

# **INTEGRITY OF CREATION**

**AN ISSUE  
FOR  
RELIGIOUS TODAY**

**GLOBAL WARMING  
AND  
CLIMATE CHANGE**

*Prepared by the Global Warming Working Group of the JPIC Promoters,  
Rome, Italy March 2002*

*If you want to send your comments, questions or would like more information, please contact us at:*

[jpclimatechange@yahoo.co.uk](mailto:jpclimatechange@yahoo.co.uk)

Web page: [www.ofm-jpic.org/globalwarming](http://www.ofm-jpic.org/globalwarming)

## **The impact climate change has on life**

**Introduction:** This booklet aims to give you clear information on the issue of Climate Change and Global Warming as well as some tools to address the issue at your local, regional and national levels. Our hope is that this booklet will help you to better understand the complexity of the issues, and the need for action to save our planet.

We include some scriptural and theological resources for use in work groups and communities and some *Resources* for your ongoing education and formation. This booklet is not the total answer on Climate Change and Global Warming, but sometimes just knowing where to look for information is a step on the way to addressing the issue.

This booklet will attempt to answer the following questions:

*What is global warming and climate change?*

*What are the causes of global warming:*

- *What are the consequences for social justice?*
- *What are the implications?*

*Why should religious be concerned and involved?*

*What does our faith tradition say regarding ecology?*

*What can we do NOW?*

## **What is climate change and global warming?**

The chemical composition of the atmosphere is changing through the build up of greenhouse gases--primarily carbon dioxide, methane, and nitrous oxide. The heat trapping property of these gases is undisputed.

Energy from the sun drives the earth's weather and climate, and heats the earth's surface; in turn, the earth radiates energy back into space. Atmospheric greenhouse gases (water vapor, carbon dioxide, and other gases) trap some of the outgoing energy, retaining heat somewhat like the glass panels of a greenhouse. Without this natural "greenhouse effect", temperatures would be much lower than they are now, and life as known today would not be possible. Instead, thanks to greenhouse gases, the earth's average temperature is a more hospitable 60F/15C.

However, problems may arise when the atmospheric concentration of greenhouse gases increases. Since the beginning of the industrial revolution, atmospheric concentrations of carbon dioxide have increased nearly 30%, methane concentrations have more than doubled, and nitrous oxide concentrations have risen by about 15%. These increases have enhanced the heat trapping capability of the earth's atmosphere. Why are greenhouse gases concentrations increasing? Scientists generally believe that the combustion of fossil fuels and other human activities are the primary reason for the increased concentration of carbon dioxide and other greenhouse gases.

- Climate Change is one of the most serious challenges facing the world in the 21st century.
- New and stronger evidence has emerged from recent studies, that most of the warming observed over the last 50 years is attributable to human activities.
- Expected global warming in the future is greater than previously thought.

Most of the studies on climate change agree that we now face an unavoidable increase in the global temperature and that climate change has probably already started. In December 1997 and more recently in December 2000, the Intergovernmental Panel on Climate Change (IPCC), a body of over 2000 international scientists, give us an idea of the present reality:

- More severe and frequent natural disasters like earthquakes, floods, hurricanes, cyclones and droughts will increase. Big weather disasters have increased four-fold since 1960.
- Global temperatures could rise by as much as an average 5 degrees centigrade (10 degrees fahrenheit) over the next century, but increases could be higher than this in certain areas. The Arctic ice cap has significantly thinned already.
- Deforestation, which releases carbon from trees, and also eliminates their capacity to absorb carbon, accounts for 20% of the human-caused carbon emissions that spur climate change.
- Since World War II the number of motor vehicles in the world increased from 40 million to 680 million; motor vehicles contribute to the amount of human-induced carbon dioxide emissions in the atmosphere.
- During the past 50 years we have consumed at least half of the world's non-renewable energy resources and have destroyed over 50% of the world's forests.

## **What causes global warming?**

Global warming happens when the concentration of certain gases, known as greenhouse gases (GHG) increases in the atmosphere because of human and industrial activity, especially CO<sub>2</sub>, and chlorofluorocarbons (CFCs). The main GHG is carbon dioxide, which is mostly produced as a by-product of the use of coal, petroleum and gas as well as by deforestation and forest fires. Nitrous oxide is produced by vehicle and industrial emissions, while methane emissions are caused both by industrial and agricultural activities. Chlorofluorocarbons CFCs are highly damaging to the ozone layer as well as being a GHG with a very high global warming potential, but are now being phased out under the Montreal Protocol. Carbon dioxide, chlorofluorocarbons, methane, nitrous oxide are polluting gases that are accumulating in the atmosphere and trapping more heat from the sun. While oceans and vegetation capture vast amounts of CO<sub>2</sub>, their capacity to act as 'sinks' is now exceeded by emissions. This means that every year, the cumulative total amount of GHGs that remain in the atmosphere increases thus accelerating global warming.

