphere, ranking second only to fossil fuels.

Global warming could move the ideal range for many North American forest species some 300 kilometers (186 miles) north.



Worldwide, emissions of carbon from burning fossil fuels fell 0.5 percent in 1998 even as the world economy expanded by 2.5 percent, undermining the argument that reducing greenhouse gas emissions will stifle the economy.

\*

Every industrial facility in Poland pays a small portion of its operating costs to use the nation's natural resources. If it pollutes above the legal limit, it pays a fine. The money goes into a fund administered by the Ministry of the Environment, which makes loans to companies that want to install more eco-friendly technologies. If the technologies meet their environmental goals and the company makes its repayments on time, it has to pay only 50 percent on the original loan.

In 1988, recognizing the gravity of this problem, the Intergovernmental Panel of Climate Change (IPCC) was formed, consisting of 2,600 leading experts, to assess the science and economics of climate change. Its landmark 1995 report concluded that "the balance of evidence suggests a discernible human influence on global climate."

Evidence continues to accumulate. Satellite data show spring arriving a week earlier in the Northern Hemisphere, while autumn arrives five days later than occurred only a decade ago. The year 1998 was the hottest on record, and the 1990s the warmest decade in an estimated 1,200 years.

### WHAT CAN WE EXPECT?

The IPCC has predicted several probable consequences of future warming, in addition to those mentioned above. Climate change is likely to have wide-ranging and mostly adverse effects on human health. The greater frequency of heat waves is expected to raise mortality rates and enlarge the range of many infectious diseases, bringing malaria and dengue fever into the temperate zone.

For the billions who live near coastal areas, rising sea levels and more frequent storms could have devastating effects. In many parts of the tropics, such as Africa where people are already prone to malnutrition and famine, harvests are projected to decline as a result of climate change. In temperate and northern

regions, with longer growing seasons, agricultural production could increase — if the expected proliferation of pests and weeds due to climate change does not outweigh the fertilizing effects of increased carbon dioxide.

Global warming also has the potential to transform many of Earth's natural ecosystems causing, for example, forested areas to undergo major shifts in composition. Ecosystems most likely to experience serious disruptions are those at higher latitudes, such as far northern forests and tundra, as well as coastal ecosystems, with dramatic consequences for fisheries and marine biodiversity. Ocean depths are warming, the great ice cover across the top of the globe is 40 percent thinner than it was four decades ago, glaciers are melting and huge ice shelves attached to Antarctica are disintegrating.

While Earth's expanding population and economy increase concentrations of carbon dioxide in the atmosphere, the global energy system has been moving away from carbon-rich fuels. The world economy today burns less than two-thirds as much carbon per unit of energy produced as it did in 1860, as wood was replaced by coal, then oil and now, increasingly, natural gas, and eventually possibly hydrogen, a fuel with no carbon at all. A critical question is: can the trend be accelerated enough to stave off or lessen global warming?

In retrospect it will be clear. A hundred years from now, people may well remember the 1990's not as the decade of the Internet's spread or the Dow's ascension but as the years when global temperatures began spiking upward — as the years when rain and wind and ice and sea water began irrefutably to reflect the power and heedlessness of our species. But how bad it will get depends on how deeply and how quickly we can feel.

*Bill McKibben, author of "The End of Nature," in a 4 September 1999, New York Times op-ed piece*



"We now know," U.S. President Bill Clinton said during a trip to New Zealand in 1999, "that technologies that permit breathtaking advances in energy conservation, and the use of alternative forms of energy, make it possible to grow the economy faster while healing the environment, and that, thank God, it is no longer necessary to burn up the atmosphere to create economic opportunity. We have somehow got

to convince a critical mass of decision-makers and ordinary citizens in every nation of the world that is true" — a situation as true in the U.S. as elsewhere.

Even if the nations of the world take quicker action, significant climate change will not disappear quickly. Once greenhouse gases are stabilized, warming could continue for decades and sea levels could rise for even longer.

## CHURCH CLIMATE CAMPAIGN

Church leaders across the United States launched a campaign at the end of 1999 to combat climate change.

"We intend to move the challenge of climate change from the laboratories of science and halls of diplomacy to the pulpits and pews of the American heartland," the Rev. John Heunink, a Presbyterian church leader in Oregon, told The Associated Press. The reason, he said, is because "Global warming will hurt creation."

The Oregon Global Warming Campaign is the first of 17 statewide efforts being organized by religious leaders across the nation. It is coordinated by the National Religious Partnership for the Environment, a broad coalition of 135,000 congregations belonging to the U.S. Catholic Conference, National Council of Churches, evangelical Christian and Jewish organizations.

The climate campaign is reaching out through mainstream congregations to workers and families

that traditionally have not embraced environmental activism and to state political leaders, urging them to support policies to reduce greenhouse gas emissions in the U.S. and around the world. It also is encouraging churches and synagogues to set a good example by being much more energy efficient.

"Environmental activity in the faith community has been growing steadily over the past five years," the Partnership's executive director Paul Gorman said.

To learn more:

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Worldwide Web: www.nrpe.org

Global energy use rose nearly 70 percent in the last three decades.

\*

The average North American uses nearly five times more fuel than his European counterpart.

\*

In 1995, the high-income countries, home to 20 percent of Earth's population, accounted for about 60 percent of world commercial energy use.

\*

Total carbon emissions from China now exceed those of the European Union although China's per capita emissions are much lower.

\*

Since World War II, the number of vehicles on the road has risen from 40 million to 680 million — all contributing greenhouse gases. At this rate, there will be 1 billion potentially polluting vehicles by 2025.

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## PROTECTING THE LAND

**E**arth's thin skin of soil produces our food, nurtures our trees and all plant life, cleans our water, protects from floods, and regulates our climate.

Yet, globally, we have already degraded an estimated 2 billion hectares (nearly 5 billion acres) through mismanagement, unsuitable planning, over-use of fertilizers and pesticides, uncontrolled waste dumping, pressures from high population growth, poverty, even polluted rain. Replacing the topsoil already lost can take centuries or even millennia.

In theory, Earth could support far more people than its current six billion. Unfortunately, favorable soils and growing conditions do not always coincide with where people live. Political and economic instability can and often do make bad food situations even worse.

The problem is particularly serious where local farmers cannot produce enough for an adequate diet. Millions of small farmers have been forced to clear forests and cultivate fragile marginal lands, causing soil erosion and deepening rural poverty. When all else fails, they migrate to urban areas where their shanty-towns — usually in areas without potable water or sewage systems — become a breeding ground for malnutrition and disease.

An estimated 65 percent of Africa's agricultural land has been damaged, and crop yields could be halved there within 40 years if the degradation of cultivated land continues at present rates. In China between 1957 and 1990 the amount of arable land was reduced by an area equal to all the cropland in Denmark, France, Germany and the Netherlands combined, mainly because of land degradation. In

Europe, approximately 16 percent of the land area is affected by erosion, and in North America, about 95 million hectares (235 million acres) are degraded, mainly by erosion.

A problem for farmers North and South is the rising demand for livestock and dairy products. Producing food for animals uses land that once produced food for people, and it is a much less efficient use of the land. In addition to meat, other export products, such as fruit and flowers, also have displaced subsistence farmers as agribusiness has taken over smallholdings.

### DISAPPEARING FORESTS

Today 80 percent of the woodlands that originally circled Earth's surface in abundance have been cleared, fragmented or degraded. Most of the natural forests that remain occur in just a few places — the Amazon Basin, Canada, Central Africa, Southeast Asia, Alaska and the Russian Federation. These forest blocks are valuable because they house indigenous peoples and cultures, shelter biodiversity, contribute to economic growth, protect water sources and provide recreation. Logging, mining and other large-scale development threaten nearly 40 percent of them.

Worldwide, about 3.5 billion hectares (more than 8.6 billion acres) of forest remain, half in the tropics, the rest in the temperate and boreal zones. The destruction of Earth's rainforests — 10-20 hectares, or 25-50 acres every single minute — is alarming, especially when half of all prescription medicines come from natural sources like plants, and nearly half of all plant species are found in rainforests.

Earth's forests have disappeared faster in this centu-

Her upon whom the  
trees, lords of the  
forest, stand firm,  
unshakable, in  
every place, this  
long-enduring Earth

*Atharva Veda*

Sow for six years  
and leave the land  
at rest for the  
seventh year...

*Sanhedrin*



## CATALOGING PAPER USE

The U.S. catalog industry produced 17 billion catalogs in 1998, or 64 for each American, and used 3.35 million tons of paper, more than 12 percent of all the printing and writing paper produced in the country, according to a November 1999 study.

The study by the Alliance for Environmental Innovation, an initiative of the Environmental Defense Fund and Pew Charitable Trust, examined 10 catalog companies and found only one, L.L. Bean, using recycled paper — but only for order forms. The Internet is actually increasing the number of catalogs because companies use their websites to expand mailing lists.

The alliance urged companies to use more recycled and lightweight paper, let customers specify how many catalogs they want, do more business online, and use eco-friendly pulping and bleaching processes.

On the other hand, a report released by the U.S. Postal Service in July 1999 argued that catalogs help the environment by keeping people out of their cars, thus cutting 66,000 tons of air pollution and saving 97 million gallons of gasoline.

ry than in any previous one as our population tripled in size, from 2 billion to 6 billion. For nearly 3 billion people — half the world's people — wood remains an essential source of energy for cooking and heating. Severe shortages exist in Africa, Central America and parts of Asia, and eight out of ten people don't have enough paper to meet basic literacy and communications needs.

The underlying forces behind deforestation are poverty, population and economic growth, urbanization, wood exports and expansion of agricultural lands. Clearing land for agriculture is the major cause of tropical deforestation, with logging accounting for about one-third of the total. According to Greenpeace, illegal commercial logging is responsible for 80 percent of tree clearing in the Amazon every year, with most of the profit going to foreign companies. The biggest demand for commercial wood is expected to come from Asia where the need is rising rapidly and reserves already are inadequate.

In India's southeastern state of Orissa, rapid logging of the coastal mangrove forest contributed to terrible destruction caused by the October 1999 cyclone that killed at least 7,600 people and affected 15 million more. The *Indian Express* reported logging has escalated in recent years despite calls for mangrove preservation, making the recent cyclone more damaging than any in the past 30 years.

Deforestation has been arrested in North America and Europe — and even reversed. While tree plantations flourish in North America, logging from natural or virgin forests continues. In Europe, most wood is produced from managed forests and plantations. Thanks to tree planting, natural regeneration of marginal lands, even improved air quality, Europe's forest area has increased by more than 10 percent since the 1960s. Still, about 60 percent of all forests in Western and Central Europe, and large areas around industries in Eastern Europe and Central Asia, are badly degraded, primarily from pollution.

The scale of forest loss and degradation has mobilized media attention and public concern; focused local,

Between 1990 and 1995, 56 million hectares (138 million acres) of forests were lost.

\*

About 600 companies in 32 different countries have enrolled in the Forest Stewardship Council's certification system. The FSC label indicates the wood has been grown and harvested in an environmentally and socially responsible manner, under international guidelines.

\*

Some 11 million hectares (27 million acres) of forest in 27 countries are certified by the Forest Stewardship Council as meeting standards of sustainable management.

\*

North America is home to 13 percent of the world's forests. While their area is increasing, their quality is deteriorating.

Some 30 percent of the world's original forests have been converted to agriculture.

\*

About 38 percent of the world's cropland has been degraded by poor agricultural practices.

\*

Erosion is stripping away topsoil at rates 16-300 times faster than it can be replaced.

\*

While the number and area of protected sites in Latin America continue to grow, many are protected only on paper and have no real resistance to degradation.

national and international efforts on promoting sustainable forest management; and is changing policies and legislation.

After a series of rancorous and lengthy discussions, negotiators from 100 nations agreed on February 12, 2000 to form a new international body, the UN Forum on Forests, to implement existing international agreements on forest protection. Paul Hohnen of Greenpeace International calculated that 40 international bodies already deal with forestry and at least 20 treaties touch on the issue. "The new forum should make some sense of this," he said. "The important thing is to implement what is there."

Earlier in that same month, President Clinton announced a proposal to nearly double federal spending to protect tropical rainforests. Much of the \$150 million requested would be used to help more than 60 nations strengthen efforts to fight excessive logging and forest burning. About \$37 million would go to "debt-for-nature" swaps, in which the U.S. would forgive debts in exchange for protecting forest land.

In the private sector, International Paper Co., the world's largest paper producer and one of the biggest private landowners in the U.S., at the end of 1999 hired an outside firm to verify that its forest-management practices are environmentally sound. The company said that more than 100 of its customers, including Home Depot and McDonald's, had asked whether its products meet various environmental criteria — a response to protests and publicity campaigns by environmental groups for independent forest certification.

### SUSCEPTIBLE DRYLANDS

Drylands are found on every continent — in the

savannahs of Africa, the Great Plains and pampas of the Americas, the steppes of southeast Europe and Asia, the outback of Australia and at the margins of the Mediterranean. These lands are vulnerable because they recover so slowly from disturbance. With limited water, the land is susceptible to erosion and salinization, caused by over-grazing, over-farming, vegetation clearing, and climate change. New soil forms slowly and salts, once accumulated, tend to remain where they are.

An area larger than Greece — more than 150,000 square kilometers, or nearly 58,000 square miles of land — is turned to desert each year, forcing people to leave their homes in search of food and work. It's a problem that threatens the drylands that cover 40 percent of Earth's land surface.

While human activities are responsible for only about 20 percent of the problem, continuing land degradation jeopardizes the livelihoods of more than one billion people. Drylands provide much of the world's grain and livestock as well as the habitat that supports the last remaining big game animals.

In recent decades, several initiatives to combat desertification have lost momentum due to a lack of political will, financing and appropriate technology. But the Convention to Combat Desertification, which came into effect in 1996, has garnered commitments from 144 countries in just three years. Most now have National Action Plans, and some have gone even further, with sub-regional programs to manage shared natural resources, such as water, through streamlining, harmonizing and enforcing environmental laws. The next step is to get industrial nations to commit more funding. Billions of dollars are needed to begin recovery efforts.





## PLANTING THE TREES OF LIFE WHERE HUMANITY WAS BORN

Like other African peoples, the Shona of Zimbabwe live with their ancestors, whether they venerate them in traditional fashion or revere them in Christian worship. When the ancestors called for the war- and poverty-ravished land to be clad once more with trees, the people responded, and today their religion-based reforestation program is something of a miracle.

It began after Zimbabwe won its independence in 1980. Professor Inus Daneel of the University of South Africa and his team of Shona fieldworkers were researching the role indigenous religion and Christianity had played during *chimurenga* (the struggle for liberation). They learned that both traditional spirit mediums and African Independent Church prophets had taken significant action to inspire freedom fighters and mobilize mass support for the struggle. Prof. Daneel and his team decided to utilize this force to save the land from environmental devastation caused by a host of political, economic and social inequities.

Starting in 1988, they established three related institutions to liberate the ecologically "lost lands" through massive mobilization for tree planting, protection of water resources and wildlife conserva-

tion. The first was the Zimbabwean Institute of Religious Research and Ecological Conservation (ZIRRCON), which then founded two sister organizations, one for traditionalists, Association of Zimbabwean Traditional Ecologists (AZTREC), the other for African Independent Churches, Association of African Earthkeeping Churches (AAEC).

With virtually no financial support, AZTREC managed to plant 5,000 trees during the 1988 rainy season, about 150,000 in 1989, and more than 500,000 the following year after European Economic Community support helped extend its activities. AAEC came into being in 1991 and immediately established four church nurseries for indigenous, fruit and exotic trees. By 1999-2000, with help from a number of international donors primarily in Europe, the organizations had established a total of 15 major nurseries, some producing as many as 100,000 seedlings a year, and a host of satellite nurseries through schools and women's clubs. In just over a decade, thousands of small farmers have planted some six million trees in more than 3,000 orchards and woodlots. As of 2000, the average annual number of trees planted is approaching one million.

From the beginning, tree planting ceremonies have been festive occasions, with chiefs, mediums, prophets, school teachers and government officials encouraging and working with local communities. Ancestral rituals complemented by Christian addresses have led to innovative forms of interfaith dialogue.

ZIRRCON and some African Independent Church leaders – called prophets – also have developed a new theology of the environment and are incorporating ecological stewardship in their sacramental ceremonies. In baptisms, where the newly converted are encouraged to confess their ecological sins, and in tree-planting eucharists, congregants commit themselves to restore creation in service to as-yet unborn generations.

To learn more:

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## CONSERVE BIOLOGICAL DIVERSITY

Let the earth put forth  
vegetation: plants  
yielding seed, and  
fruit trees of every  
kind on earth...

*Genesis*

If all the animals  
ceased to exist,  
human beings  
would die of a great  
loneliness of the spirit.

*Attributed to  
Chief Seattle*

**O**ur lives and most of our livelihoods are based on biodiversity — the wealth of wild species. In the industrialized countries, there's a 50-50 chance every time a doctor's prescription is filled that the medicine originated in the wild. Plants and animals are the traditional source of remedies used by three-quarters of the world's people. The problem is that one-third of all plant species, including many would-be "miracle" plants, may face extinction in just the next 50 years, primarily from tropical deforestation.

This is why some drug manufacturers have joined pioneering food, cosmetics and clothing companies in new alliances with conservationists, scientists, traditional healers, developing-country entrepreneurs and governments. They believe that research and development of wild species could be vital to their long-term interests as well as to the maintenance of earth's biological diversity — the total stock of genes, species and ecosystems in a region.

The idea behind these new alliances is that everybody wins. Humanity gets new products based on the biological diversity of the wild while people in the tropics are compensated for their collection efforts and for the use of their natural resources. In this way local people are encouraged to protect the source of their compensation, which preserves habitats and thus fulfills vital ecological and environmental functions like stabilizing the planet's climate.

Many more such efforts are urgently needed if we are to save the 100 species scientists fear are being extinguished every single day as humans deliberately or inadvertently destroy the natural systems that sustain life on earth. Like any inheritance, biodiversity

can flourish if well-managed, or it can be squandered and lost.

### LIFE ON EARTH

Biologists conservatively estimate that there are between 5 and 15 million species of plants, animals, and micro-organisms on Earth today, but only about 1.7 million have been described and named. By far the biggest single cause of extinctions is disappearing habitats. When people move into an area, they tend to push out most other forms of life. Humans have transformed natural ecosystems since the dawn of agriculture 10,000 years ago and now have changed nearly half of Earth's land surface. The rate of change has been particularly intense since the industrial revolution of the 18th century with its concomitant growth in population. It took *Homo Sapiens* 5,000 centuries to reach the 1 billion population mark in the year 1850. It took just 150 years to reach more than 6 billion.

"Alien invasion" is a second cause of species loss. Alien plants and animals — invaders carried wittingly or unwittingly by man from one ecosystem to another — flourish when their usual pests and diseases are absent. Even Darwin's unique species on the Galapagos Islands of Ecuador are threatened by animals brought in by recent human settlers.

