



Environmental Worldviews, Ethics, and Sustainability

Chapter 25

Core Case Study: Biosphere 2— A Lesson in Humility

- 1991: Biosphere 2
 - Constructed near Tucson, AZ, U.S.
 - Designed to mimic the earth's natural chemical recycling systems
 - Many problems
 - Some successes
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Biosphere 2—Designed to Be a Self-Sustaining Life-Support System



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25-1 What Are Some Major Environmental Worldviews?

- **Concept 25-1** *Major environmental worldviews differ on which is more important—human needs and wants, or the overall health of ecosystems and the biosphere.*
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What Is an Environmental Worldview?

- **Environmental worldviews**
 - Human-centered: anthropocentric
 - Life-centered: biocentric

 - **Environmental ethics**
-

Comparison of Three Major Environmental Worldviews

Environmental Worldviews

Planetary Management

We are apart from the rest of nature and can manage nature to meet our increasing needs and wants.

Because of our ingenuity and technology, we will not run out of resources.

The potential for economic growth is essentially unlimited.

Our success depends on how well we manage the earth's life-support systems mostly for our benefit.

Stewardship

We have an ethical responsibility to be caring managers, or stewards, of the earth.

We will probably not run out of resources, but they should not be wasted.

We should encourage environmentally beneficial forms of economic growth and discourage environmentally harmful forms.

Our success depends on how well we manage the earth's life-support systems for our benefit and for the rest of nature.

Environmental Wisdom

We are a part of and totally dependent on nature, and nature exists for all species.

Resources are limited and should not be wasted.

We should encourage earth-sustaining forms of economic growth and discourage earth-degrading forms.

Our success depends on learning how nature sustains itself and integrating such lessons from nature into the ways we think and act.

