

And God Saw That It Was Good:
Is It Still?

A Study on the Environment



International Disciples Women's Ministries
Christian Church (Disciples of Christ)
2008



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A free online resource prepared by
International Disciples Women's Ministries
Christian Church (Disciples of Christ)
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And God Saw That It Was Good: Is It Still? A Study on the Environment

Introduction

We recognize that environmental issues are not easy issues to discuss. No doubt there will be differing opinions expressed in any group which uses this study. The economic impact of the environmental crisis affects people in different ways. Don't let this deter you from discussing the topic. These are critical issues which demand our attention, concern and action as women of faith. We hope you will be encouragers of one another as you study and learn about some of the aspects of the environmental crisis. There is much we can do to make a difference. Through prayer, study, discussion, and application, we can reclaim our role as stewards of God's creation. As Christian women and as the church of Jesus Christ, it is time to step forward and be advocates for our planet.

Session One —Why Care?

God saw everything that he had made, and indeed, it was very good.
Genesis 1:31

Scripture Readings

Genesis 1:31
Genesis 1:26-28
Genesis 2:15
Psalm 24:1
Job 41:11
Revelation 4:11
Genesis 9
Colossians 1:16-17
Psalm 104:30



The Theology of Green

Until recent years, Protestant theology dealing with the environment and ecology was almost non-existent. Today many churches are taking an interest and developing action plans to address current environmental concerns.

A *Sojourner* magazine article, *A Theology of Creation* by Westley Granberg-Michaelson lists three general approaches to the theology of creation.

The first is the ***theology of domination*** *God blessed them, and God said to them, “Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.”* (Genesis 1:28). Because of this scripture, some have blamed Christianity for the environmental crisis we face today. It is true that some Christians may have used this Bible passage as a rationale to ignore the impact that humans have had on the environment. To do this, however, is to misinterpret this scripture.

Second is the ***theology of stewardship*** *The Lord God took the man and put him in the Garden of Eden to till it and keep it.* (Genesis 2:15). This focuses on the obligation that we humans have to take care of the earth. The emphasis is using our resources wisely remembering these resources are not our own but only entrusted to us for our care. There are many biblical passages dealing with the value of creation and the duty we have to protect it.

The third approach to creation is called a ***theology of interrelationship***. This approach rejects *domination* and moves beyond *stewardship*. It’s a theology that draws upon each of the three persons of the Trinity in relation to the creation. Some of Granberg-Michaelson’s main points of this approach are:

- ***Creation has value because of its relationship to God, rather than its utility for humanity.***

The earth is the Lord’s and all that is in it, the world, and those who live in it. (Psalm 24:1)

Who could confront me and get by with it? I’m in *charge* of all this – I *run* the universe. (Job 41:11 Message translation)

You are worthy, our Lord and God, to receive glory and honor and power, for you created all things, and by your will they existed and were created. (Revelations 4:11)

These passages overturn the common idea that creation is valuable simply because we humans need it.

- ***Creation offers a trustworthiness and reliability that expresses the presence of God’s grace upholding the world.*** Genesis 9 (the covenant of the rainbow) promises that creation can be trusted. This is not however, a guarantee against human disruption. Many scientists believe the greenhouse effect is a result of the failure of human beings to respect the internal order of creation.
- ***God’s work of redemption in Jesus Christ encompasses the whole of creation.*** We usually focus on the Hebrew Scriptures when thinking of creation but with Jesus Christ a “new creation” comes to this world. This new creation in Christ relates to the whole of life and to the material world. Jesus holds it all together as stated in Colossians 1:16-17: *for in him all things in heaven and on earth were created, things visible and invisible, whether thrones or dominions or rulers*

or powers – all things have been created through him and for him. He himself is before all things, and in him all things hold together.

Understanding creation today is to understand redemption and its implication for us in the face of our present ecological crisis.

- **The gift of the Holy Spirit is linked to the renewal of creation.** God's spirit was there during the creation breathing over the waters. The Hebrew word for spirit also means breath and wind. Psalm 104:30 says, "*When you send forth your spirit, they are created; and you renew the face of the ground.*"

The theological differences then are dominance over the world, or caretaker of the world or being in relationship with a world in which God is ever present. It was this interrelationship that may have prompted John Muir to say, "Most people live *on* the world not *in* it."

What then should be our Christian commitment to God's creation? Are we up to the task of challenging the dominate thinking about the world and offer new visions for God's ongoing role of Creator, Redeemer, and Sustainer?

Questions to ponder:

The following questions are provided to enhance a discussion on creation theology.

1. What arguments would you make for or against the theology of domination?
2. How does your congregation participate in the theology of stewardship?
3. What is the promise of creation in Genesis 9?
4. What position do you think Jesus Christ would take in our current ecological crisis? Would Jesus belong to the Sierra Club?
5. How does the Holy Spirit renew creation?
6. What do you think John Muir meant when he said, most people live on the world rather than in it?

The Situation Today

The earth is more polluted today because of modern technology and the overpopulation of the earth. The population of the United States recently exceeded 300 million. *The Environmental Weight of 300 Million Americans* by Brad Knickerbocker, Christian Science Monitor, a recent article posted on the AlterNet cited several interesting statistics.

- "The United States is the only industrialized nation in the world experiencing significant population growth ... that combined with America's high rates of resource consumption, results in the largest ... environmental impact (of any nation) in the world."
- Each American effectively occupies 20 percent more developed land than he or she did 20 years ago.
- Nearly 3,000 acres of farmland are converted to nonagricultural uses daily.
- Each American produces about five pounds of trash daily, up from less than

three pounds in 1960.

- More than half of all Americans live within 50 miles of the coasts where population density and its environmental impact is increasing.

Everyone agrees climate change (global warming) is occurring, but there is still some controversy on whether or not we humans are causing the change. But what if we are? On the chance that we are, it is important that we delay no longer in doing something that will help alleviate the impact our behavior has on the environment. To this end, the following sessions will address more specifically what is happening and how we might help the situation from getting worse.

Why should we care?

Worship/Reflection

Create a worship center with picture of creation (Ansel Adams pictures would be a good choice if you have any).

Hymn: *This is My Father's World* (Chalice Hymnal #59)

Painted by the Hand of God

No Artist holds perfection the way God creates
with His own hand;
The clouds moving with precision, the vivid
colors of His plan.

The majestic splendor of the mountains, the
roaring power of the sea;
The color of the rainbow, the sunset,
and the glory that can be.

The eagles graceful flight, up in the blue sky,
so free.
No human hand or chance could create such a
variety.

The texture of the leafy trees, the perfect
shade of green,
The canvas God created stretches as far as
can be seen.

The brilliance of the sunshine, the sparkle of
the rain
The shimmer of the flowing river, no human
could explain.

The rich brown farmer's field, filled with fresh
turned sod,
The awesome brush strokes of nature, painted
by the Hand of God.

By Danette Kettwich © 2007
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Scripture: Psalm 104

Prayer:

Creator God, we praise you for the glorious wonder of your works! In wisdom you have made them all. As humans privileged with the care and keeping of your creation, we confess that we have abused Your Creation gifts through arrogance, ignorance and greed. We confess that we are often unaware of how our abuse of creation has also been an abuse to ourselves and we ask your forgiveness. We promise anew to be stewards and not pillagers of what you have entrusted to us. Be with us daily, gracing our service, our loving, and our striving, through Jesus Christ, our Lord. Amen

Resources/References

Granberg-Michaelson, Westley, *A Theology of Creation*, Sojourners Magazine, Feb/ Mar 1990.

McKibben, Bill, *The Gospel of Green*, OnEarth Magazine, October 2006.
www.alternet.org/stories/42510

Knickerbocher, Brad, *The Environmental Weight of 300 Million Americans*, Christian Science Monitor, October 2006. www.alternet.org/story/42511.

Story, Dan, *What Does The Bible Say About Ecology?*, Apologetic Briefs No. 13, 1990.
www.webofcreation.org

Session Two —Reduce, Reuse, Recycle: A Place to Begin

Many of us are already incorporating the three R's into our daily lives but we can probably do more so that we might rid ourselves of the label of being a "throw away" society.