In the past 100 years the world's energy consumption increased spectacularly. At least 70% of the energy is consumed in the developed countries; and 78% of that energy comes from fossil fuels. This creates an imbalance that leaves some regions impoverished and others reaping huge benefits. Meanwhile, the level of funding for renewable energies (solar, wind, biomass, hydro, in particular mini and micro-hydro) which could play a big role in reducing fossil fuel use, in both developed and developing countries, remains extremely low, in comparison to aid funds and investments allocated to fossil fuels and nuclear energy.

Deforestation which reduces the absorption of carbons by trees, is responsible for 20% of the increase of carbon emissions, and alters the local micro-climate and hydrological cycle, thus affecting soil fertility.

The avoidance of highly damaging climate change requires action to stabilise the present level of GHGs in the atmosphere as soon as possible, which would involve a reduction in GHG emissions by at least 50%, according to the IPCC. If nothing is done the following list shows some of the devastating impacts we can expect:

### **Consequences:**

- ❖ Rising sea levels will have a devastating impact on people. Particularly vulnerable are people living in low-lying island states, in heavily populated coastal areas of many countries and on river deltas, and the poor in countries affected by debilitating droughts and floods. One estimate is that by 2020 up to three-quarters of the world's population could be at risk of drought or floods. Impoverished countries will suffer disproportionately from climate change – in part because of their geography and in part because they lack the resources to be able to adapt to the changes and mitigate their impact.
- ❖ Humans and other species on the planet are already suffering from climatic changes. Scientific projections point to an increase in the breadth and severity of such suffering, for example, heat stress, an increase and spread in insect-borne tropical diseases both north and south of the equator, and in growing food insecurity.
- ❖ The annual costs of the effects of global warming could go up to \$300 billion (US Dollars) fifty years from now if action is not taken to slash green house gas emissions. If our political leaders and policy makers do not act quickly, the world economy will suffer a serious setback. During the last decade, natural disasters have cost the world \$608 billion!
- ❖ The United Nations Environment Programme (UNEP) representative said at the UN Framework Convention On Climate Change's 7<sup>TH</sup> Conference of Parties (COP-7) in Marrakech (Morocco) in November 2001, that the harvests of some of the world's key food crops, such as wheat, rice and maize, could drop by up to 30% over the next 100 years, due to global warming. They fear that desperate farmers will be forced into higher, cooler mountainous areas, intensifying pressure on sensitive forests and threatening wildlife as well and the quality and quantity of water supplies. These new findings indicate that large numbers of rural people in developing countries are already facing acute hunger and malnutrition.

**Environmental refugees worldwide already number 25 million**

### ***Questions for Reflection:***

- **Is there anything new in this for you?**
- **What impact do the above facts have on you?**

**The present precarious condition of the planet is due to over-consumption, not on the part of the 80% poorer population in two-thirds of the world, but on the part of the richest 20% who consume 86% of the world's resources.**

### **What does our faith tradition say?**

To be credible, an effective theology needs to be grounded on scientific knowledge about the immense and complex journey of the universe.

St. Bonaventure following the experience of St. Francis elaborated a theology of the Sacramentality of Creation, that is, the footprints of Christ in the created world. The world is inhabited by the Sacred. All created things are a sign and a revelation of the Creator who leaves an imprint everywhere. To purposely destroy any aspect of creation is to deface the image of Christ present in all of creation. Christ suffers not only when people are denied their rights and exploited but when seas, rivers and forests are desecrated. When creation is perceived as sacramental, manifesting and leading us to God, our relationship with others is also challenged to move from one of dominance and power to one of reverence and respect.

### **Why should religious be concerned and involved in ecological issues?**

The earth has a huge capacity to absorb pain, but it cannot continue to do so indefinitely without placing the future survival of humanity in jeopardy. We are in a position to do something.