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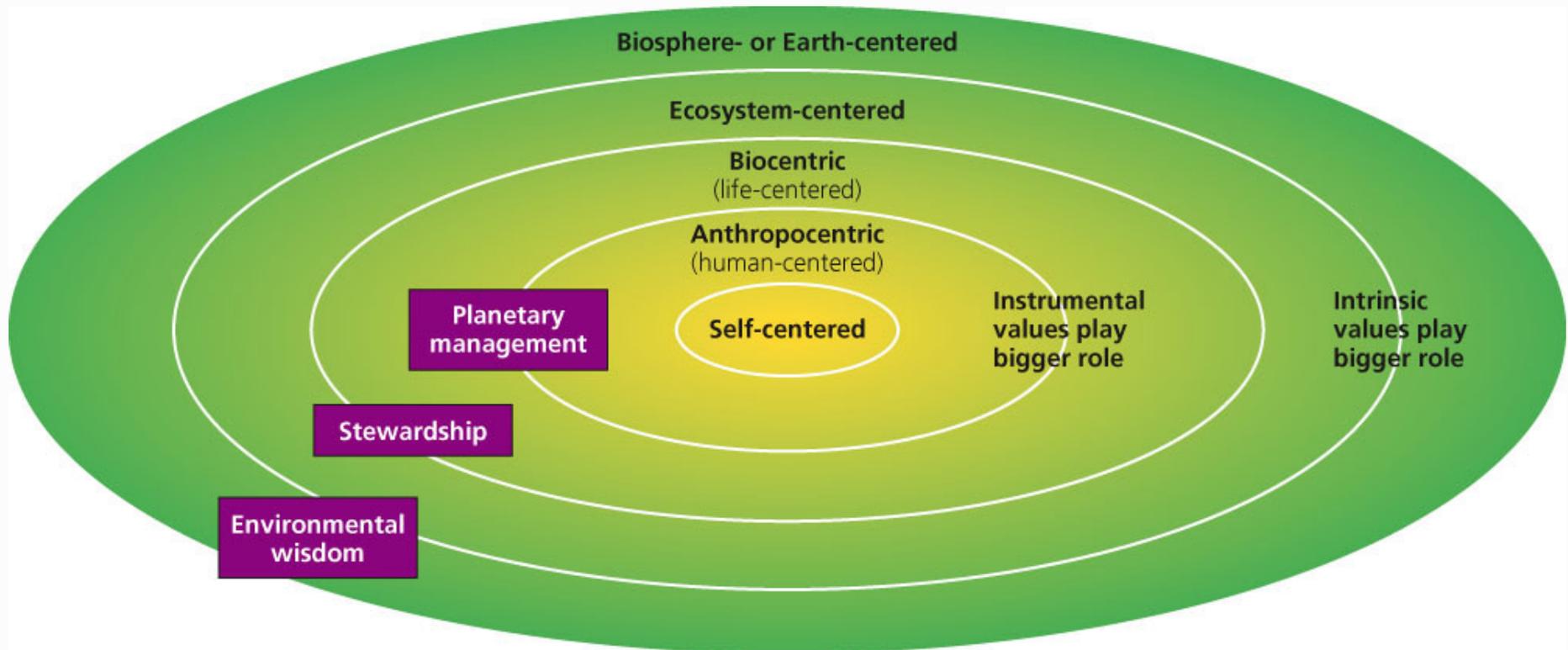
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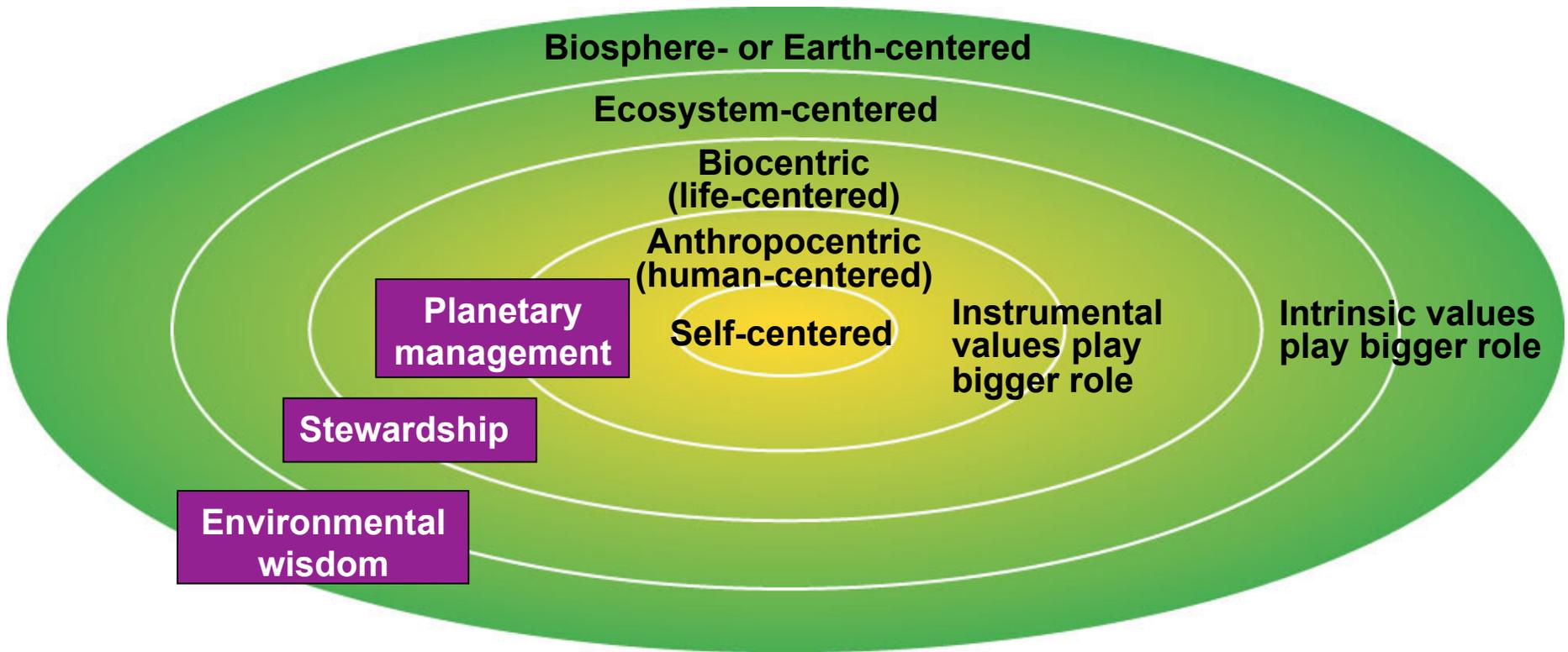
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Environmental Worldviews Lie on a Continuum—from Self- to Earth-Centered