Scripture:

...they shall beat their swords into plowshares, and their spears into pruning hooks; nations shall not lift up sword against nation, neither shall they war (or pollute) anymore. Isaiah 2:4

The 3 R's

Reduce – to use less

Reduce is the first of the 3 R's because it impacts the other two. So we must first focus on what we can do without.

The Unitarian Universalists have a program called the "Green Sanctuary Program." A brief description of their program was included in the Feb/Mar/Apr 2007 issue of the *Home Mission Advocate*. One of the elements is sustainable living that in part rejects material consumption as the sole determinant of happiness.

Action Ideas:

- Take your own tote bags when you go shopping. Many of the supermarkets sell reusable bags at their checkout counters. Also, if you only purchase a couple of items, tell the check-out person you do not need a bag. San Francisco has passed a law that eliminates the use of plastic bags by grocery stores, as well as other major users of plastic bags, to carry out items purchased. So how will people get their groceries, etc. home? Some stores will provide paper bags but wouldn't it be better if people take their own bags? Don't wait for your local government to outlaw plastic bags, start taking your own bags to the store today.
- Another way to reduce paper and plastic is to buy minimally packaged goods. This is thought to reduce garbage by 10 percent a year.
- Stop Junk Mail. Junk mail is a huge waste of natural resources and your time. You can recycle junk mail, but it is better to stop getting it. The average American home receives 1.5 trees in their mailbox in the form of unsolicited mail each year. That adds up to over 100 million trees cut down and over 28 billion gallons of water consumed to produce one year's worth of this country's junk mail. To request a free Stop Junk Mail Kit go online at www.recycleworks.org or call, toll free (888) 442.2666.

- Don't drink bottled water unless your tap water has been declared contaminated. Most tap water is just fine, in fact, some bottled water is just tap water that has been bottled and sold for more than \$1 a bottle. For convenience, purchase a reusable bottle; fill it with tap water to take with you when you leave home.
- Buy in bulk, i.e., rice, beans, flour and take your own bags for transport.

Reuse – to put again into service without changing

Action Ideas:

While many things can be recycled, how many can be reused? Consider reusing the following:

- Plastic containers that margarine, sour cream, etc were packaged in can be reused to store leftovers or something else. Take them to church as they are a great convenience to share leftovers from a potluck meal.
- Use plastic/paper bags from shopping to line your trash can instead of buying new plastic bags for this purpose.
- Reuse cardboard boxes for storage.
- Buy rechargeable batteries
- Purchase products made from recycled materials.
- Composting yard waste and fruit and vegetable scraps is the best way to enrich your garden soil, improve water retention and reduce the need for pesticides.

Recycle – to put again into service with changing

Recycling is the most commonly used of the 3R's. It is relatively easy especially if your city/town has a Recycling Program. Most of us want to be conscientious and recycle, however, it is time consuming and so much easier to toss a can into the garbage than to crush it, store it and later take the whole pile of cans to the recycle center, if you can find one.



The Sierra Club recently cited the following statistic: Producing new paper, glass, and metal products from recycled materials saves 70 to 90 percent of the energy and pollution, including CO₂ that would result if the product came from virgin materials.

Recycling is not a new idea. God, Godself, is going to conduct the most gigantic recycling campaign of all time: "And they shall beat their swords into plowshares, and their spears into pruning hooks." (Isaiah 2:4)

Action Ideas:

Following are several materials that can now be recycled:

- Aluminum cans and most plastics. Check the bottom of the plastic container to determine if it can be recycled.
- Cash in those aluminum cans and plastic bottles that are redeemable for money.

- Most paper can be recycled. Junk mail can be recycled (be sure to take off personal information prior to putting it in your recycle bin).
- Electronic trash (computers, TV's, etc), check your local scavenger company to see where to take these. This is considered hazardous waste so must be recycled safely.
- Batteries. These are considered hazardous waste so be sure to handle properly. Usually they are put in plastic bags and included with recyclables in proper bin.

What can you do if your city does not have a recycle program? Consider lobbying your City Council and trash companies. If necessary apply political pressure by getting churches and local businesses involved with this issue. How involved is your church in recycling? Is it part of your vision/mission statement? How can we teach this discipline as a serious responsibility?

Group Activity

Have participants list as many materials as they know that can be reduced, reused and/or recycled. Encourage all ideas and discuss the ones that may be a little too original.

Now ask participants to brainstorm how they personally can reduce, reuse, recycle. Make sure they are very specific in how they would accomplish their desired activity to save the environment. Have them include individual as well as church and community activities. Encourage them to put this information into a Personal Plan for Action. (It is suggested that each person be provided a journal to help them get started. It would be great if the journal was made of recycled paper.)

Thoughts from Art Buchwald

“And Man created the plastic bag and the tin and aluminum can and the cellophane wrapper and the paper plate and the disposable bottle, and this was good because Man could then take his automobile and buy his food all in one place and he could save that which was good to eat in the refrigerator and throw away that which had no further use. And pretty soon the earth was covered with plastic bags and aluminum cans and paper plates and disposable bottles, and there was nowhere left to sit down or to walk. And Man shook his head and cried, ‘look at all this God-awful litter.’” 1970

Worship/Reflection

Create a worship center with items that can be reused or recycled. (bottles, cans, boxes, plastic containers)

Scripture:

“Gather up the fragments that are left over, in order that nothing may be wasted.”

John 6: 12

Everyone could share one new thing they are going to do to reduce, reuse or recycle.

Prayer:

Creator God, you have provided us with so much and we often take more than we need. You taught us that resources are precious and not to be thrown away with no thought of tomorrow. Help us to see with new eyes the material that now goes into the trash but could be saved if we only take the time to determine how it might be reused or recycled. May our future environmental actions be pleasing to you O God. In Jesus' name we pray. Amen

Resources/References

Programs available to help Disciples “green” their congregations, Home Mission Advocate, February/March/April 2007. Also posted on DHM's web site www.discipleshomeissions.org.

www.uuministryforearth.org

www.earthministry.org/Congregation/greening_resources.htm

www.RecycleWorks.org

The Recycler, South San Francisco Scavenger Company, Inc., Newsletter Winter 2007, www.ssfscavenger.com

Session Three —Natural Resources: Air, Water, Land

In the beginning God created the heavens and the earth. God provided us with what we think of as our natural resources. God provided the air, water and land. But these natural resources are not finite; we cannot renew them at the same rate that we destroy them and in some cases, we cannot renew them at all. We have all the air we're going to get, there is no more land and water is just recycled. Our focus in this session will be on these natural resources.



Scripture:

Do not fear, O soil; be glad and rejoice for the Lord has done great things! Do not fear, you animals of the field, for the pastures of the wilderness are green; the tree bears its fruit, the fig tree and vine give their full yield. (Joel 2:21-22)

Air

It has been said that air is the ocean we breathe. Air provides us with oxygen which is essential for our bodies to live. Air is made of 99.9 percent nitrogen, oxygen, water vapor and inert gases. But we humans release other “stuff” into the air and, it is some of this “stuff” that can cause problems for life; human, plants and animals. We refer to this “stuff” as air pollution.

Following are the various types of Air Pollution:

- **Smog** is probably the most familiar type of air pollution. It is caused primarily from particles released into the air from automobile exhaust and industrial emissions. It is widely believed that burning wood and charcoal in fireplaces and barbeques can release significant quantities of particles into the air.
- **Acid rain** occurs when a pollutant, such as sulfuric acid combines with droplets of water in the air, the water (or snow) can become acidified. Acid rain can destroy plants by destroying their leaves, it poisons the soil, and it can also affect the lakes and streams by changing the chemistry.
- **“Greenhouse effect”** also referred to as global warming will be covered in depth in Session Four.
- **Ozone depletion** is a result of pollution as chemicals released by our activities affect the stratosphere, one of the atmospheric layers surrounding the earth. The most commonly known chemical causing holes in the ozone is the release of chlorofluorocarbons (CFC’s) from aerosol cans, cooling systems and refrigerator equipment. Holes in the ozone layer allow ultraviolet radiation to reach earth and can cause skin cancer and have damaging effects on plants

and wildlife.

Indoor air pollution is also a concern since many of us spend 80 – 90 percent of our lives indoors. We work, study, eat, drink, and sleep indoors and some experts feel that more people suffer from indoor pollution than outdoor pollution. Sources of indoor pollution include tobacco smoke, cooking and heating appliances and vapors from various materials, i.e. paints, cleaning supplies, etc.