Finally there is global warming. If the climate changes as scientists predict, many plants and animals will find they are no longer suited to their environments. This could affect food production, for plants being immobile cannot adapt as quickly as animals. Increases in ultraviolet radiation, from a



thinned ozone layer, also could alter or obliterate species.

## SUSTAINABLE ECONOMIC DEVELOPMENT

In our lifetime, as populations and expectations have doubled and redoubled, life has gone out of balance, forcing increasing billions of people to live in poverty. To improve their situation, many developing countries borrowed heavily (and at times unwisely) from commercial banks at inequitable rates of repayment and then found that their primary products had little value in the world market.

Today, throughout the tropics, nations are struggling to pay international debts — some tainted by fraud and corruption — by massively exploiting forests and other basic natural resources to generate foreign exchange. Financial stabilization programs imposed by such economic gate-keepers as the World Bank and the International Monetary Fund (IMF) have given nations no recourse but to cut expenditures on social and economic projects for the poor in order to meet debt repayments. The debt burden falls hardest on people struggling to make a living from their environments. And in turn the environment becomes degraded as the poor take everything they can from it for survival.

Efforts to stop the destruction of biological resources therefore run into moral as well as practical obstacles. How can the industrialized nations demand onerous debt repayments while insisting that debtors preserve the biodiversity of their forests, waterways and wetlands? One way may be to reduce the debt burden of the poor nations, but equally as important is a campaign to convince people everywhere that it is

in their own future interests to protect life in their own and others' environments.

## PROTECTING BIODIVERSITY

The best way to conserve the full range of wild biodiversity — all living organisms within their ecological processes — is by protecting large areas of natural habitat. Not only are these habitats primary sources of genetic raw materials — the key to improving the productivity of agriculture, forests and livestock — but they also are essential for stabilizing climate change.

It is in the tropics that the battle to save biological diversity will be won or lost. These wet, warm ecosystems — forests, coral reefs and coastal waters — nurture perhaps two-thirds of all species, many more than are found in dry, cold areas. Recent estimates predict that, at current rates of deforestation, some 2 to 8 percent of Earth's species will disappear over the next 25 years.

While tropical rainforests were being explored in the last century and exploited in this one, life underwater went virtually unexplored. Until recently, the ocean deep was thought to be lifeless. Now, thanks to new means of underwater reconnaissance, more than 800 deep-sea species have been identified. Scientists now believe they had underestimated the productivity of marine systems by half. Yet at the same time, the very existence of many marine species is being threatened by overfishing, pollution, the introduction of alien species and global climate change.

As wildlife habitats are wiped out, it has become apparent that current measures do not offer sufficient protection. Some scientists and policy-makers,

How many species are there? Scientists estimate 300,000 plant species, between 4 and 8 million insects, and 50,000 vertebrate species, of which some 10,000 are birds and 4,000 are mammals.

§

One-quarter of Earth's 4,630 mammals and 11 percent of all bird species are at risk of extinction. More than half our coral reefs are threatened, and 80 percent of the forests that originally covered our planet have been cleared.

§

At least 40 percent of the world's economy and 80 percent of the needs of the poor are derived from biological resources.



Until the early 1980s, cod catches in the North Sea averaged 300,000 metric tons a year. Now they are just over a third of that. By the late 1990s, fishermen had cut their catches by a third. Even so, young fish continue to disappear from the northeast Atlantic. Climate change could be involved: as the North Atlantic becomes warmer, cold-water fish retreat north.

§

More than one-third of threatened and endangered species live in wetlands, and half the world's wetlands were lost last century.

§

More than 80 wild animal species are protected by the Convention on the Conservation of Migratory Species of Wild Animals (CMS), including several species of whales, dolphins and turtles

along with spiritual leaders, indigenous peoples, environmental and other activists make the compelling argument that earth's myriad species and their habitats have their own moral, ethical, spiritual, aesthetic and intrinsic value, way beyond that of the commercial realm.

### PUTTING A VALUE ON LIFE

All too often, biological resources are not seen as "money in the bank." Rather, they are given value in national accounting systems only when totally spent, such as when forests are clear-cut and sold and the land used for other purposes or when rivers are dammed for hydropower, drowning whole ecosystems and displacing entire cultures — a concern at the moment in countries as disparate as Canada, China and India. Since only short-term market values are taken into account, the long-term value of biological resources and indigenous cultures — North and South — is usually poorly defined and frequently underestimated.

Realistic, more comprehensive assessments of natural ecosystems — including those who live in them and sustainably use them — will give a far more accurate picture of their true contribution to local, national and international economies, which in most cases currently are given zero value.

### NATIONS WORKING TOGETHER

Growing concern over the unprecedented loss of biological diversity inspired negotiations on a legally binding instrument aimed at reversing this alarming

trend. The negotiations also were strongly influenced by growing recognition throughout the world of the need for a fair and equitable sharing of benefits arising from the use of genetic resources.

The resulting Convention on Biological Diversity was presented to the nations of the world for signing at the June 1992 United Nations Conference on Environment and Development (the Rio "Earth Summit"), and 18 months later it became law. By the end of 1999, 175 countries were party to it. It is the first global agreement to address all aspects of biological diversity — genetic resources, species and ecosystems — as "a common concern of humankind."

Toward the end of 1999, a study in the journal *Nature* calculated governments spend between \$950 billion and \$1,450 billion a year on "perverse" subsidies to promote energy use, water consumption, road building, farming and commercial fishing that lead to over-exploitation of the natural environment. If just \$300 billion were diverted to protect ecosystems and compensate local people affected by nature reserves, the study concluded the planet's variety of life could be saved. "The obstacle," it said, "is the lack of political will to change patterns of government expenditure."

Today's massive loss of species and habitat will be slowed only when the human community understands that nature is not an inferior to be exploited or an enemy to be destroyed but an ally requiring respect and replenishment. We are part of the web of life. Many strands already have broken. We must act quickly to repair what we can. Our lives and livelihood depend on it.



## BACK FROM THE BRINK

Humans have a responsibility to nature, the Qur'an and Sharia teach. There are inviolate zones — *haram* — outside towns and around water holes, and *hima* means that in woods, forests and wild zones hunting and vegetation use are limited.

For a few decades in the mid-20th century, these lessons seemed to have been forgotten on the Arabian peninsula as oil money bought cars, firearms, and the leisure time to hunt over a wide range of desert landscape. Increased income also brought bigger herds of domestic livestock, which led to the loss of food and shelter for Arabia's birds and gazelles. The region's plant and animal life was being decimated; in the 1970s the last oryx disappeared from the wild.

To halt the trend toward extinction, a program called Operation Oryx was launched in the early 1960s by the Fauna and Flora Preservation Society of London, with support from World Wildlife Fund (WWF) and the Sultan of Oman. Nine oryx were shipped to Phoenix, Arizona, to start the nucleus of a world herd. The breeding

program was a success: 20 years later more than 200 oryx were thriving in captivity. In 1982, the first captive-bred oryx were returned to the wild in Oman.

Aware that Saudi Arabia's natural heritage was a national treasure well beyond oil, in 1986 the Custodian of the Two Holy Mosques King Fahd Ibn Abdul Aziz established the National Commission for Wildlife Conservation and Development. By 1999, it had set up research centers breeding endangered animals such as the oryx, ibex, ostrich and bustard; a nationwide public education program; and 15 wildlife reserves that cover 4 percent of the Kingdom — with more to come, according to Commission chairman Prince Sultan Ibn Abdul Aziz.

To learn more:  
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 Tel: (202) 337-4076  
 Website: [www.saudiembassy.net](http://www.saudiembassy.net)



In many European countries, half the known vertebrate species are threatened and more than one-third of Europe's bird species are in decline.

Over the past 25 years, the number of birds migrating between Europe and Africa has declined 1 percent a year, leading to a new international agreement which covers 172 species that range across 60 million square kilometers (23 million square miles) in 117 countries.

## MANAGE BIOTECHNOLOGY SAFELY

Is it ye who create it,  
or are we the  
creators?

*Qur'an 57:59*

Holding some stalks of  
grain in one hand and  
loaves of bread in the  
other, Rabbi Akiva  
showed the astounded  
pagan that the  
products of technology  
are more suited for  
humanity than results  
of the natural process  
alone.

*Rabbi Norman Lamm*

The wheat and corn that provide our daily bread depend less on huge amounts of fertilizers and pesticides than on crop breeders who are increasingly dependent on genetic materials from wild relatives of wheat and corn. As with all agricultural crops, productivity is sustained through constant infusions of germplasm with its hereditary characteristics.

This is biotechnology, the use of biology in agriculture, science, industry, medicine and environmental protection. It is an ancient science. In Pharaonic times, brewers used yeast to make beer, and Mesopotamians bacteria to turn wine into vinegar. Over the centuries, when farmers chose a plant or animal to breed, they selected and passed on the best genes through sexual reproduction. Today, however, genetic engineers can cross one barrier farmers cannot. While a farmer can only cross two plants or animals that will mate, a genetic engineer can, in theory, take a gene out of anything and put it into anything else.

### PATENTING LIFE FORMS

The notion of patenting life forms has opened a hornet's nest of moral, legal, social and scientific concerns. While two-thirds of all existing species are found in the developing countries, it is private corporations in the industrial nations that own the biotechnical tools to exploit genetic resources. Profits go to those holding patents and to the governments that make those patents possible. There is a very real threat that private ownership of biotechnology will widen the gap between the world's haves and have-nots.

On one side of the argument are the chemical and biotech companies and industrial countries defending the entire system of intellectual property law, which compensates private enterprise for the risks and expenses involved in research and development. On the other is an alliance of some religious and political groups who contend that patenting a living thing is immoral. In the middle are scientists, lawyers, plant breeders and environmentalists who are worried by many of the implications of widespread life patents.

In 1981 scientists began transferring genes from other species into mice; by 1988 there were 1,000 different strains of these mice, including one trademarked "OncoMouse" because it develops cancer within weeks so oncologists can use it for studying new treatments. Biotechnical advances in medicine — human insulin, bovine and human growth hormones, interferon — have encouraged scientists to work on new biotech vaccines and drugs. But some virologists are concerned that animal viruses or infectious agents could cross the species barrier into humans and proliferate.

### CONSUMER CONCERN

By the mid-1990s, U.S. farmers were enthusiastically planting genetically engineered crops, hoping for greater yields; by the end of the decade they covered one-quarter of America's cropland. As agronomists began testing genetically modified (GM) crops in other countries, protesters demonstrated, even destroying some test fields, for fear that the crops could become monstrous invaders, or "Frankenfoods," wreaking



havoc on the environment. The European Union refused to accept some genetically modified American crops, and Europe and Japan decreed genetically engineered food must be labeled. Over the protests of many environmental groups, such labeling was not required in the U.S.

Biotechnology advocates argue that GM crops will increase yields for a growing population while decreasing the use of toxic pesticides. Representatives of 20 African states were skeptical. They published a statement doubting that gene technologies will "help farmers to produce the food that is needed in the 21st Century." On the contrary, they said genetically modified crops will "destroy the diversity, the local knowledge and the sustainable agricultural systems . . . and undermine our capacity to feed ourselves."

In response to consumer backlash in overseas markets, one of the largest grain processors in the U.S., Archer-Daniels-Midland, told its corn and soybean suppliers in September 1999 to start segregating GM from conventional crops so it could supply foreign buyers. The following month, the world sales leader in biotechnology, Monsanto, announced it would not commercialize the "terminator" process in which a seed is programmed for just one planting cycle and then, in effect, commits suicide so that farmers cannot harvest seeds for the following year's planting as has been done for millennia. U.S. farmers responded by planting 24 percent less genetically modified corn in the spring of 2000 than they did in 1999. To counter the growing U.S. backlash, Monsanto and other biotech giants launched a \$50 million-a-year ad campaign to convince North Americans that genetically modified products are safe and beneficial.

## BIOSAFETY

Responding to growing public concern about the potential risks of biotechnology, on January 29, 2000, delegates from more than 130 nations adopted the first global treaty to regulate trade in genetically modified products. It was also the first time that environmental concerns and trade rules had been reconciled in an international agreement.

The Cartagena Protocol on Biosafety allows countries to bar imports of genetically modified seeds, crops, and animals, even if scientific studies have not yet determined that they are dangerous. It does not address whether food containing genetically altered ingredients, like breakfast cereals made with genetically modified corn, should be labeled as such on store shelves, nor does it apply to human pharmaceuticals.

Its key requirement is that exporters must obtain advance permission from the importing country before shipping genetically modified organisms meant for release into the environment, like seeds, microbes or animals. If the organism is approved for commercial use in one country, that country must send information about it to a central clearinghouse. Other countries can then decide whether to prohibit its import. However, advance notice and permission will not be required for exports of agricultural commodities meant for eating or processing.

The protocol is an outgrowth of the UN Convention on Biological Diversity forged at the 1992 Earth Summit in Rio de Janeiro. Until the United States ratifies the convention, it cannot become a party to the biosafety protocol. But American industry will have to comply with the rules when exporting to countries that are parties to the agreement.

Biotechnology has spawned multi-billion-dollar industries for foodstuffs and pharmaceuticals. Under World Trade Organization (WTO) regulations, the rules of trade must be based on "sound scientific knowledge."

The agreed standard of proof is the precautionary principle.

§

Genetically modified (GM) organisms with live components include food crops, such as grains, cassava, corn, soybeans, and tomatoes, that have been genetically altered for greater productivity or for resistance to pests or diseases.

§

Products with nonliving GM components include certain drugs, vaccines, vitamins, food additives, and many processed, canned, and preserved foods.



## HAZARDOUS WASTES AND TOXIC CHEMICALS

And follow not the bidding of those who are extravagant Who make mischief in the land and mend not (their ways).

*Qur'an 26:151, 152*

Continue to soil your bed and one night you will suffocate in your own waste.

*Attributed to Chief Seattle*

**P**ollution knows no boundaries. Toxic substances produced in one part of the planet can travel thousands of miles — to the North and South poles and even to the stratosphere.

We know that persistent organic compounds, such as DDT and PCBs, last for very long periods and can accumulate in fatty tissue, becoming more concentrated as they move up the food chain. They are transmitted to fetuses through the umbilical cord and to babies in breast milk.

Some of these chemicals mimic hormonal activity and disrupt animal reproductive systems, potentially endangering the ability of life to continue unimpaired. Chemical pollution also endangers the very resources on which our lives depend. A polluted body of water damages the fishing industry. A city beset by smog has higher healthcare costs. Land polluted with toxic waste becomes a wasteland, useless without costly remediation.

### THE GOOD, THE BAD AND THE UGLY

The vast majority of chemicals are of enormous benefit to society, and their proper use in myriad products is essential for a better way of life worldwide. As a result, chemical production and global trade is measured in trillions of dollars every year. With the number of chemicals on our planet growing exponentially (nearly 22 million chemical substances are currently registered), their sound management is vital.

Every day virtually every living being is exposed to chemicals, and while most are considered benign at minimum levels, others present health risks. Two groups of dangerous chemicals — heavy metals and

persistent organic pollutants (POPs) — are the most toxic chemicals ever invented. Heavy metal exposure has been linked to developmental retardation, various cancers, kidney damage and the immune system attacking its own cells. Food products accidentally contaminated with dioxin, a potent carcinogen, can put an unsuspecting public at risk, as horrified Europeans discovered in 1999. Children exposed to the exhaust from leaded gasoline or lead-based paint can experience permanent damage to their nervous systems, significantly reducing their IQs. Some scientists believe contaminants play a largely overlooked role in children's behavior problems, such as aggression and attention-deficit disorder (which may be linked to lead poisoning), and limited reading comprehension and attention span (linked to exposure to PCBs).

The good news is that in several countries emissions of heavy metals are falling as lead is removed from gasoline, and industrial technologies, incinerators and wastewater treatment are improved.

As pesticide use continues to rise, the growing resistance of pests is prompting new approaches to pest control. The results are encouraging: crop yields are actually increasing with reduced pesticide use, *Amicus Journal* reports. In Indonesia, a 60 percent drop in pesticide use has increased rice harvests by 25 percent. In Sweden, pesticide use has been cut 50 percent since 1985; Denmark and the Netherlands have similar programs. In the United States, the demand for organic, pesticide-free food has grown about 20 percent a year over the past decade.

While "old" poisons, such as lead and mercury, cer-



tain pesticides and industrial solvents, can cause problems, most nations have a reasonable level of understanding of their health effects and what needs to be done — although these measures often are not adequately implemented. There is far less knowledge about a number of new chemicals coming onto the market that may be present in household products, cosmetics, and even in pharmaceuticals.

The inadequate management and disposal of hazardous wastes (see box), as well as industrial and transportation accidents also can expose the public to potentially fatal chemical doses. In the worst accident to date, at least 7,000 died and half a million were sickened when a leaky tank at a Union Carbide plant in Bhopal, India, spewed five tons of chemicals into the air on the night of December 2-3, 1984. Nearly 15 years later the International Medical Commission - Bhopal estimated that 50,000 survivors still suffer from partial or total disability, for which they have not received adequate compensation. In November 1999, survivors and relatives of the victims filed suit against Union Carbide in federal court in New York seeking unspecified damages.

## REDUCING RISKS

Reducing or eliminating chemical risks is vital for sustainable development, and it can succeed if it takes place through a product's life cycle — from design and production to use and disposal. Most industrialized countries have that capacity, but developing countries and those with economies in transition need help.

Major steps are required, and UNEP has led the way. Its chemicals program provides countries with the information they need to develop expertise and

resources to safely manage chemicals. In addition, the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal obliges 133 countries to manage trade and disposal of dangerous wastes in an ecologically responsible manner and to pay compensation if there is an accident.

The Treaty on Prior Informed Consent (PIC) for Certain Hazardous Chemicals in International Trade helps countries learn more about the potentially dangerous chemicals that may be shipped to them.

A treaty to control or ban 12 toxic chemicals known as the "dirty dozen"\* is in the works as more than 130 countries negotiate under the UNEP umbrella to produce an agreement in 2000. At issue are the financial and technical aid that developing countries need to help them phase out the chemicals, and the use of DDT, which the World Health Organization says is essential to control malaria-carrying mosquitos.

\* DDT; the pesticides: aldrin, chlordane, dieldrin, endrin, heptachlor, mirex and toxaphene; the industrial chemicals: polychlorinated biphenyls (PCBs) and hexachlorobenzene, which is also a pesticide; and the unintended byproducts of combustion and industrial processes: dioxins and furans.

While the costs of pollution control escalate over time, those of cleaner production diminish because it is more efficient.



Polar regions act as sinks for contaminants such as persistent organic pollutants, heavy metals and radioactivity, which threaten the health of Arctic inhabitants as they are accumulated in food chains.

## WHO PAYS?

The Basel Convention (see above) is the first environmental treaty with a legally binding Protocol to determine who will pay, and how much, for hazardous waste accidents involving more than one country.