Most People Have Human-Centered Environmental Worldviews

- Two human-centered worldviews
 - **Planetary management worldview**
 - No-problem school
 - Free-market school
 - Spaceship-earth school
 - **Stewardship worldview**
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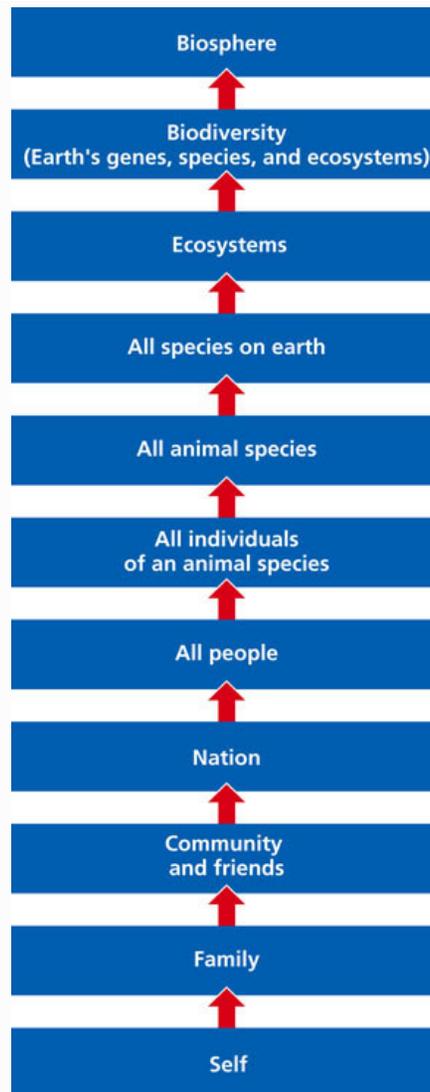
Can We Manage the Earth?

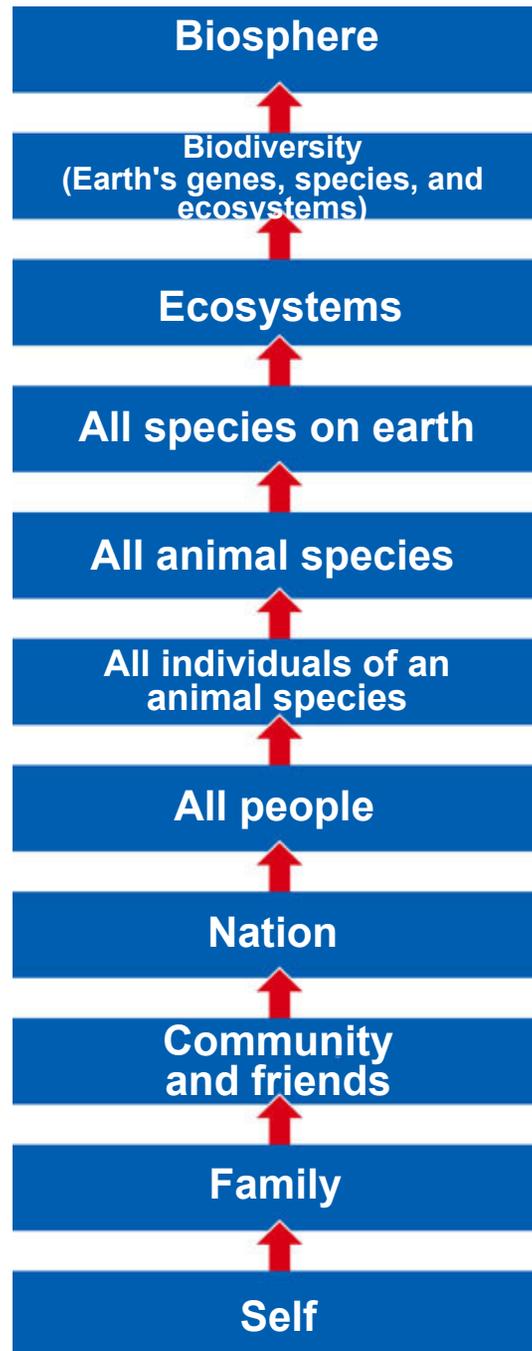
- Criticism of the human-centered worldviews
 - Is this supported by the failure of Biosphere 2?
-