Both indoor and outdoor pollution needs to be controlled or prevented or it will have an impact on our health.

The Affect of Air Pollution on Our Health

The effect of air pollution on our health can be short-term or long-term and depends on the total exposure to the damaging chemicals i.e., the duration of the exposure and concentration of the chemicals.

Short-term affects include irritation of the eyes, nose and throat and upper respiratory infections such as bronchitis and pneumonia. Long-term affects can include chronic respiratory disease, lung cancer, heart disease and even damage to the brain, nerves, liver and kidneys.

Cigarette smoke is a form of air pollution and second-hand smoke is nearly as dangerous as smoking. It is estimated that half a million people die prematurely every year in the United States as a result of smoking cigarettes.

Action Ideas

- Join the Sierra Club or other Environmental groups. Many ideas are presented in their literature.
- Become aware of State and Federal legislation that has an impact on our air and support or oppose, as appropriate, by calling your Representatives and Senators and letting them know how you want them to vote. Does your Regional Women's Ministries Cabinet/Council have a Legislative Coordinator who will help keep your women in touch with current issues?
- Ensure you have proper ventilation in your home to protect you from indoor pollution.
- If you live in an area that has intermittent smog problems, and you are given a "spare the air" warning, then drive as little as possible, don't burn wood in your fireplace, don't fire up your charcoal grill.
- Always read and follow the warnings on household products that contain harmful chemicals.
- Don't smoke cigarettes or allow anyone else to smoke cigarettes in your home. What would you add to this list?

Water

Water is our most precious natural resource and with the ever-increasing population of the world it is becoming scarcer. Water is made up of hydrogen and oxygen and is necessary for life to exist. It is necessary for *everything* to grow and prosper.

While water covers 71 percent of the earth's surface only a small percentage (3 percent) is *fresh* water. Sources of fresh water are our rivers, lakes and groundwater. Unlike oil or natural gas, for which alternatives are being created, water has no equal and no alternative. Our bodies and crops will accept nothing else and we cannot manufacture more.

Privatization of Water Supply

One of the major concerns facing citizens in the United States and around the world is the privatization of the water supply. All across the United States municipal water systems are being bought up by multinational corporations turning our most vital resource into a commodity.

Thirst: Fighting the Corporate Theft of Our Water by Alan Snitow, Deborah Kaufman and Michael Fox (Wiley, 2007) documents the water privatization battles all across the United States. In Felton, California, a small regional utility was purchased by a multinational corporation in 2001. A woman who runs a facility for people in need saw her water bill increase from \$250 to \$1275 a month.

McCloud, California is a town blessed with pristine spring water from Shasta's glaciers. Four years ago, residents learned that Nestlé Corporation intended to build a huge water-bottling facility there. Without any public input or environmental impact assessment, Nestlé was given a 100-year contract to pump 1,600 acre-feet of spring water a year and use an unlimited amount of groundwater required to operate the facility. They would pay 8.7 cents for 100,000 gallons of spring water and will sell a 16oz. bottle of the same water for \$1.29. The 1,600 acre-feet would gross \$5,380,451,712 (\$5.4 billion). If they net one-fifth it would make over \$1 billion a year. The people of this community have filed a lawsuit to stop this contract from going through.

Keeping water as a public trust is vital to maintaining healthy communities and safe affordable drinking water for everyone. "Water is a precious resource that shouldn't be bought and sold," said Gigi Kellert who works for Corporate Accountability International. This organization is launching initiatives to help people "think outside the bottle" and realize the environmental and social implications of drinking bottled water.

Water Pollution

Water covers more than 70 percent of the surface of the earth and is necessary for life, yet we disregard this fact by polluting our rivers, lakes and oceans. Of all of the water available on Earth, only 1 percent is usable by humans. This pollution can

threaten human health, the fish living in it and the wildlife depending on it. If we want to combat water pollution we must understand the problem so we can become part of the solution.

Some pollution occurs through natural process but mostly it is a result of human activity. Americans use about 150 gallons per person per day. This water comes from lakes rivers and underground (groundwater), after we use it – and contaminate it – most of it returns to these locations. This wastewater or sewage must be treated before being discharged into waterways.

Some pollution occurs when harmful substances are omitted directly into a body of water such as oil spilling from a tanker (like the Exxon Valdez oil spill). Other pollutants enter the water indirectly through environmental changes. For example, rain water runoff carries fertilizer from a field into a stream.

Types of Water Pollution

- *Microbiological* – Disease-causing microorganisms, like bacteria, viruses and protozoa can cause swimmers to get sick. Fish and shellfish can become contaminated and people who eat them become ill.
- *Chemical* – many types of chemicals from industry are poisonous to fish and other aquatic life. Materials like detergents and oil float and spoil the appearance of the water, as well as being toxic and many pollutants have unpleasant odors.
- *Oxygen-depleting Substances* – We usually think that biodegradable wastes are preferable to non-biodegradable ones, because they break down and do not stay in the environment for a long time. However, too much biodegradable material can cause serious problem of oxygen depletion in receiving waters. If there is too much “food” in the water it can easily use up all the oxygen, leaving none for the fish, and they will die of suffocation.
- *Nutrients* – Phosphorus and nitrogen are necessary for plant growth and is plentiful in untreated wastewater. Added to lakes and streams, they cause unwanted growth of aquatic weeds and algae. And as it reaches the ocean it is damaging coral reefs where run off is common and untreated. If used as a source of drinking water, it can cause odor and an unpleasant taste.

The Global View

Nearly 1.5 billion people lack safe drinking water and 5 million deaths per year are attributed to water-borne diseases. Our oceans have become a limitless dumping ground for wastes. Raw sewage, garbage, and oil spills have begun to overpower the ocean's ability to dilute these substances and as a result most coastal waters are now polluted. Beaches around the world are often closed due to high amounts of pollutants.

Preventing Water Pollution

Pollutants must be removed before the water gets back into the environment by

sending wastewater through a treatment facility. In the United States all such facilities must have a permit issued by the federal or state government.

Homes in rural areas that are not connected to a sewer system are usually required to have an on-site treatment system a septic system being the most common.

Cities and towns also need pipes to collect storm water. These are needed to prevent street flooding and usually lead into a waterway without any treatment. This runoff often contains pollutants from streets and yards mainly oil and automotive waste as well as pesticides and fertilizers from lawns and gardens. This storm sewer problem is being addressed by the USEPA (U.S. Environmental Protection Agency).

Action Ideas for conserving water

- Turn off water when brushing teeth
- Install low-flow showers and toilets
- Repair leaks and dripping faucets
- Collect water, which usually goes down the drain, waiting for it to get warm and use it for other purposes, e.g. watering plants
- Don't over-water your landscaping
- Turn off hose when washing your car
- Run dishwasher only when it's full
- Xeriscape (see land)

What would you add to this list?

-
-
-

Action Ideas for preventing water pollution

- When working on your automobile, collect all the oils and recycle them at an appropriate location.
- Do not flush unused medications down the toilet or down the drain in your sink. Many of these do not breakdown and end up polluting the water supply.

What would you add to this list?

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-
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Land

Land makes up less than 30percent of the earth's surface. Most of us, if we own any land at all, own a very small amount, and we should be aware that no matter how small the piece of land we "own" or live on, we must treat the land with care for after all we are only "borrowing" the use of the land.

The National Resources Inventory on land use published the following key findings in their 2003 report of land use in the United States.

- The contiguous 48 states contain 1.9 billion acres of land. 71percent of this area (nearly 1.4 billion acres) is non-federal, rural land.
- Of the 1.4 billion acres, 406 million acres is forestland, 405 million acres is rangeland and 368 acres cropland.
- The cropland acreage declined from 420 million acres in 1982 to 368 million acres in 2003 (-12percent).
- The percentage of total cropland that is non-cultivated has continued to increase since 1982 from 11 percent to 16 percent.

These land uses make up the majority of our nation's land resources and thus the condition of the land influences the environment we enjoy. Maintaining our environmental quality depends on how these lands are used and conserved.

Soil Erosion and Degradation

Soil degradation in North America results mainly from farming practices such as overgrazing and agriculture. *Overgrazing* results in insufficient amounts of grass left in the soil and soil organisms die and the soil loses fertility. This sparse cover leaves the soil vulnerable to rain which will erode the surface and can lead to desertification. Most *agricultural* practices are harmful to the soil.