A land mark Papal document devoted exclusively to the environment and development issues entitled, Peace with God the Creator, Peace with all Creation ( January 1, 1990) challenges that “Christians, in particular realize that their duty towards nature and creation are an essential part of their faith” (no. 15)

God's ownership of the world urges us to consider not only social justice, that is, just relations between people, but also ecological justice, meaning just relations between human beings, other creatures and with the earth itself. Creation is now understood as a community of beings interconnected with each other and with the triune God. Ecological integrity is an essential part of all faith traditions and is an important issue around which dialogue, collaboration and mutual understanding can be promoted.

Churches and inter-religious groups on climate change are already very involved. In the prevailing ecumenical atmosphere, we should reach out to other Christians, as well as non-Christians working on this issue.

This is the challenge for today:

- ❖ We are people who can read the ‘signs of the times’.
- ❖ We have learned a disposition for discernment.
- ❖ We have resources and established networks and ways to communicate the message and the warning of global warming
- ❖ We have, through our spiritualities and charisms, a commitment to reconciliation and restoring harmony.
- ❖ We are called to choose the prophetic role.

- ❖ We are people who come from an ethic of the common good and an ethic of solidarity with those in pain and in need of care.

Our task as religious women and men, is to contemplate the beauty and presence of God in all things. Such contemplation could lead us to *metanoia*, conversion of heart, which is a good place for all of us to begin to respond to the crisis which our planet, our home, God's creation, faces in the beginning of a new millennium.

How we respond will depend on where we live. For those who live in societies and countries characterized by consumerism and materialistic values, ways to live in harmony with creation will differ from those who live in societies and countries where the basic essentials to live a dignified human life hardly exist.

### ***Questions for Reflection:***

- **Why should religious be involved in ecological issues?**
- **Are there other reasons why religious should be involved?**
- **What attitudes do you encounter in your brothers and sisters regarding environmental issues.**

## **Towards a Christian Environmental Ethic**

Important elements of an ethic of solidarity include:

- an acknowledgement of the worth of creation,
- the inclusion of the environment as an aspect of the common good,
- the institutional structure necessary for the common good,
- and the connection between the environment and development.

Any suitable environmental ethic will integrate strategies for economic development with those of ecological balance.

**Basic to any ethic is a recognition of the other and my responsibility to that other**

Recognising the other as an independent and valued entity I must modify my behaviour so as to manifest respect for this other. The reduction of all non-human creation to a status as being of instrumental value only has led to massive environmental degradation. The vision of scripture, St Francis, Hildegard of Bingen and many other mystics suggests that creation has an independent moral dimension, loved into existence by God.

**We are aware that there is an international common good transcending local and national boundaries.**

The wellbeing of the oceans, forests, the atmosphere, animals, fisheries and plant species is now a concern beyond just nation states and their governments. Environmental issues oblige us to redefine the common good in global terms. When we consume our resources faster than they can be replaced, or exhaust non-renewable resources without concern for the needs of future

generations we are robbing their capital. Leonardo Boff talks about humanity as the conscience of the earth. This sort of reflection goes a long way in helping us re-evaluate the inter-connectedness of all creation. While the human person has a unique place and role in the overall plan of god for the universe, a person cannot exist for long without healthy relationships with his/her surroundings. The human person needs creation to survive, while creation does not need the human person.

It is necessary today to develop structures capable of protecting the global environment. This means developing and supporting international institutions such as the United Nations and international agreements like the Kyoto Protocol.

### **The environment goes beyond the competence of individual nation states**

#### **What can we do NOW?**

***Real ecological integrity will only be achieved with concerted effort on behalf of all.***

The “environmental crisis” is essentially a crisis of values. We need a shift in attitude to see the world differently. Apart from changes we can make to our lifestyle on a daily basis, it is important that we work for policy changes at national and international levels. This involves a call to ecological conversion, (cf, Pope John Paul II, 17 January 2001) to deepen our understanding of climate change and ecological issues. Education is needed to alert people not only to the circumstances which threaten the planet, but also to the mystery which underlines its very existence.