Protocol negotiations began in 1993 in response to developing country concerns about their lack of funds and technology for coping with illegal dumping or accidental spills.

The December 1999 Protocol to the 1989 Basel Convention considers every phase in the process, from the generation of

wastes to their export, international transit, import, and final disposal. It also assists developing countries and countries with economies in transition in cases of emergency.

The global output of hazardous wastes is some 400 million metric tons a year. Officially, fewer than 1,000 metric tons are traded and shipped to developing countries annually. However, unofficial traffic and disposal to sidestep tight domestic regulations can pose a potentially serious threat to human health and the environment.



An estimated 200,000 to 570,000 people die every year from health problems caused by air pollution.

During the past 50 years, production of synthetic chemicals increased more than 300 times.

After a half-century of pesticide overuse, nearly 1,000 agricultural pests worldwide are resistant to pesticides.

Worldwide some 5 to 6 billion pounds of pesticides are added to the environment each year. A quarter of that amount is released or sold in the United States.

U.S. farmers now have to apply two to five times as much pesticide to achieve what one application accomplished in the early 1970s.

## ENVIRONMENTAL JUSTICE

The environmental justice movement has come a long way since its birth in the mid-1980s in a rural, mostly African American county in North Carolina. The selection of that county for a PCB (polychlorinated biphenyl) landfill sparked widespread protests, marches and more than 500 arrests. PCBs are potent cancer-causing chemicals. Although the protesters were unsuccessful, they brought national attention to the fact that waste and other polluting facilities generally were sited in communities of poor, politically powerless people. African American church and civil rights leaders began the fight for environmental justice and against "environmental racism." Since then, whether in urban ghettos and barrios, rural pockets of poverty, or on indigenous peoples' reservations, grassroots groups have mobilized around the world, with increasing success, to demand a halt to the poisoning of their communities and greater participation in public policy-making based on mutual respect and environmental justice.

To learn more:

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## PRODUCTION AND CONSUMPTION PATTERNS

**I**n most industrialized countries, people consume like there's no tomorrow. In transitional and developing countries, far too many are following this lead, and also putting tomorrow in jeopardy.

If things go on as they have been, a child born in New York City, Paris or London will consume, waste and pollute more in a lifetime than 50 children born in an average developing country. Industrialized countries, with less than a quarter of the world's population, consume nearly three-quarters of the planet's natural resources and generate three-quarters of the pollutants and waste.

### FOULING THE NEST

We pollute rivers, seas and the city air, and generate 400 million metric tons of hazardous waste every year. The soil suffers from misuse and chemical overload, as does the air we breathe, while above our heads the ozone layer fades away, exposing us to cancer-causing rays.

Carbon dioxide and other "greenhouse gases" that come from increasing numbers of people and places burning gas, coal, oil, and wood are more than 25 percent higher than at any time in the last 160,000 years. They are heating the planet in a way that many scientists believe is likely to disrupt our weather and food production.

We think the world's vast oceans have a limitless capacity to provide our food and absorb our waste. Yet already 70 percent of the world's fish stocks are over-exploited, and some have collapsed. Coral reefs, which nurture more than 25 percent of all marine life, are among the world's most fragile ecosystems.

But if their destruction continues at the same rate, 70 percent of the world's coral reefs will die in the next 40 years.

Rainforests are home to over half the world's species of plants and animals, yet more than 1,000 species are being driven to extinction every year because of our insatiable demand for wood, paper and grazing areas for livestock. In the past decade alone an area of tropical forest the size of England, France and Spain — 154 million hectares (381 million acres) — has been destroyed. And consider this: 70 percent of the plants with cancer-fighting properties grow in the rainforest.

### IS MORE BETTER?

International advertising, access to the mass media and electronic communication have fed a worldwide public appetite for comfort and autonomy, wider opportunities and experiences, travel and more new products — from fashion to refrigerators. The Western model of consumption is being emulated all over the world, but the way we consume endangers not just our own lives and those of our children's children but those in far-away places. A lifestyle that excludes one-third of the world's population, however dominant it may appear at the moment, should not be regarded as the supreme achievement of 20th century civilization.

The billions living in poverty — and 1.3 billion people lived on less than \$1 a day in 1999 — deserve far better, but not in the same wasteful way. Change is not impossible, for it is already underway. More than half the people in a European Commission survey, the largest of its kind to date (October 1999), said they

O sons of Adam!...  
Eat and drink:  
but do not be wasteful,  
For God does not like  
the wasters.

*Al Qur'an 7.31*

The average global per capita income is more than US\$5,000 a year, better than two and a half times that of 1950.

Yet 1.3 billion people still live on less than \$1 a day.



High-income countries, home to 20 percent of the world's population, account for about 60 percent of energy use.



Paper recycling has increased from 23 percent of fiber supply in 1970 to 36 percent today.



A number of cooperative organizations promote the "Fair Trade" movement, which aims to achieve fair prices for small farmers and craftspeople who use environmentally friendly methods. Their products have begun to move from niche markets into the mainstream.

were more concerned about environmental issues than they were five years ago and believed it necessary to "fundamentally change our way of life and development if we want to halt deterioration of the environment."

To magnify the momentum, all that is needed is enlightened action by governments, business, industry and the public — easy to say, much less easy to accomplish. Activists, scientists and some officials in the industrialized countries think a ten-fold reduction in resource consumption is a necessary long-term target if adequate resources are to be released

for the needs of developing countries. Technological change can reduce resource use many times without lowering the standard of living (see box), and efforts to increase environmental efficiency, reduce waste and introduce recycling are growing and spreading.

We all breathe the same air, fish the same seas and share the same dream of a better life for our families and communities, North and South, rich and poor. If we rethink our priorities and act before it is too late, we can enable life on Earth, including human life, to have a tomorrow and perhaps even a better tomorrow.

## ON THE TEN-FOLD ROAD TO SUSTAINABLE CONSUMPTION

**W**ithin one generation, nations can achieve a ten-fold increase in the efficiency with which they use energy, natural resources and other materials....

Most significantly, we enter the new Millennium with the transition already underway.... Indeed, a new economy has begun to emerge, one that is more efficient and potentially more sustainable. It is marked by people producing more goods, more jobs, and more income while using less energy and resources for every unit of production....

In the process, we should see a steady improvement in the quality of life of communities, new opportunities and improved competitiveness for business, expanded possibilities for employment, and an increased potential for wealth creation and its more equitable distribution.... If this is to be achieved without pushing the planet beyond certain critical thresholds that we are only now beginning to understand, governments must support policies that encourage industry and society to achieve ever-greater levels of energy and resource productivity [by using less].

*From a 1997 statement by the Factor 10 Club, an international body of senior government, non-government, industry and academic leaders working out of Germany's Wuppertal Institute. They urge a ten-fold reduction in resource consumption by the industrialized countries as a necessary long-term target to give developing countries access to needed resources.*

*Factor 10 notes that some governments already are moving in this direction, including Austria, Canada, Germany, the Netherlands, and the United States, as well as the Organization of Economic Cooperation and Development, the World Business Council for Sustainable Development, and UNEP.*



In the past 50 years, the global economy has more than quintupled in size and, despite occasional dips, the expansion continues. Technology has transformed patterns of work and family life, communications, leisure activities, diet and health in the industrialized world. Similar transformations are well underway in the more prosperous parts of the developing world.

In the past 25 years, financial markets have grown and become integrated across borders. In 1956, foreign exchange trading by big investors totaled \$350 trillion — ten times the world's gross domestic product (GDP). Foreign investment in developing and transitional countries nearly tripled in the first six years of the '90s to \$250 billion, five times the amount of government overseas development assistance.

The massive increase in private financial flows has been paralleled by a decrease in overseas development assistance by governments, leading to decreased capacity to deliver on such pressing needs as public health, education and environmental protection. At the same time, the massive debt burden many developing countries carry has forced them to cut back or cut out social and environmental programs to finance interest payments.

### THE ENVIRONMENTAL DIMENSIONS

The magnitude of economic growth has caused immeasurable ecosystem disruption. Stratospheric ozone depletion, global warming, the worldwide spread of pollutants, and biological globalization are obvious examples.

The increase in trade, transport and travel has created many new opportunities, deliberate and accidental, for organisms to move around the world and invade new environments. Some may bring net benefits, but many aggressive invasive species upset the local ecological balance and crowd out more desirable, useful or unique species.

A related problem is the loss of genetic diversity. Strong pressures for the globalization of agriculture are eliminating much of the traditional diversity of plants and animals that evolved over centuries, yet the future of sustainable agriculture may rest on the adaptability of the variety of species to local conditions.

### INTERNATIONAL TRADE

Clearly trade can increase wealth for many countries, which is part of the reason the world is moving toward increased trade liberalization. But trade can magnify unsustainable patterns of economic activity and resource exploitation when environmental issues are not incorporated into economic pricing and decision-making.

A disturbing dimension to this problem emerged in the World Trade Organization (WTO) as national environmental protection measures were challenged on the ground that they erected barriers to trade. Efforts to protect sea turtles, dolphins and sea birds were struck down for this reason.

To give the trade organization a more solid foundation for acting on environmental concerns, WTO and UNEP announced, in September 1999, that they would cooperate on information exchange and tech-

Global economic forces and gross inequities in consumption levels leave vast numbers of humanity without the basics for a decent quality of life while enriching the privileged minority far beyond their needs.

*The Rev. Dr Konrad Raiser  
General Secretary  
World Council of Churches*



For a youth edition of UNEP's *Global Environment Outlook 2000*, 10,000 young people gave their views on negative and positive emerging trends they foresee.

#### NEGATIVE

- Increased pollution
- More deforestation
- Water scarcity
- Intensified hunting of animals
- More toxic waste
- Over-population
- Widening ozone hole
- More rubbish

#### POSITIVE

- Increased recycling
- Higher environmental awareness
- More reforestation
- More measures against pollution
- Greater protection of animals
- More power to NGOs
- More solar energy
- More natural food products
- Water conservation
- More protection of rainforests

nical cooperation. They also agreed to help developing and transitional countries better understand the linkages among trade, environment and sustainable development, so they can develop policies that integrate sustainable development with trade.

### ECONOMIC REALITIES

The shift toward corporate globalization means that decision-making at large transnational corporations often is more influential than local, national and regional policy-making. At a time when the industrial nations are consuming more than their fair share of Earth's resources, multinational companies are courting and creating consumers in countries on every continent. Clearly, improved living conditions are highly desirable — if sustainable. But can Earth support the vast global middle class envisioned by multinational businesses? Earth's natural resources may be too limited to support 4 billion middle-class consumers at current rates of consumption. And how will resulting tensions with billions of the poor be resolved?

Although the first priority of multinational corporations and institutional investors is profit, a number of leading international corporations and banks have begun adding environmental and social value to economic value as corporate priorities and are leading significant initiatives toward more sustainable development. They have responded to the concerns of their customers by introducing codes of conduct, responsible care programs and voluntary reporting on environmental activities, although much more needs to be done.

This has been brought about by the increased mili-

tancy of consumers, who have formed influential lobbying groups from the international to the local level while spearheading a wide range of grass roots environmental activities. Religious and other non-governmental organizations, networking across and beyond nations, have become increasingly influential in lobbying for ecologically sustainable corporate policies and making sure they are carried out. They recognize that little of any long-term significance will be achieved without the support of the private sector.



In this New York City sewing shop, young immigrants work up to seven days a week, from early in the morning until late at night. The owner punches their time cards after eight hours, but they keep working even though they are never paid overtime. Some of the garments they make in this sweatshop are sold at big name stores.

*From the UNITE union campaign*



## INTERFAITH ACTION FOR CORPORATE RESPONSIBILITY

The Interfaith Center on Corporate Responsibility vigorously challenges corporations to make peace, environment and social justice concerns part of their decision-making processes. ICCR does it by financially and morally leveraging the billions of dollars its members oversee for pension funds and endowments that are invested in stocks and bonds.

The Center's covenant is to work ecumenically for justice in and through economic structures for stewardship of the earth and its resources. The organization is comprised of 275 Protestant, Catholic and Jewish institutional investors.

In January 2000, the Center launched another David vs. Goliath campaign to get ExxonMobil to address the issue of global warming. Wielding the power of the \$90 billion portfolio owned by its member

groups, it challenged the oil giant to reduce its emissions from burning fossil fuels and pursue renewable energy.

In the 28 years that the Center has been operating, U.S. corporations have changed their views of religious investors, and religious investors have learned what makes corporate America tick. Initially corporations were hostile when share-holding religious groups raised questions. Those attitudes changed as other large institutional investors began raising the same questions about social and governance issues.

To learn more, contact:  
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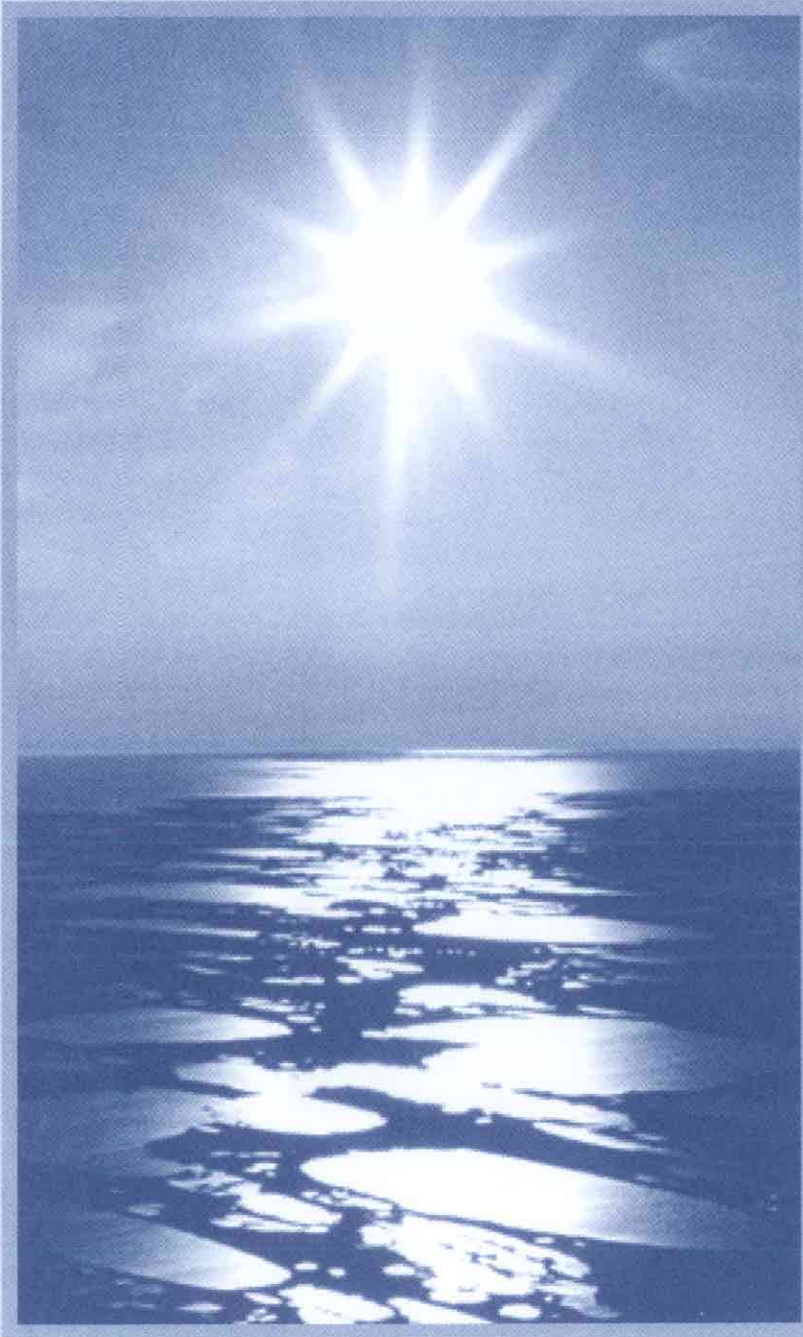
Nearly half of Earth's 6 billion people live in cities, and 1 billion are exposed to health-threatening air pollution. About 600 million live in shanty towns, while an estimated 100 million are homeless.

±

Some 61 million people are added to cities each year through rural to urban migration, natural increase, and the transformation of villages into urban areas.

±

Armed conflicts create refugee crises, which put pressure on the environment. In 1995, the number of refugees worldwide hit an all-time high of 27.4 million.



Arctic Sun

## A CALL TO PEOPLE OF FAITH

**E**arth, formed from stellar dust, is our one and only home. On this planet, life of every sort emerged, nourished by its waters, warmed by its sun.

Today, human insensitivity to the natural world is causing immeasurable damage to Earth's life processes, creating an ecological crisis.

Throughout human history, the religions of the world have sought to heal the most profound disorientations of the human heart and mind. It is religious vision that has restored the human condition and guided human effort.

All faith traditions envision the universe as revelatory of the sacred. Christianity, for one, looks upon phenomenal reality as a creation in which the universe is a manifestation of God's self-expression. Buddhism sees in the composite nature of phenomena the insight of transience and the instance of enlightened awareness.

Care for creation is an emerging context for the mutually enhancing presence of all faith traditions. All traditions of the sacred are channels for humankind to enter into and articulate ecological concern. The spiritual challenge of the environmental crisis draws us to reflect on the natural world in its most profound sense of mystery as a manifestation of the sacred.

By using *Earth and Faith* we may reaffirm the core teachings of each tradition to inspire care for our natural world and celebrate the wonder of our planet.



# SUGGESTIONS FOR A CELEBRATION OF EARTH IN FAITH

## in words . . . prayer . . . and action

### We call you to ...

- ✧ Use the sacred and secular words in this book for a celebration of Earth in faith in the services and religious observances you hold throughout the year.
- ✧ There are two ways to ensure that your celebration of Earth in faith has lasting impact. One is *to act* by creating the celebration itself. The other is to *encourage action* that goes beyond the celebration, into every area and every day of your congregation's lives. Useful resources for outreach can be found at the end of this handbook.

### Celebrate the Earth

- ✧ Speak of the essential Earth-human relationship. What is it? What are our responsibilities?
- ✧ Explain that the celebration is a special day, one in which we make a commitment to restore Earth.
- ✧ Describe the environmental crisis. Use the scientific information in *Earth and Faith* to highlight the urgency of the situation.
- ✧ Draw from the holy words of your religion and other faith traditions in this book to create an Earth celebration service.
- ✧ Mention the various sources of inspiration: words, art, music, philosophy, science, Earth and the universe. Show how all are important and tied together.
- ✧ With the help of your congregation, illustrate the sacred nature of creation and its desecration with images — photos, children's drawings, paintings, sculpture — displayed in your sanctuary.
- ✧ Mention initiatives at the local and global levels (see the success stories scattered throughout this book) that illustrate religion-inspired ecological accomplishments.