Factors affecting erosion are:

- Natural factors
 - Heavy rains or weak soil
 - Vegetation depleted by drought
 - Steep slopes
 - Sudden climate change
 - Rainfall
 - Drought
 - Changing winds
- Human-induced factors
 - Change in land (deforestation)
 - Intensive farming
 - Housing development
 - Road construction

Strip Mining

"Everything on earth is connected; soil, water, air, plants, animals and (humans) are part of the whole. When (humans) damage the land with mining, (they) need to reclaim the land, or return it to the way it once was. This is known as reclamation." These words are from an article at web site library www.thinkquest.org by a team that studied the impact of mining on the environment.

While mining is responsible for many of the things that make our lives better it is also responsible for the destruction of many areas around the world. Strip Mining is one of the most destructive forms of mining. The current form of strip mining in the United States is now referred to as *Mountaintop Removal* (MTR). Some call it “Strip Mining on Steroids.”

Mountaintop Removal strips mountains of trees and top soil and injects fertilizer and diesel fuel to blast away layer after layer of rock, which is dumped into valleys, permanently burying streams.

Since 1977, the Clean Water Act has barred industries from dumping waste into waterways. In 2002 however, the Bush administration made a change to the definition of “waste” to *exclude* mining waste.

1977 also was the year in which the Surface Mining Control and Reclamation Act was enacted. This Act was supposed to establish “*a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations; assure that surface mining operations are not conducted where reclamation is not feasible and are conducted so as to protect the environment; assure that adequate procedures are undertaken to reclaim surface areas as contemporaneously as possible with the surface coal mining operations.*”

This law was changed to allow coal companies to leave mountains flattened, if the land was to be used for economic development. This was supposed to be a small exception to returning the hills to their original contours; however, over 474 mountains were destroyed with very few economic development sites taking their place.

There is no denying the need for coal in this country. 52 percent of United States energy is powered by coal. The documentary film “Razing Appalachia” contributed the following facts:

- More than half of our electricity in the United States is generated by coal-fired power plants
- Demand for electricity in the United States has increased 136 percent since 1970
- Coal mining industry contributes millions of dollars to federal political parties and candidates
- Over 1,000 miles of streams have been buried by strip mine waste in Appalachia
- 75 percent of West Virginia’s streams and rivers are polluted by mining and other industries
- 300,000 acres of hardwood forest in West Virginia have been destroyed by mountaintop removal mining

Action Ideas

- Become part of one of the grassroots organizations that have come into being for the sole purpose of fighting back against the coal industry in trying to save the environment. In Tennessee the Save Our Cumberland Mountains (SOCM)

has been working on issues of environmental, social and economic justice since 1972. An article in Sojourners Magazine “*Tennesseans Moving Mountains*” by Beverly Wooden (July-August 2003) goes into detail on what the SOCM is doing.

- Lobby Congress. In 1971 a four-state regional coalition to abolish strip mining was organized. West Virginia, Virginia, Ohio and Kentucky groups joined to form the Appalachian Coalition. Other citizen groups have formed along the way and lobby congress to get the law changed to again define “mining waste” as “waste” in the Clean Water Act.
- Write to your Representative and Senators to tell them you want the waste definition changed and the laws concerning mining reclamation enforced.
- *Xeriscape Landscaping* is landscaping designed especially for areas that are susceptible to drought or where water conservation is practiced. The word is derived from the Greek *xeros* meaning “dry,” the term *xeriscape* means literally “dry landscape.” If this interests you see *Your Guide to Landscaping* by David Beaulieu

Worship/Reflection

Place a globe or a map of the world on the worship center. Also place pictures of air polluting smoke stacks, mountain top removal, and polluted streams along with pictures of a clear look at the landscape. In other words pictures of destruction along side pictures of the way it should be.

Scripture:

The earth lies polluted under its inhabitants; for they have transgressed laws, violated the statutes, broken the everlasting covenant. Therefore a curse devours the earth and its inhabitants suffer for their guilt; therefore the inhabitants of the earth dwindled and few people are left. (Isaiah 24:5-6)

Demonstration: So Little Water www.portlandonline.com/water

Materials: water, globe or world map, small dish, salt, gallon container, measuring cup or one fluid ounce container, bucket (preferably metal)

Activity: Remind participants by looking at the globe or map that 71 percent of the earth’s surface is covered with water. Show them the gallon container filled with water. Inform them that this represents all the water on earth. Ask where most of the water is located. (The oceans contain 97 percent of the earth’s water. Pour one ounce of the water into the small dish. This represents all the non-frozen fresh water. Pour salt into the gallon container to represent the salt water of the oceans. From the water in the dish, fill an eyedropper and drop it into the metal bucket. This drop represents the

amount of clean, fresh, non-polluted and available water for use. A drop in the bucket!

Resources/References

The Environment <http://library.thinkquest.org>

Air Pollution www.lbl.gov/Education/ELSI/Frames/pollution-main.html

Water Pollution www.geocities.com

David Krantz and Brad Kifferstein, *Water Pollution and Society*,
www.umich.edu/~gs265/society/waterpollution.htm

Tara Lohan, *Rural Communities Exploited by Nestlé for Your Bottled Water*, AlterNet, May 30, 2007 www.alternet.org/story/52526

Tara Lohan, *Fighting the Corporate Theft of Our Water*, AlterNet, April 25, 2007
www.alternet.org/story/50994

Megan Tady, *A Big Win Against Corporate Control of Water*, In These Times, AlterNet, August 4, 2007 www.alternet.org/story/58589

Water Conservation Starts with You, City of Millbrae / Water Resources & Conservation Program. Call 650.259.2348 for more information

So Little Water, Portland Water Works Connection, Chapter 5-6 Using Our Water

Kathy Van Mullekorn, *Watching Water Use before a Shortage*, Daily Press (Newport News, VA), San Francisco Chronicle, August 4, 2007

National Resources Inventory 2003 Annual NRI www.nrcs.usda.gov/technical/NRI/

Dr. J Floor Anthoni, *Soil: erosion and conservation* (2000)
www.seafriends.org.nz/enviro/soil/erosion1.htm

Razing Appalachia: Mountaintop Removal, Independent Lens, 2007
www.pbs.org/independentlens/razingappalachia/mtop.html

Beverly Wooden, *Tennesseans Moving Mountains*, Sojourners Magazine, July/August 2003

Beth Williamson, Extras – Commentary: Mountaintop Removal Sites – “Strip Mining on Steroids,” November 22, 2006

www.llrx.com/extras/mountaintopremoval.htm

Xeriscape Landscaping, About.com: Landscaping <http://landscaping.about.com>

Session Four —Global Warming



“We humans are called to be servant-stewards of creation. Because we have neglected this call, the earth is suffering from accelerated climate change that is having harmful effects on many parts of creation.” (It’s God’s World)

Scripture:

As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease. (Genesis 8:22)

These all look to you to give them their food in due season; 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. (Psalm 104: 27-29)

Global Warning

Almost every day the news is giving us some warning about global warming and so if we believe that we are called by God to treasure and take care of the earth we should heed these warnings.

If you were to go to the Internet and “google” *Global Warming* you will have access to an overwhelming amount of information. To learn about the subject, you can plow through all these data or you can watch the documentary film *An Inconvenient Truth*. This film can be found at your local video rental store and you are encouraged to watch the film as part of this study of the environment. A later film also addresses this issue and is entitled *The 11th Hour*, it is not yet available for rental but check your local video stores prior to conducting this study to see if it is there.

The Politics of Global Warming

You may be tempted to shy away from learning about global warming because you think it is a “liberal” idea and you consider yourself a “conservative.” Global warming should not be a political issue. The National Academy of Sciences included the following statement in their March 2006 *Report on Climate Change*:

“Despite remaining unanswered questions, the scientific understanding of climate change is now sufficiently clear to justify taking steps to reduce the amount of greenhouse gases in the atmosphere.”

Also, the U.S. Supreme Court in early April 2007 decided that global warming is a problem, and the U.S. EPA can’t just ignore it, this is significant because it is the law of

the land.