So what, can religious do? Here are some ideas:

- ❖ Religious can model ways of conserving resources. Our commitment to a communal lifestyle gives us a unique opportunity to lead the way in conservation and recycling.
- ❖ Some of us with more knowledge of the complexities of the situation may have already made lifestyle changes and be involved in political action for change.
- ❖ For others, the information contained in this booklet is a beginning to understanding the urgency of the situation.
- ❖ Religious often have contact with local environmental NGOs and it’s possible to participate in some of their projects or campaigns. Check out the global climate action network website for NGOs in your country focusing on climate change
- ❖ Invite environmentalists to speak to communities.
- ❖ Work with landless, displaced, refugees, indigenous and support their causes for land, water, forests.
- ❖ ***What else...?***

**Did you know that for the first time in history we have a legally binding international agreement (the Kyoto Protocol) on environmental protection to reduce greenhouse gases. But to become operational, it must be ratified by 55 states (there are 46 so far), Also, ratifications must include states producing 55% of world GHG emissions, which means most major industrial states must ratify. Few have so far.**

## **Personally and Communally, we can...practice the three “R’s”!**

### **Recycle/reuse...**

- Review consumer habits, and buy or use goods that are not elaborately packaged. Look for good ‘green’ brands of dishwashing and laundry soaps, and cleaning agents.
- Recycle everything that can possibly be recycled: plastics, fresh fruit and vegetable peelings, paper and cardboard, glass and tins.
- Start a compost heap. Add a few worms as well as leaves, twigs and other garden waste and the compost will act as a natural and highly beneficial fertiliser for the soil.
- Encourage manufacturers to bear the responsibility for recycling or disposing of used parts and machinery in goods such as television sets and computers.
- *What else...?*

### **Reduce...**

- Reduce water use.
- Reduce your dependence on your car.
- Reduce burning of unrecyclable stuff.
- Reduce CFC or CFC-substitute emissions by not using aerosols, and using energy-efficient appliances.
- Reduce electricity use by using compact fluorescent lighting.
- *What else...?*

### **Remind...**

- Local governments of their commitments to recycling and reducing waste and to keep their laws on recycling and waste disposal up to date.
- Firmly remind local businesses to simplify their packaging of products.
- Remind local authorities to conserve electricity and to use efficient electrical systems.
- Remind national governments of their commitments to declarations and protocols on behalf of the environment.
- Remind everyone you come in contact with day by day to live lightly on the earth, and to make “reduce-recycle-reuse-remind” the guiding principle of their consumption patterns.
- *What else...?*

**Become involved in promoting the Earth Charter**

<http://www.earthcharter.org> available in different languages

**Contact the Department of the Environment and politicians in your country. Ask what they are doing to put the accords of the Kyoto Protocol into practice. If you live in the United States, which has withdrawn from the Kyoto Protocol, write to the President and ask him to reconsider becoming a party to the Accord. Contact the local UN co-ordinator (usually based at the un development programme office in your country, to find out what projects are being run by un organisations in your country relating to climate change)**

*The list of which countries have/have not ratified the Protocols is at*  
<http://www.unfccc.int>



## **For Reflection and Prayer**

After you have read this simple booklet we suggest that you gather in community or with friends for reflection and communal prayer

Arrange a simple center for your prayer....a bowl of water, candle, some earth

### **Call to prayer:**

Care for the environment is ultimately a call to respect all of creation and to assure that human activity, while transforming the earth, does not destroy the dynamic balance which exists among all living things that depend on land, air and water for their very existence. The environmental issue has become central to social, economic and political thought precisely because of the growing degradation, which often strikes in a particularly severe way the poorer sectors of society. The risk of climate change and the growing number of natural disasters call into question the present course of modern society. The ever-growing gap between rich and poor cannot leave anyone indifferent, nor can the over-use of the resources of the earth and accelerating species loss.” *Cardinal Francois Xavier Nguyen Van Thuan, Pres. Pontifical Council for Justice and Peace.*

Pray together Psalm. 148 (vs. 1-10)

Moment of silence to reflect on the following questions:

*As you read through this booklet, what impressed you the most?*

*What attitudes do you find within yourself?*

*Have you noticed any signs of global warming in the area where you live?*

*Do your congregational documents (Constitution, Acts of Chapter, etc.) refer in any way to reverence for creation?*

*Has your national Conference of Bishops made any statement on global warming?*

*What does it call the local Church to?*

### **Call to Action:**

*What concrete actions will you take to respond to your concern about global warming?*

## **Closing Prayer**

**All praise be yours, my Lord, through all that you have made.**

**And first my lord Brother Sun, who brings the day....**

**How beautiful is he, how radiant in all his splendor!**

**Of you, Most High, he bears the likeness.**

**All praise be yours, my Lord, through Sister Moon and Stars;**

**In the heavens you have made them, bright and precious and fair.**

**All praise be yours, my Lord, through Brothers Wind and Air....**

**All praise be yours, my Lord, through Sister water,**

**So useful, lowly, precious and fair.**

**All praise be you, my Lord, through Brother Fire,**

**Through whom you brighten up the night....**

**All praise be yours, my Lord, through Sister Earth, our mother,**

**Who feeds us and produces various fruits**

**With colored flowers and herbs....**

**Praise and bless my Lord, and give him thanks,**

**And serve him with great humility."**

An abbreviated form of the Canticle of the Creatures (St Francis of Assisi)