- ✧ Invite guest speakers and “representatives” of other species, from algae to animals.
- ✧ In regular services, have a section that focuses on reverence and care for Earth.

### Go further

- ✧ Organize an interfaith ceremony.
- ✧ Organize a concert or festival as a celebration of Earth in faith.
- ✧ Organize clean-up days or tree-planting ceremonies.
- ✧ Follow up with an environmental study group, a community environment-watch, and local environment groups.
- ✧ Write letters to the national and regional leaders of your faith, encouraging them to take action.

### Encourage your congregation to...

- ✧ Act, not only in your house of worship but in the home, at school, in the political process. Be specific, mentioning local issues if possible.
- ✧ Reduce consumption if you live in an industrialized country, reuse and recycle wherever possible.
- ✧ Follow environmental issues in newspapers, magazines, radio and on television.
- ✧ Combat pollution wherever and whenever you find it by joining an environmental group, forming coalitions with other community members, faith communities and groups.
- ✧ Plant trees to combat the high levels of greenhouse gases in the atmosphere.
- ✧ Enjoy nature, and try to live in harmony with it.
- ✧ Be kind to all living things.



## SACRED WORDS OF THE ABRAHAMIC RELIGIONS: JUDAISM, CHRISTIANITY, ISLAM

The three Abrahamic religions agree that no part of nature is in itself divine, and there is a prohibition against worshipping any part of nature, although God is present in and can be known through nature. The distinction is between Creator and creation.

Writers in the three religions say belief in the unique place of humans in God's creation – their "dominion" over life on Earth – is not human-centered; it is God-centered and infers responsibility for the protection of creation.

### THE BIBLE: HEBREW SCRIPTURES ARE SHARED AUTHORITY FOR JUDAISM AND CHRISTIANITY

#### *God creates the Earth and all on it and speaks to every living being.*

In the beginning when God created the heavens and the earth, the earth was a formless void and darkness covered the face of the deep, while a wind from God swept over the face of the waters. Then God said, "Let there be light"; and there was light. And God saw that the light was good; and God separated the light from the darkness....

And God said, "Let the waters under the sky be gathered together into one place, and let the dry land appear." And it was so. God called the dry land Earth, and the waters that were gathered together he called Seas. And God saw that it was good. Then God said, "Let the earth put forth vegetation: plants yielding seed, and fruit trees of every kind on earth that bear fruit with the seed in it." And it was so.... And God saw that it was good....

And God said, "Let the waters bring forth swarms of living creatures and let birds fly above the earth across the dome of the sky." So God created the great sea monsters and every living creature that moves, of every kind, with which the waters swarm, and every winged bird of every kind. And God saw that it was good. God blessed them, saying, "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on earth.

And God said, "Let the earth bring forth living creatures of every kind: cattle and creeping things and wild animals of the earth of every kind."... And God saw that it was good.

Then God said, "Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth."...

God blessed them, and God said to them, "Be fruitful and multiply, and fill the earth and subdue it;".... God saw everything that he had made, and indeed, it was very good.

Genesis 1:1-5, 9-12, 20-21, 24-26, 28, 31

Then the Lord God formed man from the dust of the ground, and breathed into his nostrils the breath of life; and the man became a living being.

The Lord God took the man and put him in the Garden of Eden to till it and keep it.

Genesis 2:7, 15

#### *God makes a covenant with all creatures.*

Then God said to Noah and to his sons with him, "As for me, I am establishing my covenant with you and your descendants after you, and with every living creature that is with you, the birds, the domestic animals, and every animal of the earth with you, as many as came out of the ark. I establish my covenant with you, that never again shall all flesh be cut off by the waters of a flood, and never again shall there be a flood to destroy the earth."

Genesis 9:8-11



**From the Psalms**

The earth is the Lord's and all that is in it....

*Psalm 24:1*

Let the sea roar, and all that fills it; the world and those who live in it. Let the floods clap their hands; let the hills sing together for joy at the presence of the Lord.

*Psalm 98:7-9*

Praise him, sun and moon; praise him, all you shining stars! Praise him, you highest heavens, and you waters above the heavens.

Let them praise the name of the Lord, for he commanded and they were created. He established them forever and ever; he fixed their bounds, which cannot be passed.

Praise the Lord from the earth, you sea monsters and all deeps, fire and hail, snow and frost, stormy wind fulfilling his command!

Mountains and all hills, fruit trees and all cedars! Wild animals and all cattle, creeping things and flying birds! ...

Praise the Lord.

*Psalm 148:3-10*

Bless the Lord, O my soul. O Lord my God, you are very great. You are clothed with honor and majesty, wrapped in light as with a garment. You stretch out the heavens like a tent, you set the beams of your chambers on the waters, you make the clouds your chariot, you ride on the wings of the wind, you make the winds your messengers, fire and flame your minister.

You set the earth on its foundations, so that it shall never be shaken. You cover it with the deep as with a

garment; the waters stood above the mountains. At your rebuke they flee; at the sound of your thunder they take to flight. They rose up to the mountains, ran down to the valleys to the place that you appointed for them. You set a boundary that they may not pass, so that they might not again cover the earth.

You make springs gush forth in the valleys; they flow between the hills, giving drink to every wild animal; the wild asses quench their thirst. By the streams the birds of the air have their habitation; they sing among the branches. From your lofty abode you water the mountains; the earth is satisfied with the fruit of your work.

You cause the grass to grow for the cattle, and plants for people to use, to bring forth food from the earth, and wine to gladden the human heart, oil to make the face shine, and bread to strengthen the human heart. The trees of the Lord are watered abundantly, the cedars of Lebanon that he planted. In them the birds build their nests; the stork has its home in the fir trees. The high mountains are for the wild goats; the rocks are a refuge for the coney. You have made the moon to mark the seasons; the sun knows its time for setting. You make darkness, and it is night, when all the animals of the forest come creeping out. The young lions roar for their prey, seeking their food from God. When the sun rises, they withdraw and lie down in their dens. People go out to their work and to their labor until the evening.

O Lord, how manifold are your works! In wisdom you have made them all; the earth is full of your creatures. Yonder is the sea, great and wide, creeping things innumerable are there, living things both small and great. There go the ships, and Leviathan that you formed to sport in it.





Those all look to you to give them their food in due season; when you give to them, they gather it up; when you open your hand, they are filled with good things. When you hide your face, they are dismayed; when you take away their breath, they die and return to their dust. When you send forth your spirit, they are created; and you renew the face of the ground.

May the glory of the Lord endure forever; may the Lord rejoice in his works — who looks on the earth and it trembles, who touches the mountains and they smoke. I will sing to the Lord as long as I live; I will sing praise to my God while I have being. May my meditation be pleasing to him, for I rejoice in the Lord. Let sinners be consumed from the earth, and let the wicked be no more. Bless the Lord, O my soul. Praise the Lord!

Psalm 104:1-35

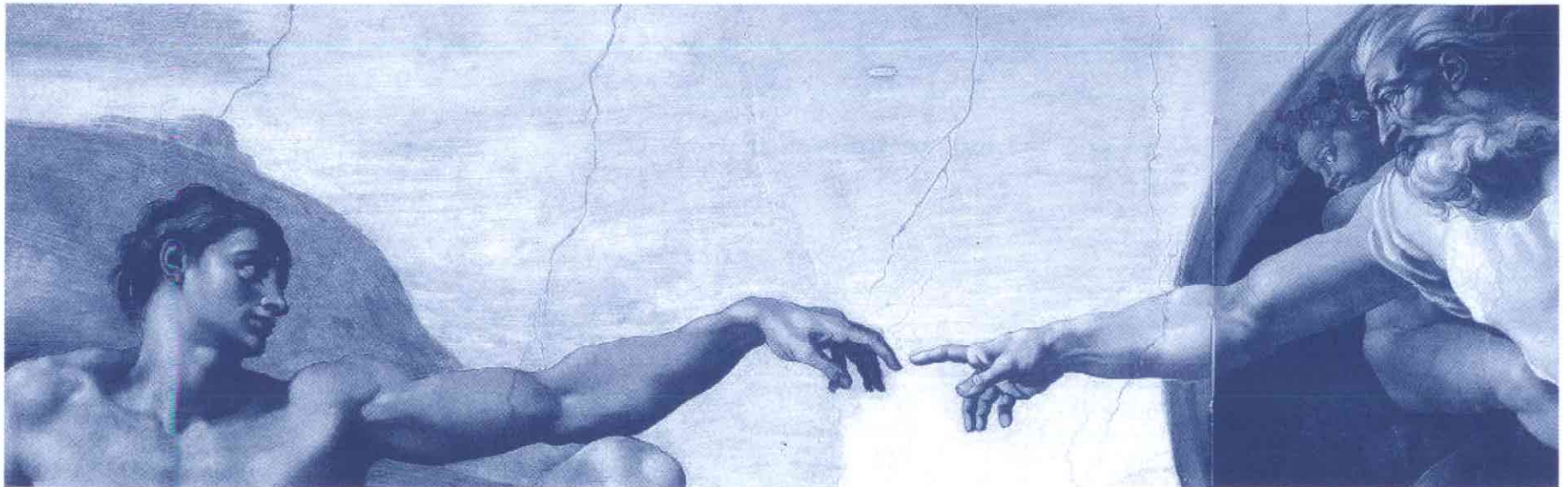
From *New Revised Standard Version Bible*, National Council of the Churches of Christ in the U.S.A., 1989

***On God giving humans dominion over all life on Earth (Genesis 1:28)***

Dominion does not mean license to exploit. In ancient Hebrew thought, it means a responsibility. If a ruler ... fails in this righteous rule of dominion, then that person forfeits the right to rule.

That [incorrect] theological focus has isolated a good part of the faith community from the care of creation and those themes which you find in every major world tradition.

Dean Freudenberger,  
Professor of Social Ethics emeritus,  
Claremont School of Theology,  
in the *Los Angeles Times*,  
16 October 1999





## JUDAISM

### *The tree plays a special role in Jewish tradition.*

The Torah is referred to as *Etz Chayim*, a “tree of life”  
Proverbs 3:18

When God created Adam, he showed him all the trees of the Garden of Eden and said to him: “See my works, how lovely they are, how fine they are. All I have created, I created for you. Take care not to corrupt and destroy my universe, for if you destroy it, no one will come after you to put it right.”

Ecclesiastes, Rabbah 7

There can be no doubt to any enlightened or thoughtful person, that the “dominion” mentioned in the Bible in the phrase, “and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that creeps upon the earth,” is not the dominion of a tyrant who deals harshly with his people and servants in order to achieve his own personal desires and whims. It would be unthinkable to legislate so repugnant a subjugation and have it forever engraved upon the world of God, who is good to all and whose mercy extends to all. He has created, as is written, “the earth is founded upon mercy” (Ps. 89.3).

Rav Kook (R. Avraham Yitzhak HaKohen Kook),  
1865-1935, first chief rabbi of Palestine

### **Prayers**

If you will earnestly heed the mitzvot I give you this day, to love the Lord your God and to serve Him with all your heart and all your soul, then I will favor your land with rain at the proper season—rain in autumn and rain in spring—and you will have an ample harvest of grain and wine and oil. I will assure abundance in the fields for your cattle. You will eat to con-

tentment. Take care lest you be tempted to forsake God and turn to false gods in worship. For then the wrath of the Lord will be directed against you. He will close the heavens and hold back the rain; the earth will not yield its produce. You will soon disappear from the good land which the Lord is giving you.

from *K'riat Sh'ma*, Deuteronomy 11:13-17

May every living creature thank You and praise You faithfully....

from the *Amidah*

The breath of all that lives praises You, Lord God....  
God of all creatures....

Could song fill our mouth as  
water fills the sea

And could joy flood our  
tongue like countless waves,  
Could our lips utter praise as  
limitless as the sky

And could our eyes match  
the splendor of the sun,

Could we soar with arms like  
eagle's wings

And run with gentle grace, as  
the swiftest deer,

Never could we fully state  
our gratitude

For one ten-thousandth of  
the lasting love

Which is Your precious  
blessing, dearest God,

Granted to our ancestors  
and to us.

from the *Nishmat*

## A DAY FOR TREES

**T**u B'Shevat, the 15th day of the Hebrew month of *Shevat*, has evolved into something of a Jewish Earth Day. In many congregations it is a time to reflect on humanity's place in the natural order and on scriptural injunctions to protect the land. Traditionally, Tu B'Shevat has the same meaning for trees as Rosh Hashanah does for people—that is, as a new year, a harbinger of spring, a time to be thankful for the land and the trees, and a day of judgment. In modern Israel the day is associated with tree planting and reclaiming the desert for agriculture. In the United States it is a time to plant trees and become involved in local environmental projects. It is believed that on Tu B'Shevat God decides how bountiful the fruit of the trees will be in the coming year.

*Baruch Atah Adonai Elohenu Melech ha-olam borey pri ha-etz: Blessed are You, Lord our God, Ruler of the Universe who creates fruit of the tree.*



## Blessings

*Upon smelling the fragrance of trees or shrubs:*

Praised are You, Lord our God, King of the universe who creates fragrant trees.

*Upon smelling the fragrance of herbs or plants:*

Praised are You, Lord our God, King of the universe who creates fragrant plants.

*Upon smelling fragrant fruit:*

Praised are You, Lord our God, King of the universe who gives a pleasant fragrance to fruits.

*Upon seeing wonders of nature:*

Praised are You, Lord our God, King of the universe Source of Creation.

*Upon hearing thunder (or upon seeing a storm):*

Praised are You, Lord our God, King of the universe whose power and might fill the whole world.

*Upon seeing a rainbow:*

Praised are You, Lord our God, King of the universe who remembers His covenant, is faithful to it, and keeps His promise.

*Upon seeing the ocean:*

Praised are You, Lord our God, King of the universe who has made the great sea.

*Upon seeing trees or creatures of striking beauty:*

Praised are You, Lord our God, King of the universe who has such beauty in His world.

*Before eating bread:*

Praised are You, Lord our God, King of the universe who brings forth bread from the earth.

*Before eating fruit:*

Praised are You, Lord our God, King of the universe who creates fruit of the tree.

All from Jules Harlow, ed. and tr., *Siddur Sim Shalom: A Prayerbook for Shabbat, Festivals, and Weekdays*, The Rabbinical Assembly and the United Synagogue of America, 1989

## Reclaiming the land

If you are in the midst of planting and word reaches you that the Messiah has arrived, do not interrupt your work. First finish your planting, and only then go out to welcome the Messiah.

Rabbi Yohanan Ben Zakai, *Father According to Rabbi Nathan*, B31. New York, NY: Schechter Edition 34A, Schulssinger, 1945

One day he, Honi the circle-drawer, was journeying on the road, and he saw a man planting a carob tree. He asked him, "How long does it take [for this tree] to bear fruit?" The man replied, "Seventy years." He then further asked him, "Are you certain that you will live another seventy years?" The man replied, "I found [grown] carob trees in the world; as my ancestors planted these for me, so I too plant these for my children."

Taanit 23a, *Babylonian Talmud*, tr. Dr. J. Rabinowitz. London, UK: The Soncino Press, 1990

The Holy One, blessed be God, said to the children of Israel: "Sow for six years and leave the land at rest for the seventh year, so that you may know the land is mine."

Sanhedrin 39a, *Babylonian Talmud*, tr. Jacob Schachter. London, UK: The Soncino Press, 1969

## Stone circle

The Talmud tells a story of a farmer who was clearing stones from his field and throwing them onto a public thoroughfare. A Hasid (pious one) rebuked him saying, "Worthless one! Why are you clearing stones from land which is not yours and depositing them on property which is yours?" The farmer scoffed at him for this strange reversal of the facts.



In the course of time the farmer had to sell his field, and as he was walking on the public road, he fell on those same stones he had thoughtlessly deposited there. He then understood the truth of the Hasid's words: the damage he had wrought in the public domain was ultimately damage to his own property and well-being.

Jonathan Helfand, *Judaism and Environmental Ethics*, (based on passages from Mishna Baba Kama 10:2 and Baba Kama 50b, *Babylonian Talmud*, tr. Rabbi Dr. E.W. Kirzner. London, UK: The Soncino Press, 1956.

### ***On genetic engineering?***

You shall keep my statutes. You shall not let your cattle gender with a diverse kind; you shall not sow your field with two kinds of seed; neither shall there come upon you a garment of two kinds of stuff mingled together.

Leviticus 19:19

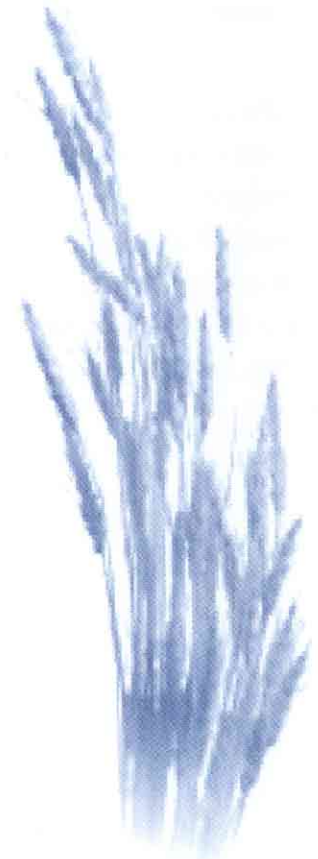
In the realm of Nature there is nothing purposeless, trivial, or unnecessary.

Maimonides (1135-1204),  
rabbi, philosopher, physician

### ***The works of humanity complement the works of God***

In a remarkable passage we read that Turnus Rufus, a pagan Roman general, asked R. Akiva which was more beautiful (or useful): the works of God or the works of humanity. Holding some stalks of grain in one hand and loaves of bread in the other, Rabbi Akiva showed the astounded pagan that the products of technology are more suited for humanity than results of the natural process alone. So did Rabbi Akiva proceed to explain the commandment of circumcision; both world and humanity were created incomplete, God having left it to humanity to perfect its environment and its body. Similarly, the commandments, in general, were given in order that people thereby purify their character, that they attain spiritual perfection. Humanity, the created creator, must, in imitation of its Maker, apply its creative abilities to all life: its natural environment, its body, its soul.

Rabbi Norman Lamm, President, Yeshiva University,  
"Ecology and Jewish Law and Theology" in  
*Faith and Doubt*, New York: Ktav, p. 176.



## CHRISTIANITY

For Christianity the universe was made and is sustained by the creative word of God, and Christ is the Incarnate Word.

God's redeeming love for all creation is a constant reminder that humans have a duty and responsibility to care for the well-being of His creation.

### ***The opening words of the Johannine Gospel present the cosmic Christ***

In the beginning was the Word; the Word was in God's presence, and the Word was God. He was present to God in the beginning. Through him all things came into being, and apart from him nothing came to be.