Global Warming, also referred to as the *Greenhouse Effect* is thought to come from a buildup of *carbon dioxide* (CO₂) gas in the atmosphere. The dictionary says that sources of Carbon Dioxide are respiration and combustion or in other words when animals (including humans) breathe and when fuels are burned (primarily automobile and factory emissions) carbon dioxide is released into the air. Plants convert carbon dioxide back to oxygen. In the last several years the release of carbon dioxide from human activities is higher than the plants can process. This situation is impacted by the removal of much of the earth's forests and plants being damaged by acid rain, thereby causing an increase in the amount of carbon dioxide in the air. This build up acts like a blanket and traps heat closer to the surface of the earth. The amount of carbon dioxide in the atmosphere has increased 35 percent since the start of the Industrial Revolution.

The *Arizona Region* has initiated an environmental project of planting trees and bushes. They plan to track the number of "native" trees or bushes that are planted over a three-year period. Planting trees will help combat global warming.

Climate Change

Changes of even a few degrees can affect the climate and thereby can affect us. According to the 2001 and 2007 reports of the Intergovernmental Panel on Climate Change, a warming climate contributes to rising sea levels from thermal expansion and melting glaciers, ice caps and polar ice sheets. The result? Widespread coastal flooding. It has been widely publicized that ice is melting in the Arctic Circle, Greenland and Antarctica at an alarming rate; ice that has been there for more than 650,000 years. You may be aware of the effect that ice melting is having on the Polar Bears. They are drowning because they cannot swim the distance between ice islands being created by melting of the ice.

There is some speculation that the number and severity of storms such as hurricanes and tornados have been affected by climate change due to global warming.

Energy

"Fossil fuel was a one-time gift – and the sooner we understand that, the sooner we can go about the realistic task of doing without it." Bill McKibben

The United States consumed 100.41 quadrillion BTUs of energy in the year 2004. The United States also emitted 5.97 billion metric tons of carbon into the air in 2004. Following is a breakdown on the sources of energy and the CO₂ carbons emitted.

<u>Source</u>	<u>%</u>	<u>Emissions</u>
Oil	41%	43%
Natural Gas	23%	21%
Coal	22%	36%
Nuclear	8%	0
Renewables	6%	0

These figures reflect coal to be the most destructive source of energy to our environment because it is only 22 percent of the source used but is responsible for 36 percent of the emissions. Coal however is the least expensive way to furnish electricity as shown in the following data:

Electricity cost per Kilowatt Hour in cents (2004)

Coal 4.5-5.4¢

Wind 4.7-6.3¢

Hydroelectric 4.9-8.5¢

Natural Gas 5.2-6.5¢

Solar 12.4-26¢

Nuclear 5.9¢ *(The US Energy Information Administration calculates the cost of nuclear energy at 5.9 cents per kilowatt hour – but that includes massive federal subsidies. It is thought, without these subsidies, nuclear power could not compete with energy efficiency or renewables.*

Economic Impact

The U. S. government has been slow to respond to the threat of climate change. The United States is now the only major industrial nation not to ratify the Kyoto Treaty. (Australia's new Prime Minister signed the Treaty a week after he won the election in November 2007.) This treaty called for us to commit to a seven percent (below 1990 levels) reduction of greenhouse gases by 2012. The reason given for the refusal to ratify this Treaty was the perceived impact on our economy. Canada however did ratify the Treaty committing to reduce greenhouse gases by six percent below 1990 levels by 2012. The United States with about four percent of the world's population is responsible for at least 25 percent of the world's greenhouse gas emissions.

The countries that ratified Kyoto believe that wealthy countries need to demonstrate a commitment to reduce emissions levels before the developing world can be asked to make cuts. "You can't expect developing countries to waive their right to grow because the industrialized countries for the last 100 years have eaten all the cake," said a member of the European Union delegation.

Recently negotiations took place in Bali, Indonesia on a treaty that would replace the Kyoto Treaty in 2012. The United States delegation indicated there is no change in our position for any proposed post 2012 agreement. The main concern expressed by the United States government is that China and India and other fast-growing poorer economies are not given mandates to curb emissions. The meeting adjourned without an agreement but everyone did agree (even the United States) to continue these talks in the near future. Keep watching your newspapers to see how this story develops.

In light of the United States' refusal to sign a global treaty, several States and Cities in the United States are making their own commitment to a new global agreement to cut greenhouse gases. California adopted a law last year requiring reductions of about 25 percent in greenhouse gases by 2020. New York and nine other Northeastern states are putting caps on power-plant emissions and five Midwestern states

announced a joint program to reduce emissions. The EPA has denied these states a waiver to deviate from the federal program but the State of California is suing the United States government to reverse their decision. Other states will probably join in California's law suit.

Environmental writer Bill McKibben has said that Americans could very easily reduce carbons. "Our initial changes will involve making sure we don't drive unnecessarily large vehicles and we apply already existing technology to improve automobile mileage...." "Here in the United States we need to change the price of energy to move away from a world of really cheap fossil fuel, and as that happens, it will make the existing technologies that we have like wind and solar, more competitive. It will also spur rapid investments in the next generation of technologies." He goes on to say, "this will not happen until investors, corporate planners and people buying their next home or car understand that the future is not about fossil fuel – it's about what come next."

Curbing Global Warming

Scientists say that in order to prevent the worst effects of global warming we must reduce CO₂ emissions by 80 percent below 1990 levels by the year 2050. The Sierra Club has adopted this goal and outlines a plan to achieve it in the January/February issue of Sierra Magazine.

Bill McKibben has been writing and speaking on the Environment since his first book on the subject *The End of Nature* published in 1989. He has started a grassroots action with the goal of demanding that Congress enact immediate cuts in CO₂ emissions with a goal of reducing them by 80 percent below 1990 levels by 2050. On April 14, 2007, he spearheaded a large nationwide rally against global warming. He called this movement *Step It Up*. This occurred in many locations across the country so that participants would not have to burn a lot of fossil fuel to get to a central location, such as a March on Washington. The movement is still moving and *Step It Up 2* occurred on November 3, 2007.

McKibben says, "Beating climate change will require some sacrifice by all of us at least in the short-term. In the long-term however, there will be enormous gains, economically, environmentally and morally."

Alternative/renewal sources of energy will be the most important answer to the reduction of greenhouse gases. Industries are looking to expand wind and solar sources of energy. Alternative fuels such as ethanol, made from corn, are already being sold and the price of corn is increasing due to the increased demand due to making ethanol. Some people have been known to fuel their automobile by reusing vegetable oils.

The San Francisco Chronicle reported on November 28, 2007, that Google, Inc. will spend hundreds of millions of dollars to develop renewable energy as part of an ambitious plan to clean the environment and reduce the company's own power bill. This initiative will begin in 2008.

Action Ideas

- Use renewable sources of energy whenever possible and practical (maybe even if it's not practical). Advocate for the use of renewable sources.
- Buy energy efficient automobiles
- Use energy efficient light bulbs
- Run full loads of dishes/clothing
- Consider hanging clothes to dry
- Turn off electronic equipment such as computers, etc. instead of leaving them in the "waiting to serve" mode.
- Use public transportation or car pool whenever possible. Advocate for mass transit and carpooling.
- Put bike racks on buses.
- Advocate for safe ways for people to walk and ride bikes in towns/cities.
- Build "green" houses.
- Become a "green" consumer. "Green" consumers are more likely to migrate to businesses that are meeting the climate challenge head on rather than stay with a company that ignores the issue. *Co-Op America* is an organization you can join. Members get access to the National Green Pages which provides information on where to find green products and services across the country plus other publications that are full of tips for green living and investing. Go to www.coopamerica.org or call 1.800.58.GREEN ([800] 584.7336).
- Many action ideas listed in prior sessions will also help conserve energy and thereby help curb global warming.
- Plant a tree (see Arizona Region Environment Project)

Worship/Reflection

Prepare Worship Center by placing pictures of melting ice in the artic and Antarctic (if possible use before and after pictures). Place a cloth (to represent blanket of greenhouse gases) over globe.

Responsive Reading

Leader: "The land mourns, and all who live in it languish; together with the wild animals and the birds of the air, even the fish of the sea are perishing." (Hosea 4:3)
Why do the land and its creatures suffer?