*For information and to gain a deeper understanding of the issues, and what you can do:*

***A selection of web sites and other resources (many are multi-lingual)***

1. Greenpeace: <http://www.greenpeace.org/>
2. Climate Voice: <http://www.climatevoice.org/>
3. "Earth Charter"- <http://www.earthcharter.org/>
4. Friends of the Earth: <http://www.foei.org/>
5. Planet Ark: <http://www.planetark.org/index.cfm>
6. International Institute for Sustainable Development: <http://www.iisd.ca/>
7. Union of Concerned Scientists: <http://www.ucsusa.org/warming/index.html>
8. UN Framework Convention on Climate Change: <http://www.unfccc.int>
9. World Wildlife Fund: (simple explanation on climate change in four languages)  
<http://www.panda.org/resources/publications/climate/crisis/crisis.htm>
10. UN Environment Program: <http://www.unep.org>
11. UN Development Program: <http://www.undp.org>
12. Food and Agriculture Organisation; <http://www.fao.org>
13. Alliance for Religions and Conservation: <http://www.religionandconservation.org>
14. Climate Action Network <http://www.climateactionnetwork.org>
15. World Council of Churches Climate Change Programme: Dr. David G. Hallman, WCC Climate Change Programme Coordinator, c/o The United Church of Canada, 3250 Bloor Street West, Toronto, ON, Canada M8X 2Y4 Tel: +1-416-231-5931 Fax: +1-416-231-3103 E-mail: [dhallman@sympatico.ca](mailto:dhallman@sympatico.ca)

**Resources in different languages**

**German:**

<http://www.hamburger-bildungsserver.de/welcome.phtml?unten=/klima/infothek.htm>  
<http://www.klimaschutz.de/kbklima/>  
<http://www.klimabuendnis.at/daskb/index.html>  
<http://www.treibhauseffekt.com/>

**French**

<http://www.agora21.org/mies/chan-clim1.html>  
<http://fr.fc.yahoo.com/r/rechauffement.html>

**Spanish:**

<http://www.pangea.org/personasenaccion/>  
<http://www.ine.gob.mx/>  
<http://www.lareserva.com/>

**Scripture and Church Documents**

Genesis 1:1-2:3; 9:9-11  
Exodus 3:7-10; 15:22-27; 23:10-12  
Leviticus 25:1-24  
Wisdom 11, 24-26  
Isaiah 11:1-9; 40:12-31  
Daniel 3:57ff  
Psalms 8; 19; 24; 104:16-23; 136; 148:1-4 & 7-10

Proverbs 8:22-31  
Mark 5:35-41  
Mark 12, 29-31  
Matthew 5,1-14  
Matthew 12,22-34  
Matthew 6:26-30  
Luke 16:19-31  
John 9; 12:23-26  
Romans 8:18-25  
Colossians 1:15-20  
Revelation/Apocalypse 21:1-5; 6:16-21  
Romans 8, 22-24  
1 Cor.3, 9

### **Church Documents on Ecology**

*(Look for your National Bishops Synod documents and regional documents)*

World Peace Day Message of John Paul II (1January 1990): Peace with God the Creator, peace with all Creation

Catechism of the Catholic Church: 299-301; 307; 339-341; 344 2415-2418

Encyclical Letter *Populorum Progressio*, 23, 24

Encyclical Letter, *Fides et Radio*, 104

Encyclical *Centesimus annus*, 37-38

Encyclical *Laborem exercens*, 4

Encyclical *Mater et Magistra*, No 196, 199

Apostolic Letter *Octogesima adveniens*, 21

Encyclical *Redemptor hominis*, 8, 15

Encyclical *Sollicitudo rei socialis*, 26, 29, 34

Apostolic Letter, *Octogesima Adveniens*, 21

### **Observance Dates on Ecology and Environment**

**22 March** International Day of Water

**22 April** Earth Day

**22 May** International Day for Biological Diversity

**5 June** World Environment Day

**17 June** International Day against Desertification

**16 September** Protection of the Ozone Layer Day

**If you have ideas, suggestions or comments on the content of this booklet, contact your Congregation's Justice and Peace Coordinator:**

**(Name  
(e-mail..... etc)**