John, 1:1-3,  
St. Joseph Edition of *The New American Bible*.  
New York: Catholic Book Publishing Co., 1970

### ***The Nicene Creed, the profession of faith central to worship in the Christian church, begins with belief in the Creator***

We believe in one God, the Father, the Almighty, maker of heaven and earth, of all that is seen and unseen. We believe in one Lord, Jesus Christ, the only son of God eternally begotten of the Father, true God from true God, begotten, not made, one in Being with the Father. Through him all things were made.

*We Celebrate Worship Resource*, Vol. 24, No. 4, p. 67, Aug. 8, 1999  
Schiller Park, Illinois: World Library Publications

### ***All creation will be redeemed***

We know that the whole creation has been groaning in labor pains until now.

Paul, Romans 8:22, *The New Revised Standard Version*

### ***The Eucharist is one of the most central and transformative prayers of Christianity; it presents the things of Earth through which God is made present***

Blessed are you, Lord, God of all creation. Through your goodness we have this bread to offer, which earth has given and human hands have made. It will become for us the bread of life.

*The Roman Missal, The Sacramentary*, p. 370  
New York: Catholic Book Publishing Co., 1985

### ***The Divine Office, the hours of prayer from darkness to dawn, sun's summit to the half-light, dusk to night — in which such transitions are sacred moments to be celebrated — have as an introductory prayer***

His is the sea, for he has made it, and the dry land, which his hands have formed. Come, Let us bow down in worship; let us kneel before the Lord who made us.

Invitory, p. 1, *The Hours of the Divine Office in English and Latin*. Collegeville, MN: The Liturgical Press, 1963

### ***In the 12th-century cosmological vision of the Benedictine Hildegard of Bingen, the Word of a new creation springs forth from the virgin Mary***

O most brilliant gem and serene glory of the sun, you who the leaping fountain has been poured into from the heart of God, the fountain is God's only Word through which God created the first material of the world which Eve threw into confusion;



God formed the Word — a person — from you, and because of this you are that bright material through which this very Word breathed out all the virtues, just as God brought forth all the creatures from the first material.

Hildegard of Bingen (1098-1179),  
abbess, scientist, healer, scholar, composer, artist.  
Excerpts from *Ordo Virtutum*, Vision Thirteen: 1

### **The Canticle of Brother Sun**

All-highest, almighty, good Lord,  
to you be praise, glory and honour  
and every blessing  
To you alone they are due,  
and no man is worthy to speak your name.

Be praised my Lord in all your creatures,  
especially Brother Sun  
who makes daytime,  
and through him you give us light  
And he is beautiful, radiant with great splendour,  
and he is a sign  
that tells, All-highest, of you.

Be praised, my Lord,  
for Sister Moon and the stars;  
you formed them in the sky,  
bright and precious and beautiful.

...Be praised, my Lord, for our Sister Mother Earth,  
who keeps us, and feeds us,  
and brings forth fruits of many kind,  
and colored flowers and plants as well.

...Be praised, my Lord, for our Sister Bodily Death,  
whom no living man can escape.  
Woe to those who die in mortal sin!  
Blessed are those whom she will find  
doing your holy will,  
for to them the second death will do no harm.  
Bless and praise my Lord,  
thank him and serve him  
in all humility.

From the "Lauds of the Creatures,"  
which Saint Francis composed before his death.  
*Assisi Codex N. 338*, 13th Century

### **Christian tradition is clear in its admonition against the misuse of creation and its creatures**

The high, the low all of creation,  
God gives to humankind to use.  
If this privilege is misused,  
God's Justice permits creation to  
punish humanity.

Hildegard of Bingen, op. cit.

Open our eye...; alert the ears of our spirit, unlock  
your lips, and apply your heart that you may see,  
hear, praise, love, and adore, magnify, and honor  
your God in every creature lest perchance the entire  
universe rise against you. For because of this, the  
whole world shall fight against the unwise.

St. Bonaventure (1221-1274)  
in *Itinerarium Mentis in Deum*

"St. Francis and the Birds," reproduction of a sculpture by Frederick Franck

### **Church leaders express a commitment to righting the wrongs against creation**

**E**ven men and women without any particular religious conviction, but with an acute sense of their responsibilities for the common good, recognize their obligation to contribute to the restoration of a healthy environment. All the more should men and women who believe in God the Creator, and who are thus convinced that there is a well-defined unity and order in the world, feel called to address the problem. Christians, in particular, realize that their responsibility within creation and their duty towards nature and the Creator are an essential part of their faith. As a result, they are conscious of a vast field of ecumenical and interreligious cooperation opening up before them.

Pope John Paul II,  
"The Ecological Crisis, A Common Responsibility,"  
a message for the World Day of Peace, 1 January 1990

**W**e must attempt to return to a proper relationship with the Creator and the creation. This may well mean that just as a shepherd will in times of greatest hazard lay down his life for his flock, so human beings may need to forego part of their wants and needs in order that the survival of the natural world can be assured. This is a new situation — a new challenge. It calls for humanity to bear some of the pain of creation as well as to enjoy and celebrate it. It calls first and foremost for repentance — but of an order not previously understood by many.

*Orthodoxy and the Ecological Crisis*, pp. 10-11.  
Geneva: Ecumenical Patriarchate, 1990

**T**o commit a crime against the natural world is a sin. For humans to cause species to become

extinct and to destroy the biological diversity of God's creation, for humans to degrade the integrity of Earth by causing changes in its climate, by stripping the Earth of its natural forests, or destroying its wetlands; for humans to injure other humans with disease; for humans to contaminate the Earth's waters, its land, its air, and its life, with poisonous substances; these are sins.

Bartholomew I, Ecumenical Patriarch  
of the Eastern Orthodox Church, 1997

**W**hat is happening now is of a geological and biological order of magnitude. We are upsetting the entire earth system that, over some billions of years and through an endless sequence of groping, of trials and errors, has produced such a magnificent array of living forms, forms capable of seasonal self-renewal over vast periods of time.

We find ourselves ethically destitute just when, for the first time, we are faced with ultimacy, the irreversible closing down of the earth's functioning in its major life systems. Our ethical traditions know how to deal with suicide, homicide and even genocide, but these traditions collapse entirely when confronted with biocide, the killing of the life systems of the earth, and geocide, the devastation of the earth itself....

Perhaps a new revelatory experience is taking place, an experience wherein human consciousness awakens to the grandeur and sacred quality of the earth process. Humanity has not participated in such a vision since shamanic times, but in such a renewal lies our hope for the future for ourselves and for the entire planet.

Thomas Berry, historian of culture and religion,  
from a paper, "The Universe and the University,"  
delivered at Harvard University, 9 April 1996



Caring for the well-being of God's creation has become a significant dimension of Christian discipleship in our times. Our eyes have been opened to the biblical imperatives to live in just relationships with all life, and our spirits have been enlivened by the witness of many indigenous peoples and women who often are the ones living with the closest connections to the Earth.

Threats to the health of the planet are inter-related with sources of injustice against many members of the human community. Global economic forces and gross inequities in consumption levels leave vast numbers of humanity without the basics for a decent quality of life while enriching the privileged minority far beyond their needs. The challenge is to find ways in which human communities can live in a sustainable relationship with creation with all people enjoying the fullness of life.

Churches can play an important role in reinvigorating public support and protesting against the trend toward giving greater precedence to economic and trade interests over environment and development priorities.... Particularly encouraging for us in the World Council of Churches is to see how many of these initiatives are ecumenical and increasingly interfaith.

The Rev. Dr. Konrad Raiser,  
General Secretary, World Council of Churches,  
from a message for Earth Day, 22 April 1999



## RESTORING SACRED LAND IN BRITAIN

Everyone in Britain lives within 10 miles (16 kilometers) of a sacred site. Yet thousands of these sites have been paved over, left in ruins, forgotten or simply gone unnoticed. They include centuries-old pilgrimage routes and ritual wells, medieval monasteries, shrines, ancient forests, and monuments carved from the landscape by prehistoric hands. They are an inheritance inseparable from the land.

Through partnerships with religious communities and conservation organizations, the five-year Sacred Land Project, begun in 1997, is recovering and improving ancient sacred sites, enhancing the environment of sites still in use, developing education programs to encourage awareness and action, and serving as a national network linking individual sacred land projects. Rooted in practical ecology, the project also aspires to bring a sense of the sacred back into everyday lives.

For example:

✦ At the Greek Orthodox Hermitage of Sts. Anthony and Cuthbert in Shrewsbury, old buildings have been rebuilt or adapted using local materials and scrap woods, three new groves of trees are being planted, and the

resident hermit, Brother Aidan, is creating a monastic herbal garden and a wildflower meadow.

✦ On Holy Island in Scotland, the Samye Ling Tibetan Buddhist Centre is creating an interfaith conference center and retreat based on Christian and Buddhist monastic designs; already more than 27,000 indigenous trees have been planted.

✦ In Manchester, in partnership with the local council, church, hospital and area schools, Sacred Land is creating a Path of Life to the only public open space in a neglected 1930s working-class housing estate.

Conceived as millennium celebration, the Sacred Land Project involves all major religion and conservation groups in the UK. It is sponsored by the World Wide Fund for Nature-UK in association with the Alliance of Religions and Conservation and the International Consultancy on Religion, Education and Culture.

To learn more, contact:

ARC/ICOREC  
3 Wynnstay Grove  
Manchester M14 GXG, UK  
Tel: 44(0)161 248-5731  
Fax: 44(0)161 248-5736  
E-mail: icorec@icorec.nwnet.co.uk



## ISLAM

***Islamic teaching offers an opportunity to understand the natural order and human responsibility within its principles of tawhid (the unity of creation), fitra (humanity's place in creation), mizan (moderation and reason), and khalifa (stewardship).***

Allah has imposed a sacred duty – *khalifa*, the role of guardian – upon the human race

Do not these unbelievers see that the heavens and the earth were an integrated mass, then He split them and made every living thing from water?

Qur'an 21:30

Indeed every thing in the heavens and the earth belongs to Him, and all are obedient to God.

Creator of the heavens and the earth from nothingness, He has only to say when He wills a thing: "Be," and it is.

2:116-117

Have you not seen that all those who are in the heavens and the earth, and the bird on the wing, sing the praises of God.

Each one knows its obligations and its duties, and God knows whatever they do.

For God's is the kingdom of the heavens and the earth, and the returning is to God.

Have you not seen that God drives the clouds, then joins them together and puts them fold on fold.

Then you see the rain fall through them; and He sends down hail from the sky where there are mountains of it, and strikes those with it whom He will, and wards it off from whomsoever He please.

His lightning could snatch away their eyes.

It is God who alternates night and day.

There is surely a lesson in this for men of sight.

God created every moving thing from water: One crawls on its belly, one walks on two legs, another moves on four.

God creates whatsoever He will.

Indeed God has power over every thing. 14:41-45

There is not a thing that moves on the earth, no bird that flies on its wings, but has a community of its own like yours.

6:38

Do you see how all thing in heavens and the earth, the sun, the moon, the stars, the mountains, trees and beasts, and men in abundance, pay homage to God?

22:18

It is He who made you trustees of the earth, And exalted some in rank over others In order to try you By what He has given you. Indeed your Lord's retribution is swift, Yet he is forgiving and kind.

6:165

Corruption has spread over land and sea From what men have done themselves That they may taste a little of what they have done: They may haply come back (to the right path).

30:41

O sons of Adam...

Eat and drink, but do not be wasteful,

For God does not like the prodigals.

7:31

All from *Al-Qur'an, A Contemporary Translation* by Ahmed Ali. Princeton University Press, 1984



(Allah) Most Gracious!  
 It is He Who has taught the Qur'an.  
 He has created man:  
 He has taught him speech (and intelligence).  
 The sun and the moon follow courses (exactly)  
 computed;  
 And the herbs and the trees — both (alike) bow in  
 adoration.  
 And the Firmament has He raised high and He has  
 set up the balance (of Justice)  
 In order that ye may not transgress (due) balance.  
 So establish weight with justice and fall not short  
 in the balance.  
 It is He Who has spread out the earth for (His) crea-  
 tures:  
 Therein is fruit and date-palms producing spathes  
 (enclosing dates):  
 Also corn with (its) leaves and stalk for fodder and  
 sweet-smelling plants.  
 Then which of the favors of your Lord will ye deny?

*Qur'an 55:1-13, tr. Yusuf Ali*

Anas bin Malik, Allah's Messenger said, "There is none amongst the Muslims who plants a tree or sows seeds, and then a bird, or a person or an animal eats from it, but it is regarded as a charitable gift from him."

Hadith 1071 [3:513-O.B],  
*The Book of Cultivation and Agriculture,*  
 from *Sahih Al-Bukhari*, Darul Ahya Us-Sunnah,  
 Al Nabawlya, Pahari Bhojla, Delhi, India: 1994

Abu Huraira, Allah's Messenger said, "While a man was walking he felt thirsty and went down a well and drank water from it. On coming out of it, he saw a dog panting and eating mud because of excessive thirst.

The man said, 'This [dog] is suffering from the same problem as that of mine.' So he [went down the well], filled his shoe with water, caught hold of it with his teeth and climbed up and watered the dog. Allah thanked him for his [good] deed and forgave him." The people asked, "O Allah's Messenger! Is there a reward for us in serving [the] animals? He replied, "Yes, there is a reward for serving any animate."

Hadith 1094 [3:551-O.B], *The Book of Watering*, op. cit.

***The prophet Mohammed compared a good Muslim to a palm tree and declared that tree planting would be an acceptable substitute for alms (Topaloglu 1994)***

Tree, tree, do not be embarrassed because I call you by that.

[After all] The doors of Mekka and Medina are made of wood.

The staff of Moses is also made of wood.

The bridges spanning over big rivers are also made from you.

The ships which roam the black seas are also of wood.

*Book of Dede Korkut* (Turkish tales), Banarly 1971,  
 tr. Sargun A. Tont, in *Cultural and Spiritual Values of Biodiversity*, p. 392. London, UK: UNEP, 1999

Its stem is gold  
 Its leaves are silver  
 As its branches expand  
 They invoke the name of the Lord.

Yunus Emre (1240-1381),  
 Turkish poet-mystic, Banarly 1971, op. cit.



### ***Knowledge of creation is the basis for environmental teachings in the Qur'an***

The Qur'an lays down the foundations for the conduct of our affairs in creation. At one level it is about conserving the body and the soul and the marking out of our relationships with the natural order; at another level it is about the communities of beings that fly and crawl and lope and swim; and at yet another level it is about the cosmos, the elements, forests, mountains and rivers. The body of teaching in the Qur'an that deals with these matters may be described as 'Ilm ul Khalq (Knowledge of Creation) which predates the science of Ecology by fourteen centuries.

Fazlun Khalid, "Introduction," *Qur'an: Creation and Conservation*. Birmingham, UK: Islamic Foundation for Ecology and Environmental Sciences (IFEES), 1999

### ***The relation between religions in the shadow of the environmental crisis***

The idea that the laws that govern over the world of nature and the laws which govern over human society are interrelated is one of the universal elements of all of the different religions, expressed in many different languages. *Dharma*, *rta*, *shariah*, and *namus* are all key terms which express this interrelation. Also in African languages there are terms used for both laws of human beings and laws of nature, reminding us everywhere that the word 'law' contin-

ues in the minds of traditional people to mean the laws which we should follow morally as well as the laws which govern over nature....

If a mullah tells somebody in a mosque not to pollute the water, it will have a lot more effect than the government publishing an article about it in a newspaper in Cairo, Damascus or Tehran. The fact is that we all live on the globe within a web of life and an ecological system now being threatened with destruction through the manner in which we live. Therefore the question of interfaith dialogue and the relation between religions must also encompass this very important dimension, that is, this attitude toward God's creation. Without consideration of this reality, there will never be concrete unity of life of human beings and other creatures or any kind of peaceful existence, and we will in fact only have the negative unity of joining forces to destroy the earth together, leading to our own destruction.

Let us pray and hope that the positive unity of view and purpose...will prevail before the very opportunity to save that precious trust left by God in human hands, that is, His creation, is destroyed. But in this, as in all matters, God knows best. *Wa'llahu a'lam*.

Remarks by Seyyed Hossein Nasr,  
Professor of Islamic Studies,  
George Washington University,  
at the International Interfaith Center,  
Oxford, England, 27 October 1994.



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## SACRED WORDS OF THE SOUTH ASIAN RELIGIONS: HINDUISM, BUDDHISM, JAINISM

### HINDUISM

***For thousands of years Hindu worship has used concrete images of the divine in many forms.***

When the orthodox Hindu first places his right foot on the ground in the morning, he says, "Oh Earth, the giver of all that is good to us, I bow before thee."

#### ***Prayer for Peace***

Supreme Lord, Let there be peace in the sky and in the atmosphere, peace in the plant world and in the forests; let the cosmic powers be peaceful; let Brahman be peaceful; let there be undiluted and fulfilling peace everywhere. *Atharva Veda*

***A Hymn to the Earth, which Hindus revere as a mother, who feeds, shelters and clothes us. Without her we cannot survive. If we as children do not care for her, we diminish her ability to care for us.***

Truth, force of authority and duty, gravitational compulsion, dedication, creative energy, perfect knowledge, and sacrifice: these support and uphold the Earth; may these elements which protect that which has been and that which shall be, magnify my field of activity.

May this Earth, whose surface undulates with many gradients, and sustains an abundant variety of herbs and plants of different potencies and qualities, support all human beings, in all their diversity of endowment, in mutually supportive harmony and prosperity.

May this Earth, replete with seas, rivers and water sources, excellent foodgrain from agriculture, prolific vegetation and abundant living creatures bestow upon us munificent nutrition....

Skillfully conserved by wise and alert persons, this Earth, which in ancient times was submerged in water, and is bound with the highest spiritual force, may this Earth, infused with divine force and truth, confer upon us brilliance, strength and sovereignty.

May this Earth with incessant attendance of flowing water, by day and night, grant us abundant nutrition and radiance...

May this Earth bearing snowy mountains and deep forests be kind to us and give us happiness. May the Earth's supportive surface be fertile and arable, abundantly endowed with forests, and may this Earth with regular change of seasons, and with a stable base for life, provide a safe existence protected from untimely interventions...

May all mortal entities, bipeds and quadrupeds and the five constituent communities of human beings born to the same mother — the Earth — and supported by the Earth, receive the spiritual stimulus of the ever-rising and inexhaustible Sun....

May all render service such that the Earth is the mother of all medicinal plants and provides a stable and beneficial environment for life....

Boulders, rocks, stones, dust-particles, all these form the Earth's crust; the Earth is golden within. May the Earth support us....

The three ancient religions of South Asian origin have in common a set of core values that determine their environmental ethic: the continuity of all forms of life, nonviolence, and the ascetic ideal of a simple life.

An important component is the belief in reincarnation, the endless cycling through birth and death in which there is no difference in the essence of a human, a god, a ghost, an animal, or a tree — although it is only from a human birth that one can attain liberation. This fosters a sense of connection to the family of all beings.