People: "Swearing, lying, and murder, and stealing and adultery break out; bloodshed follows bloodshed." (Hosea 4:2)

Leader: But why should such terrible things occur?

People: “There is not faithfulness or loyalty, and no knowledge of God in the land.” (Hosea 4:1b)

Questions to ponder

1. According to this passage, what are some results of turning our backs on God?
2. What is the relationship between faithfulness to God and the prosperity of the creation?

Hymn: All Creatures of Our God and King (Chalice Hymnal #22)

Prayer:

Creator of the universe, your creation is too wonderful and great for our small and finite human minds to comprehend. We find the only response to the magnificence of creation we can muster is a humble awe. O God, help us to realize our smallness in the face of the vast universe. Help us to join in the rest of your creation in singing your praises to eternity. Amen

(Worship resource adapted from, “It’s God’s World”)

Resources/References

The Most Important Thing You Can Do to Stop Global Warming, Tara Lohan, Alternet www.alternet.org/story/47064

How to Live a Low-Energy Lifestyle, Kelpie Wilson, TruthOut.org, April 5, 2007, www.alternet.org/story/50075

Catherine Lerza, *Changing the Social Climate*, Tides Foundation, April 21, 2007, www.alternet.org/story/50402

Bill McKibben, *Supreme Court Puts the Pressure On*, Grist Magazine, April 2007 www.alternet.org/story/50152

Stephen H. Schneider and Rev. Sally Bingham, *Science and Religion Unite on Climate*, San Francisco Chronicle, February 13, 2007

Global Warming – What You Can Do, Congregation Shaar Zahav, San Francisco, CA October 2006. www.interfaithpowerandlight.org

Dr. James Hansen, *Climate Change: Why We Can’t Wait*, The Nation, April 2007 www.alternet.org/story/50795

Kyoto Treaty Takes Effect Today, www.washingtonpost.com/ac2/wp-dyn/A27318-2005Feb15

Bill McKibben, *Race to the Finish*, *Grist Magazine*, March 2007
www.alternet.org/story/49272

Bill McKibben, *Bill McKibben: Creating the World's Biggest Grassroots Movement*, *Grist Magazine*, August 2007 www.alternet.org/story/59416

Bill McKibben, *Calling All Citizens: Demand Action on Global Warming*, *Grist Magazine*, September 2007 www.alternet.org/story/63799

Bill McKibben, *Energizing America*, *Sierra Magazine*, January/February 2007, p. 30

Marilyn Berlin-Snell, *Can Coal be Clean?*, *Sierra Magazine*, January/February 2007, p. 32

Reed McManus, *Negawatt Power*, *Sierra Magazine*, January/February 2007, p. 35

Green, *San Francisco Chronicle*, Special Section, July 20, 2007

Vera K. White, *It's God's World: Christians, Care for Creation and Global Warming*, published by The Eco-Justice Working Group, National Council of the Churches of Christ in the USA, 2002. www.Webofcreation.org/ncc/articles/godsworld

U.S.D.A. Hardiness Zone Changes: 1990 to 2006, <http://www.arborday.org/media/mapchanges.cfm>

Intergovernmental Panel on Climate Change reports <http://www.ipcc.ch/>

Overview of IPCC

http://en.wikipedia.org/wiki/Intergovernmental_panel_on_climate_change

Overview of sea level rise (including thermal expansion and melting of land ice)

http://en.wikipedia.org/wiki/Sea_level_rise

Session Five —Food and the Environment

Food and its impact on the environment are starting to get a lot of attention from the press. In this session we will look at the current movements underway to address the issue of food's impact on the environment.

Scripture:

Then God said, "I've given you every sort of seed-bearing plant on Earth and every kind of fruit-bearing tree, given them to you for food. To all animals and all birds, everything that moves and breathes, I give whatever grows out of the ground for food."

Genesis 1:29-30 (Message translation)

We hear a lot these days about organic foods, eating local (the 100 mile diet), and slow foods, etc. Let's break this down and look at how we might change our eating habits and be more conscious of how food impacts the environment.

What is Organic Food?

The term "organic" was established by the USDA in December 2000 as a means to define food that must be produced *without* the use of sewer-sledge fertilizers, most synthetic fertilizers and pesticides, genetic engineering, growth hormones, irradiation and antibiotics.

Organic does not mean "natural." The food industry describes "natural" as meaning the food has been minimally processed and is preservative free. Natural foods can include organic foods, but not all natural foods are organic.

You will know if a food is organic if the word "organic" appears on the fruit or vegetables or on a sign above the produce. The word "organic" may also appear on packages of meat, eggs or cheese. Foods labeled 100 percent organic must contain only organic materials.

Organic farming is the oldest form of agriculture and this type of farming tends to conserve energy and protects the environment by not using synthetic fertilizers and pesticides which, in turn, reduces the pollution of our groundwater.

One third of the energy that goes into growing food crops is used to manufacture fertilizers, and that number rises with the production of pesticides.

Unfortunately organic food may be more expensive than conventional products. This is primarily because the food supply is limited as compared to demand and it requires greater labor input. It is believed that as demand for organic food increases, technological innovation and economies of scale should reduce the cost of production.

If organic foods are not within your food budget or you do not have access to organic foods, you will be glad to know that the National Research Council has said that if fruits and vegetables are properly washed, most of the chemicals can be removed.

Local Foods

In general, eating local means seeking out food raised as nearby as possible. Ideally, local food means the buyer can meet the farmer or food maker and find out details about how the food was raised, and that the crops and livestock are unique to a certain areas.

A *local food movement* is underway. Backers of this movement see it as the next big thing for the ecologically conscious as it means consuming produce, dairy, and meats from farms within a state, a region, or a part of the country, just as long as the products do not have to be shipped long distances. Indeed, eating local is not new. In the mid-1800s, most food was produced within about seven miles of the consumer.

Local food does not necessarily mean organic food and the local food movement is not the same as the “slow food” movement (see below).

The nature of food has changed dramatically in the last 60 years. Most of our food is now grown on huge farms by distant corporations (not local farmers). *Section Z, Making our Economy Safe for People and Nature* (a newsletter) Issue 3 includes the following tale of two tomatoes that illustrates this situation.

Traveling Tom is picked while green, Tom is then gassed to redness. In order to better survive the long journey to market, many tomatoes are picked while hard and green, then sprayed with a hormone to help them ripen. This is just one of the eye-opening practices that has become commonplace in our industrial food system.

Local Lucy, the tomato next door, is picked at the peak of ripeness. Not the kind of ripeness that comes from a hormone gas. One taste and you’ll never go back. When you buy her and other foods raised near to home, more of your money makes it back to the farmer, helping keep families on the land. “Local Lucy or Traveling Tom: who would you rather have sitting on your salad?”

The food industry is consolidating at an alarming rate, to the point where much of our nourishment depends on a handful of giant corporations. They are shipping food an average of 1500 miles to reach your plate, and they still want to call it “fresh.” It is estimated that 9 percent of America’s total energy consumption is used to produce, process and transport our food.

The November/December 2007 issue of *Sierra Magazine* cited that 13 percent of the food Americans eat is imported, much of it from China, and the FDA inspects less than 1 percent of it. This could get worse as the FDA Commissioner wants to close seven of the agency’s 13 field labs but Congress is refusing to go along with this plan. There is also opposition to a ruling that food be labeled as to its country of origin so we rarely know where our food is grown.

Slow Food Movement

In 1986, Carlo Petrini, the founding father of the Slow Food Movement, “recognized that the industrialization of food was standardizing taste and leading to the annihilation

of thousands of food varieties and flavors.” He realized that in order to keep those alternative foods alive it was necessary for people to see the connection between the plate and the planet. Today the organization has spread to over 100 countries and has a world-wide membership of over 80,000. One such organization is Slow Food USA.

Slow Food is good, clean, and fair food. Slow Food USA believes that the food we eat should taste good; that it should be produced in a clean way that does not harm the environment, animal welfare or our health; and that food producers should receive fair compensation for their work, and that all people should have access to this good and clean food.