We invoke the Earth upon which foliage and trees are firmly held, unthreatened, the Earth which is equipped with all good things in a stable environment of harmony....

O' Earth, may only pure water flow for our bodies. May all the water on Earth remain pure and unpolluted. May harmful substances be away from us. May only good action occur at our instance....

O' pure Earth, may that we utilise your soil well (for creative production) without causing you injury or harm and disturbing any vital element in you....

This Earth which supports diverse people of varying persuasions and temperaments as in a peaceful home, may this stable and wholesome Earth give us all a bounty of good fortune as from a thousands streams of milk from the invisible celestial cow....

The Earth endures people of all temperaments, good and bad, but the blessings of the Earth are derived by the one with nobility of mind, following the path of right conduct.

Excerpts from "Hymn to the Earth: The Prithvi Sukta," the 12th chapter of the *Artharva Veda*, tr. by Shrinivas S. Sohoni. New Delhi: Sterling Publishers Pvt. Ltd., 1991

### **Hymn to a Tree**

May the axe be far away from you;  
May the fire be far away from you;  
May there be rain without storm;  
Lord of Trees, may you be blessed;  
Lord of Trees, may I be blessed.

*Atharva Veda*

### **To the Waters Who Are Goddesses**

They who have the ocean as their eldest flow out of the sea, purifying themselves, never resting. Indra, the bull with the thunderbolt, opened a way for them — let the waters, who are goddesses, help me here and now.

The waters of the sky or those that flow, those that are dug out or those that arise by themselves, those pure and clear waters that seek the ocean as their goal — let the waters, who are goddesses, help me here and now.

Those in whose midst King Varuna moves, looking down upon the truth and falsehood of people, those pure and clear waters that drip honey — let the waters, who are goddesses, help me here and now.

Those among whom King Varuna, and Soma, and all the gods drink in ecstasy the exhilarating nourishment, those into whom Agni Of-all-men entered— let the waters, who are goddesses, help me here and now.

From *The Rig Veda*, 7.49, tr. Wendy Doniger O'Flaherty. New York: Penguin Books, 1981

### **Gandhian ethics**

My ethics not only permit me to claim but require me to own kinship with not merely the ape but the horse and the sheep, the lion and the leopard, the snake and the scorpion.

"Brotherhood," Ch. 14, in *The Mind of Mahatma Gandhi*, ed. R.K. Prabhu and U.R. Rao.

Ahmedabad, India: Navajivan Mudranalaya, 1996



Jesus, Mahomed, Buddha, Nanak, Kabir, Chaitanya, Shankara, Dayanand, Ramakrishna were men who exercised an immense influence over and moulded the character of thousands of men. The world is the richer for their having lived in it. And they were all men who deliberately embraced poverty..... Insofar as we have made the modern materialistic craze our goal, so far are we going downhill in the path of progress.

"Non-possession," Ch. 7, op. cit.

### ***Hindu myths provide an organic cosmology***

One of the most striking aspects of the multitude of Hindu cosmogonic myths is the organic, biological visions that they express. The completed universe is imaged as a living organism, a vast ecosystem, in which each part is inextricably related to the life of the whole. And the whole is indeed alive: it is in constant process and movement, growing and decaying. There is no such thing as objectified "nature" or lifeless "elements," for everything belongs to the living pattern of the whole.... These are the images of a biological world-view, grounded in the Vedas...and persisting still in the Hindu mythic imagination. It is a view in which the universe, and by extension the land of India, is alive with interconnections and meanings, and is likened to a living organism. There is no "nature-worship" here, but a sacramental natural ontology.

Diana Eck, "Ganga: The Goddess in Hindu Sacred Geography," p. 141, in *Devi: Goddesses of India*, eds. John Stratton Hawley and Donna Wulff. Berkeley: University of California Press, 1995



### **PILGRIMS REPLANT A SACRED MOUNTAIN FOREST**

**B**adrinath, a pilgrimage place in India's Himalayas, has been a focus of Hindu devotion for thousands of years. Because of its remoteness it used to take 20 days to reach by foot and relatively few people managed to get there. Today, more than 400,000 pilgrims arrive annually on roads built after the border war with China. Under the impact of so many visitors, the last remnants of a sacred forest, which ancient texts say used to fill the valley, have disappeared.

In 1993, the director of the G.B. Pant Institute of Himalayan Environment and Development was one such visitor, and he had an idea. He approached the chief priest and said his institute would provide tree seedlings if the priest could convince the pilgrims to plant them. The priest agreed.

At the first tree-planting ceremony, the priest blessed the plants and preached about the spiritual importance of trees. He urged the pilgrims and others to plant the seedlings as an act of religious devotion. Temple beggars said they would care for the trees in exchange for food and donations.

Unfortunately, the altitude, cold and snowfall killed most of the trees from that first ceremonial planting. The institute redoubled its efforts. It determined the most promising native trees for preserving Himalayan biodiversity, established a mountain nursery to acclimatize seedlings and developed special covers to prevent snow from breaking them. As a result, survival rates have improved dramatically.

"Before the first ceremony in 1993, it never occurred to me to plant trees as a religious duty," said an orange-robed swami who runs a rest house for pilgrims. "Now I encourage everyone who comes here to do it! I tell them to plant trees not only at Badrinath but throughout India for the sake of peace and well-being for all."

To learn more:

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From "Badrinath's Trees" by Edwin Bernbaum, in *Hinduism Today*, May 1999

## BUDDHISM

***A belief in reincarnation is basic to Buddhism as well as Hinduism and Jainism. In the “Jatakas,” edifying stories the Buddha told about his previous lives, he may be an animal, including an elephant, a tiger, a fish, or different species of birds. There also are stories where he is the spirit of a tree. Throughout the Buddhist world, these stories are important in the education of children. The Jatakas make clear that in Buddhism the moral community should include all forms of life, and that all species of living beings are not only related but can transform into each other and are essentially one.***

May all beings be at ease, secure;  
 May they be happy in heart.  
 Whatever they may be,  
 Wandering or stable,  
 all creatures long or great,  
 medium-sized or small,  
 all creatures seen or unseen,  
 living far or near,  
 born or awaiting birth,  
 may all be happy at heart!

One should cultivate an unlimited mind  
 Toward all beings  
 The way a mother protects her only child  
 With her life.

One should cultivate an unlimited loving mind  
 without obstruction, anger or opposition,  
 To the whole world  
 Above, below, across.

*Metta Sutta 1, or “Discourse on Lovingkindness,” cited in Harvey Aronson, *Love and Sympathy in Theravada Buddhism*, p. 49. Delhi: Motilal Banarsidass, 1980*

Compassion for all life is a central value. All life is connected, every action has a result.

### ***From The Parable of the Medicinal Herbs***

The beneficent cloud is laden with moisture,  
 the lightning gleams and flashes,  
 and the sound of thunder reverberates afar,  
 causing the multitude to rejoice.  
 The sun's rays are veiled and hidden,  
 a clear coolness comes over the land;  
 masses of darkness descend and spread —  
 you can almost touch them.  
 The rain falls everywhere,  
 coming down on all four sides.  
 Its flow and saturation are measureless,  
 reaching to every area of the earth,  
 to the ravines and valleys of the mountains  
 and streams,  
 to the remote and secluded places where grow  
 plants, bushes, medicinal herbs,  
 trees large and small,  
 a hundred grains, rice seedlings,  
 sugar cane, grape vines.  
 The rain moistens them all,  
 none fails to receive its full share.  
 The parched ground is everywhere watered,  
 herbs and trees alike grow lush.  
 What falls from the cloud is water of a single flavor,  
 but the plants and trees, thickets and groves,  
 each accept the moisture that is appropriate to  
 its portion.  
 All the various trees,  
 whether superior, middling or inferior,  
 take what is fitting for large or small  
 and each is enabled to sprout and grow.  
 Root, stem, limb, leaf,  
 the glow and hue of flower and fruit —  
 one rain extends to them  
 and all are able to become fresh and glossy.



Whether their allotment  
of substance, form and nature is large or small,  
the moistening they receive is one,  
but each grows and flourishes in its own way.

The Buddha is like this  
when he appears in the world,  
comparable to a great cloud  
that covers all things everywhere.

*The Lotus Sutra*, translated by Burton Watson.  
New York: Columbia University Press, 1993.

When shall I come to dwell in forests  
Amongst the deer, the birds and the trees,  
That say nothing unpleasant  
And are delightful to associate with.

Shantiveda, 8th Century. *A Guide to the Bodhisattva's  
Way of Life*, tr. Stephen Batchelor. Dharamsala, India:  
Library of Tibetan Works and Archives, 1979.

### ***His Holiness the Dalai Lama on universal responsibility and the environment***

As a boy studying Buddhism, I was taught the importance of a caring attitude toward the environment. Our practice of nonviolence applies not just to human beings but to all sentient beings, any living thing that has a mind. Where there is a mind, there are feelings such as pain, pleasure, and joy....

In Buddhist practice we get so used to this idea of nonviolence and the ending of all suffering that we become accustomed to not harming or destroying anything indiscriminately. Although we do not believe that trees or flowers have minds, we treat them also with respect. Thus we share a sense of universal responsibility for both mankind and nature.

Our belief in reincarnation is one example of our concern for the future. If you think that you will be reborn, you are likely to say to yourself, I have to preserve such and such because my future reincarnation will be able to continue with these things. Even though there is a chance you may be reborn as a different creature, perhaps even on a different planet, the idea of reincarnation gives you reason to have direct concern about this planet and future generations....

If we think of the planet as our house or as our mother — Mother Earth — we automatically feel concern for our environment. Today we understand that the future of humanity very much depends on our planet, and that the future of the planet very much depends on humanity. But this has not always been so clear to us. Until now, you see, Mother Earth has somehow tolerated sloppy house habits. But now human use, population, and technology have reached that certain stage where Mother Earth no longer accepts our presence with silence. In many ways she is now telling us, "My children are behaving badly." She is warning us that there are limits to our actions....

Our ancestors viewed the earth as rich and bountiful, which it is. Many people in the past also saw nature as inexhaustibly sustainable, which we now know is the case only if we care for it. It is not difficult to forgive destruction in the past that resulted from ignorance. Today, however, we have access to more information. It is essential that we reexamine ethically what we have inherited, what we are responsible for, and what we will pass on to coming generations.

Excerpted from *My Tibet* by His Holiness the Dalai Lama and Galen Rowell. University of California Press, 1990.



*Drawing of Lord Buddha by  
Kyabje Trijang Rinpoche,  
Junior Tutor to His Holiness  
the Dalai Lama.*

## HAIKU

The first snow:  
The leaves of the  
daffodils  
Are bending.

Basho

Sound of mountain  
sound of ocean  
everywhere spring rain

Soen Nakagawa

What stillness!  
The voices of the  
cicadas  
Penetrate the rocks.

Basho

Inside the zendo  
also dancing  
evening maple leaves

Soen Nakagawa

I kept hanging the moon  
On the pine tree and  
taking it off,  
Gazing at it the while.

Hokoshi

## THE MONK WHO ORDAINED TREES

**A**s a young man in Thailand Pha Pachak fought with a friend who owed him money. The friend shot him twice, and Pha vowed that if he lived he would become a monk. He recovered and went into the woods to be a monk for seven days – an accepted ritual to bring honor and good karma to one's family. He stayed in the forest for 20 years. "The forest makes your heart gentle," he says. "You become one with it.... No place for greed or anger there."

Over time his reputation spread, and villagers built him a temple. They asked him to help stop the government from logging their trees. Pha didn't know what to do; he had never engaged in political action. Then he had an idea. He and the villagers went to where the lumberjacks would work the next morning and ordained all the trees. They wrapped saffron monk's cloth around their trunks and blessed them.

It worked. In Buddhist countries killing an ordained being is a ticket to hell, and the lumberjacks wanted nothing to do with it. The deforestation stopped, and Pha became a famous leader.

Such success was dangerous. The government, the legal (and illegal) lumber industry, and seven other

governments involved in Thailand's timber business mobilized to crush the resistance. Police harassed Pha and the villagers, newspapers conducted a smear campaign, the state church threatened to disrobe him. He was arrested, beaten and thrown in jail. He escaped, sparking a manhunt involving hundreds of government troops, all to catch a man who had wrapped orange cloth around trees.

To save the forest Pha turned himself in and disrobed, thinking he had called a truce. But, by disrobing he lost stature and by being forced to live in Bangkok to fight charges, he lost his community and home.

Pha's act was a heroic effort to stop greed, but it is also a tragic example of how big greed is. In Buddhism, it is one of three poisons that cause suffering.

When he is cleared of the charges, Pha said he will become a monk again and go back to the forest where no one will ever see him again. Yet his example becomes more visible. The December 1999 international Solidarity Walk through northern Thailand (see p. 75) ended with an Interfaith Tree Ordination.

From "The Story of Pha: The monk who ordained trees"  
by Matt Weiner, unpublished, 1999





## JAINISM

***Jainism sees life as pervading even what is deemed non-living by others. Ahimsa (non-violence) is the fundamental vow that runs through the Jain tradition like a golden thread. It involves avoidance of violence in any form through word or deed, not only to human beings but to all nature, and requires reverence and compassion for all living beings (Jiva-daya) at every step in daily life. In India, where the religion has been known at least since the 6th century BC, and in settlements abroad, Jains are in the forefront of bringing greater awareness and putting these principles into practice.***

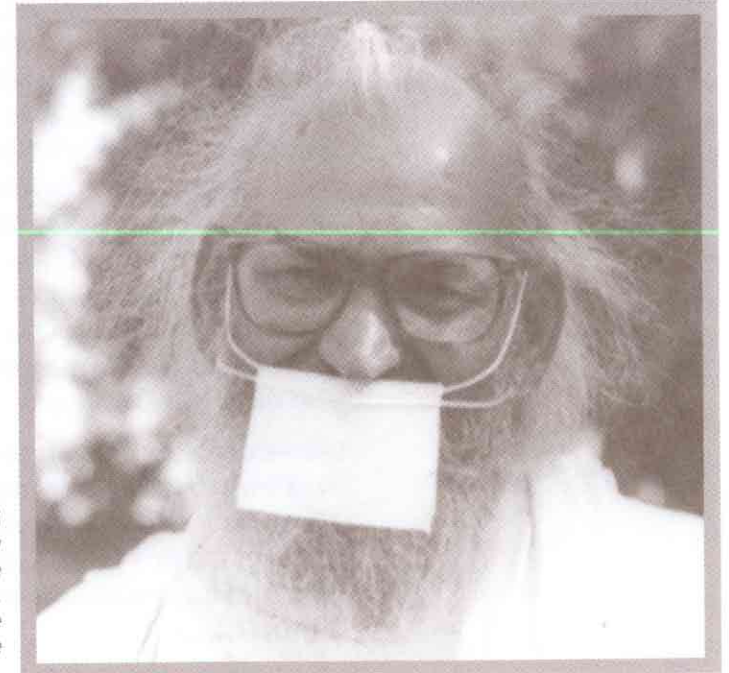
A monk or nun, seeing big trees in parks, on hills, or in woods, should not speak about them in this way: "These trees are fit for palaces, gates, houses, benches, bolts, boats, buckets, stools, trays, ploughs, machines, poles, the nave of a wheel, seat, beds, cars, sheds...."

A monk or nun, seeing big trees in parks, on hills, or in woods, should speak about them in this way: "These trees are noble, high and round, big; they have many branches, they are very magnificent, very beautiful, very fine, very handsome...."

*Acaranga Sutra* II.4.2.11-12,  
tr. Hermann Jacobi, *Sacred Books of the East*, 1884.

Knowing (and renouncing) severally and singly the actions against living beings, in the regions above, below, and on the surface, everywhere and in all ways — the wise one neither gives pain to these bodies, nor orders others to do so, nor assents to their doing so.

*Acaranga Sutra* I.7.1.5. op. cit.



His Holiness Acharya Sushil Kumar Ji Maharaj wears a mask to fulfill his vow as a Jain monk to never knowingly take the life of a sentient creature.

Acharya Sushil Kumar was one of the important spiritual leaders active at the Earth Summit in Rio de Janeiro in 1992.

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## SACRED WORDS OF THE EAST ASIAN RELIGIONS: CONFUCIANISM, TAOISM AND SHINTO

### CONFUCIANISM

*The founder of the Confucian tradition was the sage-teacher K'ung Fu-tzu (551-479 BC), whose name was latinized by Jesuit missionaries as Confucius. Born into a time of rapid social change, Confucius devoted his life to reestablishing order. This involved a program embracing moral, political, and religious components. His principal teachings in the Analects emphasize the practice of moral virtues, especially humaneness (jen), sincerity (cheng) and filiality (hsiao).*

*Confucian thought was further developed in the writings of Mencius (372-289 BC) and Hsun tzu (298-238 BC). A Neo-Confucian revival in the eleventh and twelfth centuries brought a synthesis of the earlier teachings. The major Neo-Confucian thinker, Chu Hsi (1130-1200), designated four texts as containing the central ideas of Confucian thought: the Great Learning, the Doctrine of the Mean, the Analects, and Mencius. These texts and Chu Hsi's commentaries became the basis of the Chinese civil examination system, which endured for nearly 600 years.*

*Neo-Confucian thought and its practice of self-cultivation spread to Korea, Japan, and Vietnam where it had a profound effect. Today, China once again looks to its Confucian tradition as a unique cultural inheritance.*

As education and literacy spread in China and scholars became influential as ministers of state, philosophers also began to flourish. In the late sixth century BC, two of the greatest philosophers of all time emerged in China: Lao Tze, the founder of Taoism, and Confucius, whose philosophy and religion came to dominate China for more than two millennia.

Tzu Kung asked: "Is there any one word that can serve as a principle for the conduct of life?" Confucius said: "Perhaps the word 'reciprocity': Do not do to others what you would not want others to do to you."

Confucius, *The Analects*, XV: 23

*Meng-tzu, or Mencius (372-289 BC), a disciple of the grandson of Confucius, ranks second in importance to Confucius in the Confucian tradition. His book focuses on the innate goodness of humans and emphasizes the seeds of virtue that need to be cultivated through education. Mencius was also a strong advocate of humane government that allowed both the people and the land to flourish.*

If you do not interfere with the busy seasons in the fields, then there will be more grain than the people can eat; if you do not allow nets with too fine a mesh to be used in large ponds, then there will be more fish and turtles than they can eat; if hatchets and axes are permitted in the forests on the hills only in the proper seasons, then there will be more timber than they can use. When the people have grain, more fish and turtles than they can eat, and more timber than they can use, then in the support of their parents when alive and in the mourning of them when dead, they will be able to have no regrets over anything left undone.

Mencius, tr. D. C. Lau. New York: Penguin Books, 1970



***The Doctrine of the Mean describes the power of sincerity that emanates outward from the human heart to the cosmos itself. When people cultivate their authentic nature they are said to affect the rejuvenating forces in the natural world. In realizing one's authentic self a person forms a triad with heaven and earth.***

Only people who possess absolute sincerity can give full development to their nature. Able to give full development to their own nature, they can give full development to the nature of others. Able to give full development to others, they can give full development to the nature of all beings. Able to give full development to the nature of all beings, they can assist the transforming and nourishing powers of Heaven and earth. Capable of assisting the transforming and nourishing powers of Heaven and earth, they may, with Heaven and earth, form a triad.

The Doctrine of the Mean (*Chung Yung*)  
from *The Book of Ritual (Li Chü)*

***This inscription, on the western wall of Chang Tsai's study, was enormously influential in Neo-Confucian thought. It describes the essential kinship of all beings with heaven and earth and suggests compassion is the highest expression of that kinship.***

Heaven is my father and earth is my mother and even such a small creature as I finds an intimate place in their midst. Therefore, that which extends throughout the universe I regard as my body and that which directs the universe I regard as my nature. All people

are my brothers and sisters and all things are my companions.

*Western Inscription, Chang Tsai (1020-1077)*

***The most comprehensive virtue in the Confucian tradition is jen or humaneness. As comprehensive compassion it is like a vital energy that nourishes the life force in all things.***

Humaneness as the principle of love is comparable to a tree and a spring of water.

It is like the will to grow, like the seeds of peaches and apricots.

It is like the vital force of spring.

For humaneness as constituting the Way, consists in the fact that the mind of Heaven and earth to produce things is present in everything.

*Chu Hsi on humaneness (jen) (12th century)*

***Like Mencius, Wang Yang-ming (1472-1529) emphasized the innate goodness of the human mind-and-heart. He underscored the feeling of commiseration in the human that would naturally flourish in the practice of humaneness (jen) extended to other humans and toward all living and non-living things.***

Master Wang said: The great person regards Heaven and earth and the myriad things as one body. He regards the world as one family and the country as one person. Therefore when he sees a child about to fall into a well, he cannot help a feeling of alarm and commiseration. This shows that his humanity (*jen*) forms one body with the child. It may be objected that



the child belongs to the same species [as he]. Yet when he observes the pitiful cries and frightened appearance of birds and animals [about to be slaughtered], he cannot help feeling an “inability to bear” their suffering. This shows that his humanity forms one body with birds and animals. It may be objected that birds and animals are sentient beings [as he is]. But when he sees plants broken and destroyed, he cannot help a feeling of pity. This shows that his humanity forms one body with plants. It may be said that plants are living things [as he is]. Yet even when he sees tiles and stones shattered and crushed he cannot help a feeling of regret. This shows that his humanity forms one body with tiles and stones.

Wang Yang-ming, *Inquiry on the Great Learning* (16th c.)

All quotations, except *Mencius*, are from Wm. Theodore de Bary, et al., *Sources of Chinese Tradition*, Vol. 1. New York: Columbia University Press, 1960

### ***Humans can make the Way great***

There are four principles in Confucianism: self, community, nature, and heaven, and they are interrelated....

If you amass wealth but are not connected with nature and others, you are an impoverished person....

To be sacred is to be in tune with one’s surroundings....

The process of westernization on China and other Asian nations has drastically transformed them. Indigenous resources, though marginalized or silenced, can be rekindled to be concerned not only with the body but the soul and spirit. Do we not need cultural capital as well as technical? Our cultural DNA is still functioning; it’s not totally subsumed....

The fundamental question is: What is the human condition? Why are we here? We have to imagine new views rooted in the spiritual values of each tradition. In Confucianism heaven is everywhere but not all-powerful, so we need to be collaborators, participants, stewards and co-creators. It is humans that can make the Way great, not the Way that will make humans great. The evolutionary story is not just about dead matter.

From remarks by Tu Weiming, Professor of Chinese History and Philosophy, Harvard University, and Director, Harvard-Yenching Institute, at the conclusion of the series of conferences on Religions of the World and Ecology, at the American Museum of Natural History, New York, 21 October 1998



## TAOISM

**Taoism** takes its name from “Tao,” which means “the way,” the mother of heaven and earth and the wellspring of life and creativity. For 2,500 years the Tao has intrigued philosophers, inspired religious movements, and embedded itself in Chinese popular culture. The Tao nourishes life and promotes harmony, the balance of yin and yang, and respect for natural spontaneity.

**Taoism** traces its roots back to the Tao Te Ching, a classic work of rare beauty and depth that today is one of the most translated books in the world. Although there is disagreement among scholars about its authorship and when it was written, there is virtually no dissent among those who read it as to its value as a literary and philosophical work. It is attributed to a man known simply as Lao Tzu, which means “old man” or “old master.” In the Taoist religion Lao Tzu came to be revered as a god.

There was something formless yet complete,  
That existed before heaven and earth;  
Without sound, without substance,  
Dependent on nothing, unchanging,  
All pervading, unfailing.  
One may think of it as the mother of all things  
under heaven.  
Its true name we do not know;  
“Way” is the by-name that we give it....

Chapter 25

Those that would gain what is under heaven by tampering with it — I have seen that they do not succeed. For that which is under heaven is like a holy vessel, dangerous to tamper with.  
Those that tamper with it, harm it.  
Those that grab at it, lose it....

Chapter 29

As for the things that from of old have understood the Whole —  
The sky through such understanding remains limpid,  
Earth remains steady,  
The spirits keep their holiness,  
The abyss is replenished,  
The ten thousand creatures bear their kind....  
It is the Whole that causes it.  
Were it not so limpid, the sky would soon get torn,  
Were it not for its steadiness, the earth would soon tip over,  
Were it not for their holiness, the spirits would soon wither away.  
Were it not for this replenishment, the abyss would soon go dry,  
Were it not that the ten thousand creatures can bear their kind,  
They would soon become extinct....

Chapter 39

... For though all creatures under heaven are the products of Being,  
Being itself is the product of Not-being.

Chapter 40

Man follows the ways  
of the Earth

人法地

The Earth follows the  
ways of Heaven

地法天

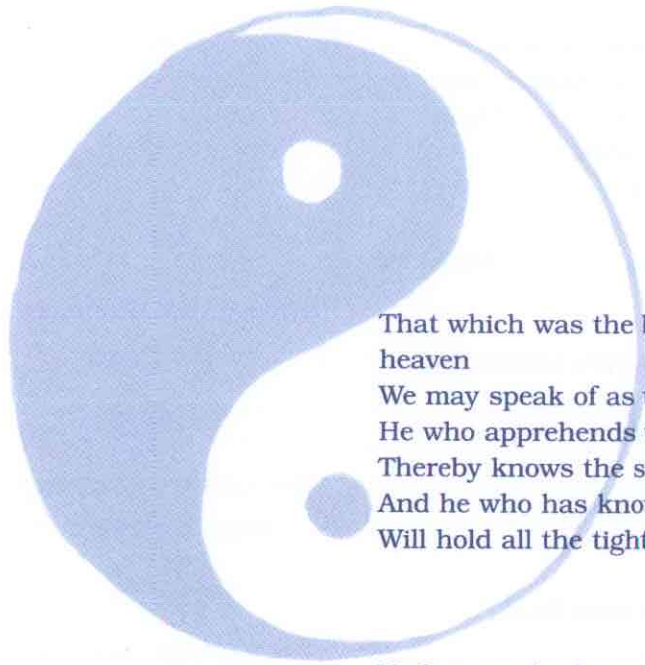
Heaven follows the  
ways of Tao

天法道

Tao follows its own  
ways.

道法自然

*Tao Te Ching*, Chapter 25,  
tr. by Dr. John C.H. Wu



That which was the beginning of all things under heaven  
 We may speak of as the "mother" of all things.  
 He who apprehends the mother  
 Thereby knows the sons.  
 And he who has known the sons  
 Will hold all the tighter to the mother....

Chapter 52

Nothing under heaven is softer or more yielding than water;  
 But when it attacks things hard and resistant there is not one of them that can prevail....  
 That the yielding conquers the resistant and the soft conquers the hard is a fact known by all men, yet utilized by none.  
 Yet it is in reference to this that the Sage said,  
 "Only he who has accepted the dirt of the country can be lord of its soil-shrines; only he who takes upon himself the evils of the country can become a king among those what dwell under heaven....".

Chapter 78

Above excerpts from Arthur Waley, *The Way and Its Power: A Study of the Tao Te Ching and Its Place in Chinese Thought*. New York: Grove Press, 1958

Taoist religious movements were established "around mountains, streams, seas and uncultivated natural reserves, not only places to retire from the world as hermits but as places for their communities to congregate and perform rituals. For them, the natural environment was a 'sanctuary' in both meanings of the word: (a) a holy place dedicated and consecrated to the cult of gods and saints and where sacred things were kept, and (b) a place of refuge and protection, a place for those who wished to escape the calamities of the world and where they could dwell in peace."

Kristofer Schipper, "Daoist Ecology: The Inner Transformation," in *Daoism and Ecology*, ed. N.J. Girardot, Liu Xiaogan and James Miller. Cambridge: Harvard University Press (forthcoming).

Contemporary Taoists see the situation no differently. Zhang Jiyu, Vice-President of the Chinese Taoist Association, reports that Taoists in China "have devoted themselves to the tasks of protecting trees and fruits, preserving and rebuilding forests, safeguarding the hermitage culture and ancient relics."

Zhang Jiyu, "A Declaration of the Chinese Daoist Association on Global Ecology," in *Daoism and Ecology*, op. cit.





## SAVING CHINA'S SACRED MOUNTAINS

China has nine senior sacred mountains, five associated with Taoism and four with Buddhism, and scores of lesser ones, each with its own aura of the holy. For millennia, they were places of retreat, owned and run by the great monasteries, offering a place of refuge to wildlife, a model of sustainable forestry and agriculture to local communities, and a vision to pilgrims of a more harmonious relationship with nature.

But in the 20th century much of this ancient balance had been destroyed, for the land no longer belonged to the monasteries. Logging, hunting, tourism and pollution were taking their toll, and while the sacred mountains still attracted pilgrims, they also drew big business interests.

In 1996, after issuing a statement on ecology for the first time in their 2,000-year-long history, the Taoists launched a Sacred Mountains Project with the Worldwide Fund for Nature (WWF) and other groups in the Alliance of Religions and Conservation (ARC). Saying "Taoism has a unique sense of value in that it judges affluence by the number of different species," they began work with ARC on an ecological survey of five major and three lesser Taoist moun-

tains in cooperation with the government's Bureau of Religious Affairs and tourist authorities.

With survey results in hand, development plans will be drawn up in consultation with local people, priests, monks and nuns, as well as relevant government departments, to ensure the survival of a balanced way of life on the sacred mountains. If successful, the project will be extended to the Buddhist mountains.

High on O Mei Shan in Sichuan Province lives a Buddhist hermit, who has lived in his cave for more than 50 years. "Come," he says, "visit, listen. But also respect all life on this mountain, for the mountain is you, and you are the mountain."

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From "Saving China's Holy Mountains" by Martin Palmer,  
*People & the Planet*, Vol. 5, No. 1



*Shinto is founded on Japanese narratives of the beginning of the world, where kami, or deities, emerged from original chaos and gave birth to Japan – its land, mountains, rivers, trees, and people. For centuries its followers have forged deep bonds to sacred presences and places in the natural world of Japan.*

## SHINTO

***A consistent symbol of the Japanese spiritual world is the mountain as sacred place. As ancient site and god-dwelling realm and as a place of pilgrimage and renewal, the mountain is central to the experience and expression of Shinto belief.***

Only a common mountain I've known since long ago,  
But with autumn, I am filled with awe to think the  
*kami* must be living there.

Ishikawa Takuboku, quoted in *The Shinto View of Nature  
and A Proposal Regarding Environmental Problems*,  
Jinja-Honcho, Tokyo

Lo! there towers the lofty peak of Fuji  
From between Kai and wave-washed Suruga  
...the snows quench the burning fires,  
The fires consume the falling snow.  
It baffles the tongue, it cannot be named,  
it is [*kami*] mysterious.

Joseph Kitagawa, *On Understanding Japanese Religion*,  
p. 46. Princeton University Press, 1987

***In the more ancient phase of Shinto belief, divine presence was associated with sacred places. Only in a minimal sense did kami need name, shrine need structure, or celebration need ritual. In later norito or ritual prayer, lyric allusion reaffirms the ancient intimacy of natural phenomena and divine presence.***

They will be taken into the great ocean  
By the Goddess

Who dwells in the rapids of the rapid-running river  
Which fall surging...from the summits of the high  
mountains  
and the summits of the low mountains...

By the Goddess

Who dwells in the wild brine, the myriad currents of  
the brine.

Donald L. Phillippi, *Norito, A Translation  
of the Ancient Japanese Ritual Prayers*, p. 29.  
Princeton University Press, 1990

***Such ritual prayer in later times reflects the ancient Shinto insight that the human community lives by divine favor in prayerful attendance to the kami presence.***

If you establish our shrine  
In the place where the morning sun shines its rays  
The place where the evening sun is radiant  
Then all the products harvested...  
From the five grains until the last blade of grass,  
We will prosper and bring to fruition.

"Festival of the Wind Deities of Tatuta," Phillippi, op. cit.



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## SACRED WORDS FROM THE TRADITIONS OF INDIGENOUS PEOPLES

### INDIGENOUS PEOPLES OF THE WESTERN HEMISPHERE

There is no word for "nature" in my language. Nature, in English, seems to refer to that which is separate from human beings. It is a distinction we don't recognize.

Audrey Shenandoah, Clan Mother of the Onondaga Nation, in an address to the Moscow Global Forum on Environment and Development, January 1990

The Mapuches have a sacred and collective concept of the earth and all it produces. There are no concepts like private property, commercial value, or constantly changing technology that industrial societies have.... Traditionally, for the Mapuche the Earth is part of life itself and it also has a sacred dimension which encompasses the existence and culture as a whole of Mapuche people. With this in mind, it is easy to see the vast damage caused to the spirit of the Mapuche people by the division of sacred and collective land.

Ad-Mapu of the Mapuche (Chile) political organization to the United Nations Special Rapporteur for Chile, 1984

We see the sun as a male being, the earth as a female being — the mother of life. If we look on the earth as a mother, then we are kind and respectful.

All life on earth is one entity, and the rules for our survival are the same as for any living element: trees need water, air and light, as we do. We see humans as a special being, powerful but no more than equal with the rest of life.

Our decisions must reflect on the welfare of the seventh generation to come. That is a profound instruction. We are taught not to think of our families or of our generation, but to look at the future. We are told to plant our feet carefully on Mother Earth because of the faces of all future generations looking up from it.

When this respect, protection and continuance of life becomes a priority of humans, then we will have peace.

Chief Oren Lyons, Joagquisho, or Faithkeeper, of the Haudenosaunee, the Iroquois Confederation, in *Shared Vision*, No. 1, 1989

I am blind and do not see the things of this world; but when the Light comes from Above, it enlightens my heart and I can see, for the Eye of my heart sees everything. The heart is a sanctuary at the center of which there is a little space, wherein the Great Spirit dwells, and this is the Eye. This is the Eye of the Great Spirit by which He sees all things and through which we see Him. If the heart is not pure, the Great Spirit cannot be seen, and if you should die in this ignorance, you soul cannot return immediately to the Great Spirit, but it must be purified by wandering about in the world. In order to know the center of the heart where the Great Spirit dwells you must be pure and good, and live in the manner that the Great Spirit has taught us. The man who is thus pure contains the Universe in the pocket of his heart.

Oglala Lakota, Black Elk, fieldnotes of Joseph Brown in Michael O. Fitzgerald, *Yellowtail, Crow Medicine Man and Sundance Chief*. University of Oklahoma Press, 1994.

The spiritual heritage of the world's indigenous peoples is rooted in the earth.

The old Lakota was wise. He knew that man's heart away from nature becomes hard; he knew that lack of respect for growing, living things soon led to lack of respect for humans too. So he kept his youth close to its softening influence.

Luther Standing Eagle, *Land of the Spotted Eagle*.  
Boston: Houghton Mifflin, 1933

**Beautyway  
from the Navajo Night Chant Ceremonial**

Tsegihi. House made of dawn,  
House made of evening light,  
House made of dark cloud,  
House made of male rain,  
House made of dark mist,  
House made of female rain,  
House made of pollen,  
House made of grasshoppers,  
Dark cloud is at the door.  
The trail out of it is dark cloud.  
The zigzag lightning stands high upon it.  
Male deity!  
Your offering I make  
I have prepared a smoke for you.  
Restore my feet for me,  
Restore my legs for me,  
Restore my body for me,  
Restore my mind for me,  
Restore my voice for me.  
This very day take out your spell for me.  
Your spell remove for me.  
You have taken it away for me;  
Far off it has gone.

Happily I recover.  
Happily my interior becomes cool.  
Happily I go forth.  
My interior feeling cool, may I walk.  
No longer sore, may I walk.  
Impervious to pain, may I walk.  
With lively feelings, may I walk.  
As it used to be long ago, may I walk.  
Happily may I walk.  
Happily, with abundant dark clouds, may I walk.  
Happily, with abundant showers, may I walk.  
Happily, with abundant plants, may I walk.  
Happily, on a trail of pollen, may I walk.  
Happily may I walk.  
Being as it used to be long ago, may I walk.  
May it be beautiful before me,  
May it be beautiful behind me,  
May it be beautiful below me,  
May it be beautiful above me,  
May it be beautiful around me,  
In beauty it is finished.

Thomas Sanders, *Literature of the American Indian*,  
pp. 193-194. Glencoe Press, 1973

All nations, they all have a song. That's what my people say. When you're a baby the first thing you do is learn to hum, to make a little noise. That's what they call a song. Each nation in their own language in their own way have a song.... The world has a song. The rivers, the creeks, the winds, the trees, everything has a whispering sound."

Martin Louie/Snpakchiin,  
Kettle Falls Okanagon/Salish elder, quoted in  
"Cosmogony and the Winter Dance," p. 401,  
in *Journal of Religious Ethics*, Fall 1992



## INDIGENOUS PEOPLES OF EUROPE

### ***The reindeer-herding Saami live in harmony with nature in Arctic conditions.***

All peoples living like the Saami, linked to nature as reindeer herders, have spiritual contact. We live adoring nature and then it becomes sacred. There is a necessity to please nature so that it gives to you. You have to be kind to nature so that nature will give you more. You have to be friends with the environment, otherwise it won't work in cooperation with you on whatever you call the spiritual.

Johan Mathis Turi, in "Voices of the Earth," p. 152, *Cultural and Spiritual Values of Biodiversity*, Ed. Darrell Posey. London: UNEP/Intermediate Technology Pub., 1999

## AFRICAN PEOPLES

### ***In the religions of West Africa, which through the slave trade spread to the Americas, hundred of deities exist in nature where they embody specific values and principles.***

There are no fixed rules, no guidebook to god for the Yorubas.... Each orisha is the universe looked at from another angle. [The innumerable orisha represent] certain natural forces, historical personalities, animals and the magic qualities of minerals, or even colors. To certain individuals, some of the forces are congenial, others destructive.... The real "African science" is the accumulated knowledge in the collective consciousness of a people of how to live in tune with the non-human world.