Donna Schaper in an essay, *Save Gas, Eat Slow Food*, tells a story that illustrates what is *not* slow food. While on a road trip, she stopped in a small town just off the freeway to get something to eat. There were only two franchises to choose from, a McDonalds and a Uno Pizza place. She decides on pizza and discovered there weren't any pizza slices setting under the warming lights. However, the woman behind the counter said, "I'll make one fresh for you." Donna asked how long it would take and was told "one and a half minutes." So it was then that Donna realized her own ambivalence about food. She wanted it "slow" and she wanted it fast. She wanted it "local" and she wanted it cheap. Mostly she wanted it *now*.

Here's how she describes the pizza she was served. "Its virtue was that it was warm. Its sin was that it was made of something that long ago was grain, and something that long ago was a tomato, the cheese was no longer cheese and if the pepperoni ever was food, I'd be surprised." As she wolfed down the warm glob of chemicals, she thought about the sources of her food. She thought of all the people who worked to bring her that round, warm, 800-calorie, nutritionally worthless globule for just \$6.99. She thought of the migrant tomato picker in Florida and the truck and its gas and all the middlemen including the advertisers who made her want the pizza. Few of these people could be making a fair wage and the pizza still cost only \$6.99. Slow Food is fair.

The Slow Food Movement campaigns for home-cooked meals made from local raw materials, with nothing pre-processed. "Fast is the enemy of feast. Every interaction in good food is slow, whole, just; every interaction with fast food is fast, distorted, tasteless and unjust." So says Slow Food USA.

Questions to ponder

1. Have you noticed that food doesn't taste as good as it used to?
2. Are you old enough to remember when restaurants cooked with only fresh foods?
3. Have you had experience eating in other countries, particularly Europe, especially Italy? Describe that experience.

Livestock's Impact on the Environment

While many of us know that cattle belch methane gas, you might not be aware of the total impact of livestock on our environment.

Livestock's Long Shadow, a report from the Food and Agriculture Organization (FAO) says livestock production is one of the major causes of the world's most pressing environmental problems, including global warming and air and water pollution. It is estimated that livestock is responsible for 18 percent of greenhouse gas emissions. It also finds that an increase in population and income, along with changing food preferences are stimulating an increased demand for meat, milk and eggs.

Livestock grazing land occupies 26 percent of Earth's terrestrial surface while feed crop products require one-third of all arable (capable of growing crops) land.

Livestock production also impacts heavily on the world's water supply, accounting for more than 8 percent of global human water use, mainly for the irrigation of feed crops. It is also the largest source of water pollution (discussed in session 3). This is primarily from animal wastes, antibiotics, hormones, chemicals from tanneries, fertilizers and pesticides used for feed crops and sediments from eroding pastures. It is estimated that in the USA, livestock and feed crop agriculture are responsible for 37 percent of pesticide use, 50 percent of antibiotic use and a third of the nitrogen and phosphorus loads in freshwater resources.

The FAO indicates that future policies to protect the environment will therefore, have to introduce adequate market pricing for the main input. For example, water is grossly under-priced and prices should be increased, grazing fees should be introduced or raised and the government subsidies for livestock should be removed. Also livestock holders who emit waste into waterways should pay for the damage. These are all ways to remove the price distortions. This, of course, will lead to higher prices at the meat counter at our local grocery stores.

You may not agree with his sentiments but following is what one internet "blogger" had to say about livestock and the environment. *"The United Nations recently published a report showing that the practice of raising animals for food and material goods is destroying the planet. 'The livestock sector emerges as one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global.' Do you think we should conserve water? While it only takes approximately 300 gallons of water to create one pound of plant food, it takes between two and five thousand gallons of water to create one pound of meat. A local plant-based diet is the healthiest diet and also is in line with progressive values like empathy, compassion and decency. Animal agriculture is an ugly industry filled with misery, cruelty and violence."*

Questions to ponder

1. Have you ever considered going on a vegetarian diet?
2. Do you agree with the blogger's sentiments?

Action Ideas

- Avoid excess packaging
- Shop at Farmers' Markets to buy "local" foods
- Buy Organic if feasible within budget
- Plant your own garden (maybe devote a portion of your lawn)
- Participate in a community garden
- Eat Seasonally – eat what is in season or eat the food that has been canned or frozen when it was fresh (without preservatives)
- Purchase Fair Trade Products (more money goes to the farmer)
- Shop at food co-ops if your community has them, or start a co-op
- Eat at local restaurants that use local produce
- Try a vegetarian diet or reduce meat consumption

Worship/Reflection

For your worship center display foods that are organic and/or local. Also the food might be something that has been prepared from organic, local ingredients in a "slow" manner.

Scripture:

Do not, for the sake of food, destroy the work of God. (Romans 14:20)

Hymn: *Seed, Scattered and Sown* (Chalice Hymnal #395)

Eat a meal or snack or dessert that has been prepared with local and organic ingredients. If possible make it an organic, local, slow, natural, vegetarian eating experience.

Prayer:

Loving God creator of all that's good, we are so grateful for the food we have and we ask your blessing on those who have grown the food we eat as well as those who prepare it for our consumption. We thank you for our meal of plenty and we want you to know that we realize that not all our sisters and brothers have enough to eat. We ask your guidance for ways we might help provide resources so that all people might have access to good, healthy food for themselves and their families.

Resources/References

Organic Food, Wikipedia http://en.wikipedia.org/wiki/organic_food

How Organic Food Works, www.howstuffworks.com/organic-food

Kathy Freston, *Eating Vegetarian Is Taking Global Warming Personally*, HuffingtonPost.com, www.alternet.org/story/69275

Food: Are You Gorging on Fossil Fuels?, Green, San Francisco Chronicle-Special Section, April 20, 2007.

Angela Herrmann, *Eating away at the environment*, DisciplesWorld, April 2007, pp. 8-11

Barbara Kingsolver, *Animal, Vegetable, Miracle: A Year of Food Life*, HarperCollins, 2006

Interview with Barbara Kingsolver, World Ark Magazine, November/December 2007, pp. 8-9 or www.heifer.org/worldark

Anthony Flint, *Think globally, eat locally*, Boston Globe, August 15, 2004

Food / World Watch Institute, www.worldwatch.org/node/3938

A Tale of Two Tomatoes: Local Lucy and Traveling Tom, Section Z, www.sectionz.info/Issue_3/content_1.html

Slow Food USA, www.slowfoodusa.org

Molly Schwartz and Donna Schaper, *Save Gas, Eat Slow Food*, The Nation, August 2007. www.alternet.org/story/59301

Suzi Steffen, *Is Eating Local Even Possible?*, AlterNet, August 25, 2007. www.alternet.org/story/59996

Livestock Impacts on the Environment, Spotlight 2006 Food & Agriculture Organization. www.fao.org/ag/magazine/0612sp1.htm

Keeping tabs on Washington, Sierra Magazine, November/December 2007, p. 23

Angela Herrmann, *A Study on our place in the environment – Environmental Study for Disciples Women*, October 2006 <http://www.homelandmissions.org> follow the Public Witness Ink to Environment and the article referenced *Environment on place*.

Eric Schlosser, *Fast Food Nation: The Dark Side of the All-American Meal*

Richard Manning "The Oil We Eat" *Harper's* magazine, <http://www.harpers.org/archive/2004/02/0079915>

Michael Pollan *The Omnivore's Dilemma* and *In Defense of Food: An Eater's Manifesto*

Film: King Corn

Weston A. Price Foundation, <http://www.westonaprice.org>.

Eater's Bill of Rights, <http://www.ncrlc.com/card01/backtext.html>. Published by the National Catholic Rural Life Conference

Food & Faith, Edited by Michael Schut; with Wendell Berry

Session Six —Conclusion and Review

As people of faith who have become aware of the abuse of God's creation, hopefully we feel called to join in the process of restoring and rebuilding, being aware that this means we will need to sacrifice some of the comforts and luxuries that our society values.

Scripture:

But he's already made it plain how to live, what to do, what God is looking for in men and women. It's quite simple: Do what is fair and just to your neighbor, be compassionate and loyal in your love, and don't take yourself too seriously – take God seriously.

Micah 6:8 (Message translation)

Our Carbon Footprint

Since 1850, when CO₂ levels began to increase, the human population has grown from about 1 billion to 6.6 billion. During this time, automobiles, airplanes, refrigerators, vaccines, antibiotics, televisions and computers have become part of everyday life in the United States and in Canada.