Ulli Beier, chairman emeritus, African Studies Department, University of Ife, Nigeria, in *The Return of the Gods*, p. 35. Cambridge University Press, 1975

African religion, no matter the level of sophistication or education of the individual, permeates every aspect of his or her life, from seedtime to harvest, through the rites of passage: birth, puberty, marriage, death and hereafter. We have no creeds to recite, as these dwell in the heart, and each one of us is the living creed.

All over Africa, the Earth is regarded as the female spirit, "Asase Yaa," Mother Earth. One is expected to care for her, nurse, cherish and love her. Generally, one will not till the land without her prior permission. We ask her permission again before digging to bury the dead so that her child may return into her womb. "Asase Yaa" is also known as the upholder of the Truth, and whenever someone's word is in doubt, he is asked to touch his lip to some soil to become credible.

Before every function and ceremony, a libation is done whereby water or spirit are poured onto the ground while calling the name of the God, Mother Earth and the ancestors, and beseeching their blessings upon all present.... Gesture and symbol play an important part in the African rites. When in a dance a priestess raises her hands, she is delivering a message, "I am leaving all in the power of God."

The aim of African religion is to promote harmony between humans, the spirit world, society and the environment. Its distinctive feature is the sharing spirit. We believe that the Earth is God's gift to us. We are merely the keepers of the Earth and are charged with taking care of it and leaving it in a better condition than we found it. If we fail, our children will not have any Earth to inherit.

Queen Boakyewa Yiadom I, Ghana  
<http://afgen.com/queen.html>



**Major environmental endeavors need the guidance and approval of guardian ancestors. Spirit Medium va Zarira explained this at a Shona tree-planting ceremony in Zimbabwe**

Without the ancestors we would be without water, without food, without clothes. Our entire well-being would be lost without them.... Thus today we want to place our own spirits with those of our ancestors, together with our [tree-planting] activities in the land. We cannot act on our own without informing them. If we do so we would be transgressing. Then all the trees we plant will die....

**At another Shona tree planting ceremony, a tribal elder addressed the ancestors**

This land is barren because we have been chopping down all the trees. You, *mhondoro* [a senior tribal spirit], have no wilderness left in which to dwell. We want to restore the forests to cover the naked land. [Beer and snuff are offered.] Pass our plea . . . to the unknown ancestors. You, our ancestor, also pass our plea to Musikavanhu ["creator of the people" — God] so that the trees we plant will be watered sufficiently to survive.

*African Traditional Religion and Earthkeeping in Zimbabwe*,  
M.L. Daneel, pp. 7-8. African Humanities Program,  
Boston University, 1999

**PACIFIC PEOPLES**

In the past we saw spirits in every tree. But now, with Christianity coming in, things are changing. It was easy for we Solomon Islanders to accept Christianity

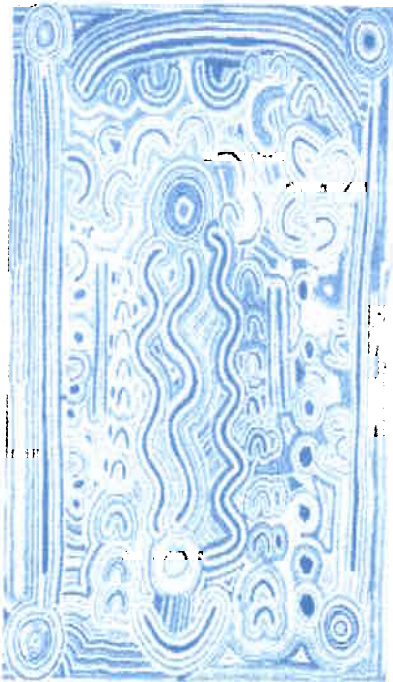
because we believe that God lives everywhere. It was just that we had different names for such things in the past....

Ruth Lilongula, Solomon Islands,  
in "Voices of the Earth," p. 163. op cit.

*He kai ko 'ako 'a no ka uli o Paliuli  
O he 'e wale ka 'aina ia lakou  
O kaha uliuli wale i ka po-la  
Po-no*

In the lead the whales proceed,  
Mingling and submerging beneath the sea;  
The 'opule advance in the distance;  
The deep ocean is filled with them;  
Like *kumimi* crabs clustered on the reef  
They swallow on the way  
Along the path of Kolomio, swiftly darting;  
Pimoe is found at the bosom of the horizon  
Of Hikawainui, the strong current,  
Of Hikawaina, the calm current,  
Where spire myriad corals  
From the hollows of blunted reef;  
The youngest is carried by the current into darkness.  
Black as night the opaque sea,  
Coral sea in the dark cliffs of Paliuli,  
Land that slid away from them,  
Dark shore passing into night—  
It is yet night.

From *Kumulipo, the Hawaiian hymn of creation*,  
Vol. 1, tr. Rubellite Kawena Johnson,  
Honolulu, Hawaii: Topgallant Publishing Co., 1981





***In Australian Aboriginal society, Dreamtime myths explain their relationship with the ancestors who created the spirits of every living species. The continent is criss-crossed with tracks and sites and the Dreamings associated with them that are the sacred geography of Australia. The Aborigines knew these tracks through their songs.***

Once, when I was crossing a dry part of the north-western desert, my truck broke down. I had some water, but not enough to keep my native passengers and myself alive if our engine fault proved to be serious. It was sixty miles (100 kilometers) to the nearest water, but an old Aborigine told us not to worry, for, although he had never been in that locality, he knew the map-chant of the area. So, while we worked on the engine, he sang his chant. A long while he chanted, till he came to the landmarks that stood around us, and in the cool of the evening, he made us walk with him as he chanted. We obeyed. His song now was of a low hill before us, and from it, the story went, we would come upon the markers of stone which pointed to water. We climbed the hill and saw the cairn of stone laid down by an early Aboriginal explorer, and beside it was a line of rocks which pointed to a low depression of limestone. To it we went, and there, under a covering of logs and grasses, was a limestone crevice that led into a small pool of crystal clear water. As I bent down to drink at that native well, I saw a new meaning in the song cycles of these so-called primitive people.

W.E. Harney, *Content to lie in the sun*,  
Robert Hale Ltd., 1958, quoted in *The Dreamtime*,  
The Dharawal Aboriginal Tribal Elders Association,  
Jannali NSW, Australia

## INTERFAITH SOLIDARITY WALKS

What the Thai indigenous leaders wanted most was "to have our story heard." In response, religious activists from Asia and the West in 1996 embarked on a series of Solidarity Walks in northern Thailand that bear witness to the indigenous way of life. Participants stay in villages, living and working with the people, and listening to their stories. With each year greater trust and deeper friendships have been formed between dozens of walkers and the communities visited.

The walks also support the indigenous peoples' struggle to maintain a sustainable relationship with their land and culture in the face of political and development pressures. A change in Thai government policy in 1998 meant many mountain villages faced imminent relocation to the lowlands. As a result, the interfaith and intercultural Solidarity Walks, while primarily contemplative in nature, have become a rallying point for several communities. The presence of visitors has provided an opportunity for tribal peoples to reflect on and articulate the values and ways of life they want to protect and nourish, and to discuss strategies for responding to the challenges facing them.

Following several walks, organized by The Boulder Institute for Nature and the Human Spirit in cooperation with several Thai non-governmental organizations, participants have held press conferences, written articles, and presented formal letters of concern to the Thai Prime Minister and Members of Parliament.

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## SACRED WORDS OF MORE RECENT RELIGIONS

### BAHÁ'Í

*The founder of Bahá'í, Bahá'u'lláh (1817-1892), is regarded by his followers as the most recent in the line of God's messengers that includes Abraham, Moses, Buddha, Zoroaster, Christ and Muhammad. At the heart of Bahá'í belief is the conviction that humankind is a single people with a common destiny.*

The earth is but one country, and mankind its citizens.

Bahá'u'lláh

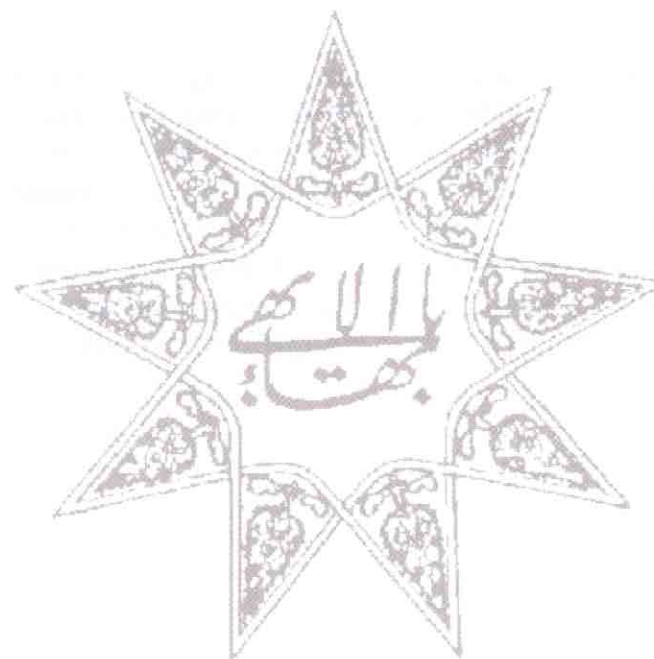
Blessed is the spot, and the house, and the place, and the city, and the heart, and the mountain, and the refuge, and the cave, and the valley, and the land, and the sea, and the island, and the meadow where mention of God hath been made, and His praise glorified.

Nature in its essence is the embodiment of My Name, the Maker, the Creator. Its manifestations are diversified by varying causes, and in this diversity there are signs for men of discernment. Nature is God's Will and is its expression in and through the contingent world. It is a dispensation of Providence ordained by the Ordainer, the All-Wise.

The civilization, so often vaunted by the learned exponents of arts and sciences, will, if allowed to overleap the bounds of moderation, bring great evil upon man.

Bahá'u'lláh

By nature is meant those inherent properties and necessary relations derived from the realities of things. And these realities of things, though in the



utmost diversity, are yet intimately connected one with the other.

Liken the world of existence to the temple of mankind. All the organs of the human body assist one another, therefore life continues. Likewise, among the parts of existence there is a wonderful connection and interchange of forces which is the cause of life of the world and the continuation of these countless phenomena.

Abdúl-Bahá

Look not upon the creatures of God except with the eye of kindness and of mercy, for Our loving providence hath pervaded all created things, and Our grace encompassed the earth and the heavens.

Bahá'u'lláh



## SIKHISM

Air, like the Guru's Word, gives us the breath of life,  
 Water sires us, Earth is our mother.  
 Day and night are the two nurses  
 That watch over the world,  
 And in whose lap we play.

From the Epilogue of "Japji, the Morning Prayer"  
 by Guru Nanak, the founder of Sikhism.  
*Selections from the Sacred Writings of the Sikhs*, p. 51,  
 tr. Trilochana Singh et al. New York: Samuel Weiser, 1973

**According to the Sikh scripture, Sri Guru Granth Sahib, the five elements of nature teach valuable lessons:**

Earth teaches us	Patience, Love
Air teaches us	Mobility, Liberty
Fire teaches us	Warmth, Courage
Sky teaches us	Equality, Broadmindedness
Water teaches us	Purity, Cleanliness

You Yourself created the Universe, and You are pleased. You Yourself are the air, water and fire; You Yourself unite in Union. You Yourself are the moon, the sun, the most perfect of the perfect. You Yourself are spiritual wisdom, meditation, and the Guru....

You Yourself are the bumble bee, the flower, the fruit and the tree. You Yourself are the water, the desert, the ocean and the pool. You Yourself are the great fish, the tortoise, the Cause of causes; Your form cannot be known.

Raga Maru, *Sri Guru Granth Sahib*, p. 1020,  
 tr. Singh Sahib Dr. Sant Singh Khalsa.  
 Internet version: [www.sikhs.org/english/frame.html](http://www.sikhs.org/english/frame.html), 1998

Men, trees, sacred shrines of pilgrimage, banks of sacred rivers, clouds, fields, islands, continents, worlds, solar systems, and universes; the four sources of creation — born of eggs, born of the womb, born of the earth and born of sweat; oceans, mountains, and all beings — O Nanak, He alone knows their condition.

O Nanak, having created the living beings, He cherishes them all. The Creator who created the creation, takes care of it as well. He, the Creator who formed the world, cares for it.

Raga Asa, *Sri Guru Granth Sahib*, p. 467, *op. cit*



In Sikh beliefs, becoming one and being in harmony with God implies that all humans endeavor to live in harmony with all of God's creation. The emphasis is on discovery and mastery of the self, not mastery over nature and the other.

## POINTS OF RELIGIOUS AGREEMENT IN ENVIRONMENTAL ETHICS

A review of environmental ethics in each of the world's religions show that religious traditions agree, to a greater or lesser extent, on the following important points:

- ✧ The natural world has value in itself and does not exist solely to serve human needs.
- ✧ There is a significant continuity of being between human and non-human living beings, even though humans do have a distinctive role. This continuity can be felt and experienced.
- ✧ Non-human living beings are morally significant, in the eyes of God and/or in the cosmic order. They have their own unique relations to God, and their own places in the cosmic order.
- ✧ The dependence of human life on the natural world can and should be acknowledged in ritual and other expressions of appreciation and gratitude.
- ✧ Moral norms such as justice, compassion and reciprocity apply (in appropriate ways) both to human beings and to non-human beings. The well-being of humans and the well-being of non-human beings are inseparably connected.
- ✧ There are legitimate and illegitimate uses of nature.
- ✧ Greed and destructiveness are condemned. Restraint and protection are commended.
- ✧ Human beings are obliged to be aware and responsible in living in harmony with the natural world, and should follow the specific practices for this prescribed by their traditions.

The research supporting this conclusion can be found in Kusumita P. Pedersen, "Environmental Ethics in Interreligious Perspective," in *Explorations in Global Ethics: Comparative Religious Ethics and Interreligious Dialogue*, eds. Sumner B. Twiss and Bruce Grelle. Boulder, CO, and Oxford, U.K.: Westview Press, 1998. Please quote with full attribution.



## SOURCES OF INFORMATION

### FOR RELIGION AND ENVIRONMENT

#### ALLIANCE OF RELIGIONS AND CONSERVATION

The Alliance of Religions and Conservation was launched by HRH Prince Philip at the Summit of Religions and Conservation in 1995. Working closely with its parent organization, the International Consultancy on Religion, Education and Culture (founded after the Assisi meeting in 1986, see p. 8), and World Wildlife Fund-UK, ARC aims to help religious communities and environmental organizations work together on faith-based conservation projects that respect and build upon the teachings of the faiths involved. ARC has initiated several sacred land and other projects around the world based on local/global alliances. (See pages 27 and 69.)

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#### FORUM ON RELIGION AND ECOLOGY

The Forum on Religion and Ecology grew out of a 1996-1998 series of conferences held at Harvard and at the United Nations and American Museum of Natural History in New York City that involved more than 1,000 scholars and activists. They explored how particular religious traditions view nature and highlighted the need for religious voices in grounding a comprehensive ethic of respect toward nature. It became apparent that religions need a dialogue with those who have addressed environmental concerns, in science, economics, education and public policy. This led to the Forum's creation — to further the dialogue and assist in establishing religion and ecology as a field of

study at universities, seminaries and other institutions of religious learning through research, education and outreach.

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Also: Religions of the World and Ecology  
(the conference series)  
Web: www.hds.harvard.edu/cswr/ecology

#### NATIONAL RELIGIOUS PARTNERSHIP FOR THE ENVIRONMENT

The National Religious Partnership on the Environment is an alliance of the US Catholic Conference, Coalition on Environment and Jewish Life, National Council of Churches, and the Evangelical Environmental Network that serves more than 100 million Americans. Since its founding in 1993, the partners have reexamined the roots of their theologies on the idea of care for creation, and each has developed its own distinctive message and materials that have gone to more than 150,000 congregations. Clergy and lay members have been trained, and local projects initiated. Although NRPE is nonpartisan, it meets with legislators at all levels to seek solutions for the common good, not to lobby for specific legislation. (See page 23.)

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#### THE EARTH CHARTER CAMPAIGN

The Earth Charter is a statement of ethical principles, similar to the UN Declaration on Human Rights, aimed at guiding the conduct of people and nations to ensure peace, equity and a sustainable future. Hundreds of groups and thousands of individuals have been involved in the process for more than a decade. Following this worldwide consultation process, the Earth Charter Commission issued a final version of the document after meeting 12-14 March 2000 at UNESCO headquarters in Paris. Although endorsement of the Earth Charter by the United Nations remains an important objective, the consultation process itself was intended to serve as a powerful force for change.

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U.S. National Council of Churches  
Eco-Justice/Web of Creation  
Web: www.webofcreation.org

The United States Catholic Conference  
Environmental Justice Program  
www.nccbuscc.org/sdwp/ejp/index.htm



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## ACKNOWLEDGEMENTS

The editors give grateful thanks to The Germeshausen Foundation, The Lifebridge Foundation, the Episcopal Diocese of Newark, and Partners for Environmental Quality, Inc. for the generous grants that made publication of this book possible.

We owe a special debt of gratitude to Janet Edwards of UNEP and The Rev. Franklin E. Vilas of the Episcopal Environmental Network for their years-long commitment to this project.

Our wholehearted appreciation to the following people who made this book possible: T Robert Archibald, Mission of Australia to the United Nations; Christopher K. Chapple, Loyola Marymount University, Los Angeles; Judie Balcerzak, Phil Cho and Quinn Bookalam, Institute for Private Investors; Prof. M.A. (Inus) Daneel, ZIRRCO Zimbabwe and Boston University; Rabbi Ezra Finkelstein; Fazlun Khalid and Seljuk Fatima Sahin-Tomek, The Islamic Foundation for Ecology and Environmental Sciences; James Miller, Boston College Department of Theology; Martin Palmer, Alliance of Religions and Conservation and International Consultancy on Religion, Education and Culture, Manchester, UK; Mary Evelyn Tucker and John Grim, Bucknell University, Lewisburg, PA; Matt Weiner, Interfaith Center of New York. Excerpt from *My Tibet* by His Holiness the Dalai Lama courtesy of University of California Press.

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Text sources in addition to those cited in the book: *Amicus Journal*, Natural Resources Defense Council; Daily Grist environmental news summary, [www.gristmagazine.com](http://www.gristmagazine.com); *Global Environment Outlook 2000*, United Nations Environment Programme (UNEP), London: Earthscan Publications Ltd., 1999. *A Guide to World Resources 2000-2001: People and Ecosystems: The Fraying Web of Life*, UN Development Programme, UNEP, World Bank, World Resources Institute, 2000.