“The average American generates about 15,000 pounds of carbon dioxide every year from personal transportation, home energy use and from the energy used to produce all of the products and services we consume.” www.climatecrisis.net.

According to figures from the Department of Energy, each person in the United States consumes as much energy as 2.1 Germans, 12.1 Columbians, 28.9 citizens of India, 127 Haitians and 395 Ethiopians. As a nation, we lead the world in carbon dioxide emissions, nearly twice the amount of second-place China (which has one billion people). We lead the world, by far, in water and oil consumption. We have the largest houses in the world. Each year, the average American generates 189 pounds of food waste, 183 pounds of plastic trash, 570 pounds of paper trash, 86 pounds of glass trash, and so on.

The United States with four percent of the world's population emits 25 percent of the world's CO₂. In short, Americans make the biggest environmental footprint on the planet. Is that being fair and just to our neighbors? (Micah 6:8)

Redeeming and Transforming Creation

As discussed in Session One, the *theology of interrelationship* is one of redemption and transformation. How does that pertain to us and what we do with the environmental crisis where we live and where our neighbors live?

God requires that we deal justly with one another. While everyone will be affected

by the environmental crisis at some point, the first victims already have been the poorer nations and the impoverished people in this country, people who do not have the resources to adapt to the conditions. Poor people are more affected by heat waves, storms, floods and disease. Industrial pollution almost always occurs in the poorer parts of our country and this is true all over the world. So the environmental crisis is not just a scientific study, it is also a story of God's children facing homelessness, disease and starvation. Yes, environmental harm falls most heavily on the poor and will fall even more heavily on those yet to be born.

"Jesus invites the disciples to a lifestyle of simplicity sufficient for their needs. The beauty and the gifts of creation are for all to enjoy, but Jesus warns against becoming slaves of the material world. This leads to an illusion of security and inevitably causes injustice." (It's God's World) We could live a simpler life by reducing our use of energy and of the things we don't really need that requires energy to make and to use.

In previous sessions we have covered many *action ideas* that suggest ways we can help redeem and transform creation by helping reduce and reverse the damage being done to our environment. Here are some more ideas:

Action Ideas:

- Calculate your personal carbon impact at www.climatecrisis.net/takeaction/carboncalculator/.
- Reduce your carbon pollution by:
 - Getting an energy audit of your home
 - Caulk and weather-strip your doorways and windows
 - Replace all your light bulbs with compact fluorescents
 - Switch to double paned windows
 - Replace old appliances with energy efficient ones
 - Purchase renewable energy www.green-e.org
 - Unplug un-used electronics.
- Organize your workplace, school, neighborhood, town. Contact www.climateprotectioncampaign.org for assistance
- Keep informed and stay involved. Learn the laws (learn about permits, etc.) The future of our planet depends on it.
- Send letters to "green" companies (thank you/support)
- Examine your buying patterns
 - Read labels
 - Subscribe to the "Green Pages" advertising
 - Pay attention to packaging and be an advocate for less packaging

Develop a Personal Action Plan

List the things you, as a group, think can be done to mitigate the damage to our environment. Try to think of at least four things but don't feel limited to four. Refer back

to previous sessions for ideas.

What can we do about the Environmental Crisis?

As congregations we can ...

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

As individuals and families we can ...

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

As United States or Canadian citizens we can ...

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

As global citizens we can ...

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

I will make a personal commitment to do the following:

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

Worship/Reflection

Create a worship center using items from past sessions as a way to review what has been covered in each.

Scripture:

Because of this decision we don't evaluate people by what they have or how they look. We looked at the Messiah that way once and got it all wrong, as you know. We certainly don't look at him that way any more. Now we look inside, and what we see is that anyone united with the Messiah gets a fresh start, is created new. The old life is gone; a new life burgeons! Look at it!

All this comes from the God who settled the relationship between us and him, and then called us to settle our relationships with each other. God put the world square with himself through the Messiah, giving the world a fresh start by offering forgiveness of sins. God has given the task of telling everyone what he is doing. We're Christ's representatives. God uses us to persuade men and women to drop their differences and enter into God's work of making things right between them. We're speaking for Christ himself now. Become friends with God; he's already a friend to you. How? you ask. In Christ, God put the wrong on him who never did anything wrong, so we could be put right with God. 2 Corinthians 5:16-21 (Message translation)

Hymn: *For the Beauty of the Earth* (Chalice Hymnal #56)

Top Ten Reasons Christians Should Care About the Earth and All Things in It

10. *Justice cries out for it.*

Those who suffer the most from foul air, foul water, and ugliness are those who cannot afford "alternatives." Environmental degradation hurts the poorest people the most. Care for creation is a justice issue.

9. *Consistency demands it.*

How can we have any credibility as we strive to protect the unborn if we are callous about the air the child will breathe, the poverty he or she will suffer under, the ugliness he or she will inherit. The two go together.

8. *Physical health requires it.*

This is meant not only in the more obvious sense that breathing foul air, eating lead paint, and drinking polluted water is bad for us. It also means in the sense that the chemicals and proteins found in a biologically diverse environment may well hold the key to curing all or most major diseases eventually.

7. *Spiritual health requires it.*

How many times have you taken a personal day, a day of spiritual retreat, and set up a chair in a parking lot? Enough said.

6. *God's love for all creation points to it.*

God so lovingly cares for all God's wonderful creatures – and we should too. If you're in doubt about this, read Genesis One and Two, and then Psalm 104.

5. *Integrity screams for it.*

To act and live in integrity and love toward our descendants requires that we leave to them beauty, biodiversity, and ample resources for them to use and enjoy. Personally I am a little peeved at my ancestors for wiping out the Dodo Bird, the Woolly Mammoth, the Passenger Pigeon, and possibly, the Ivory Bill Woodpecker. Shame on them. Would I do the same to my children and children's children?

4. *Love of neighbor inspires it.*

We are called to love our neighbor as ourselves, which means that we care about his or her well-being as much as our own. This includes what he or she has to breathe, drink, look at, work in, or play in. We cannot love our neighbor and not care about the

environment he or she has to inhabit.

3. Our stated life purpose requires it.

We were given very clear instructions to be stewards of God's earth. This is clear in both Genesis 1 and Genesis 2. It's like, duh!

2. Passion for God's glory motivates it.

Creation is God's master work which God declared to be "very good," and it is meant to reflect God's glory; when we despoil it in our greed or carelessness or callousness we rob God of glory due God's name.

1. Love of God demands it.

We must care for God's good earth because God does. We cannot love God with all of our hearts if we mistreat God's world in our sloppiness, carelessness, ugliness and greed. Period.

(Adapted from Top Ten Reasons Evangelical Christians Should Care About the Earth and All Things In It. By Joel Gillespie, Greensboro Christian)

Prayer:

Loving God, creator of heaven and earth, we thank you for this world you have provided and thank you for having the confidence in humankind to expect that we would take care of it. We know that you must be disappointed in us because we have been neglectful and wasteful and our earth is suffering as a result of our actions.

God, help us to realize the part each of us must play to keep this world fit for all future generations. Help us consider every day Earth Day not just one day in April each year. We asked this in the blessed name of Jesus. Amen

References/Resources

Vera K. White, *It's God's World: Christians, Care for Creation and Global Warming*, published by The Eco-Justice Working Group, National Council of the Churches of Christ in the USA, 2002. www.Webofcreation.org/ncc/articles/godsworld

Alan Bisbort, *Overcoming American Gluttony*, Smirking Chimp, www.alternet.org/story/53052/

Ellie M. Cohen, *Global Warming – What You Can Do*, Article October 2, 2006, www.shaarzahav.org/sites/default/files/HHD2006-Handout-YK-GlobalWarming.pdf

David Rhoads and Andrea Orcutt, *Greening Our Churches: What Congregations can do to restore creation*, Sojourners Magazine, July 2007

James. H. Cone, *Whose Earth Is It Anyway?*, Sojourners Magazine, July 2007

Bill McKibben, *Stepping It Up to Save the Earth*, Sojourners Magazine, July 2007

www.climateprotectioncampaign.org

www.safeclimate.net/takeaction

www.climatecrisis.net/takeaction

www.stopglobalwarming.org

www.terrapass.com

www.green-e.org

www.millenniumassessment.org

www.interfaithpowerandlight.org

http://en.wikipedia.org/wiki/Ecological_footprint