Some People Have Life-Centered and Earth-Centered Environmental Worldviews

- **Inherent or intrinsic value** of all forms of life
 - **Instrumental value** of each species: potential economic value
 - Two earth-centered worldviews
 - **Environmental wisdom worldview**
 - **Deep ecology worldview**
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Levels of Ethical Concerns





The Earth Flag: Symbol of Commitment to Promoting Environmental Sustainability



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25-2 What Is the Role of Education in Living More Sustainably?

- **Concept 25-2** *The first step to living more sustainably is to become environmentally literate, partly by learning from nature.*
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We Can Become More Environmentally Literate (1)

- Natural capital matters
 - Our threats to natural capital are immense and growing
 - Ecological and climate tipping points: irreversible and should never be crossed
-

We Can Become More Environmentally Literate (2)

- Key goals for environmental literacy

 - Mitchell Thomashow: determine your ecological identity
 - Where do the things I consume come from?
 - What do I know about the place where I live?
 - Am I connected to the earth and other living things?
 - What is my purpose and responsibility as a human?
-

Major Components of Environmental Literacy

Major Components of Environmental Literacy

- Concepts such as environmental sustainability, natural capital, exponential growth, carrying capacity, risk, and risk analysis
- Four scientific principles of sustainability
- Environmental history (to help us to keep from repeating past mistakes)
- The two laws of thermodynamics and the law of conservation of matter
- Basic principles of ecology, such as food webs, nutrient cycling, biodiversity, ecological succession, and population dynamics
- Human population dynamics
- Ways to sustain biodiversity
- Sustainable agriculture
- Sustainable forestry
- Soil conservation
- Sustainable water use
- Nonrenewable mineral resources
- Nonrenewable and renewable energy resources
- Climate change and ozone depletion
- Pollution prevention and waste reduction
- Sustainable cities
- Environmentally sustainable economic and political systems
- Environmental worldviews and ethics

We Can Learn from the Earth

- Formal environmental education
 - Ecological, aesthetic, and spiritual values of nature
 - Environmental words of wisdom
 - Stephen Jay Gould
 - Mahatma Gandhi
-

25-3 How Can We Live More Sustainably?

- ***Concept 25-3A*** *We can live more sustainably by using certain guidelines to convert environmental literacy and concerns into action.*
 - ***Concept 25-3B*** *We can live more sustainably by living more simply and lightly on the earth and by becoming informed and active environmental citizens.*
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Some Guidelines for Living More Sustainably: A Vision Based on Hope

- Respect the natural processes
 - Convert environmental literacy and concerns into environmentally responsible actions
-

Solutions: Some Guidelines for Living More Sustainability

SOLUTIONS

Some Guidelines for Living More Sustainably

- Learn about, respect, and mimic how nature sustains itself
- Do not degrade or deplete the earth's natural capital
- Take no more from nature than what nature can replenish
- Do not waste matter and energy resources
- Protect biodiversity
- Avoid climate-changing activities
- Help maintain the earth's capacity for self-repair
- Repair ecological damage that we have caused
- Leave the world in as good a condition as we found or better
- Cultivate a passion for sustaining all life and let this passion energize your actions



SOLUTIONS

Some Guidelines for Living More Sustainably

Learn about, respect, and mimic how nature sustains itself

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We Can Live More Simply and Lightly on the Earth

- **Voluntary simplicity**
 - **Downshiffters**
 - **Principle of enoughness**, Mahatma Gandhi
 - Many religions teach simpler lifestyles
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How Much Is Enough?

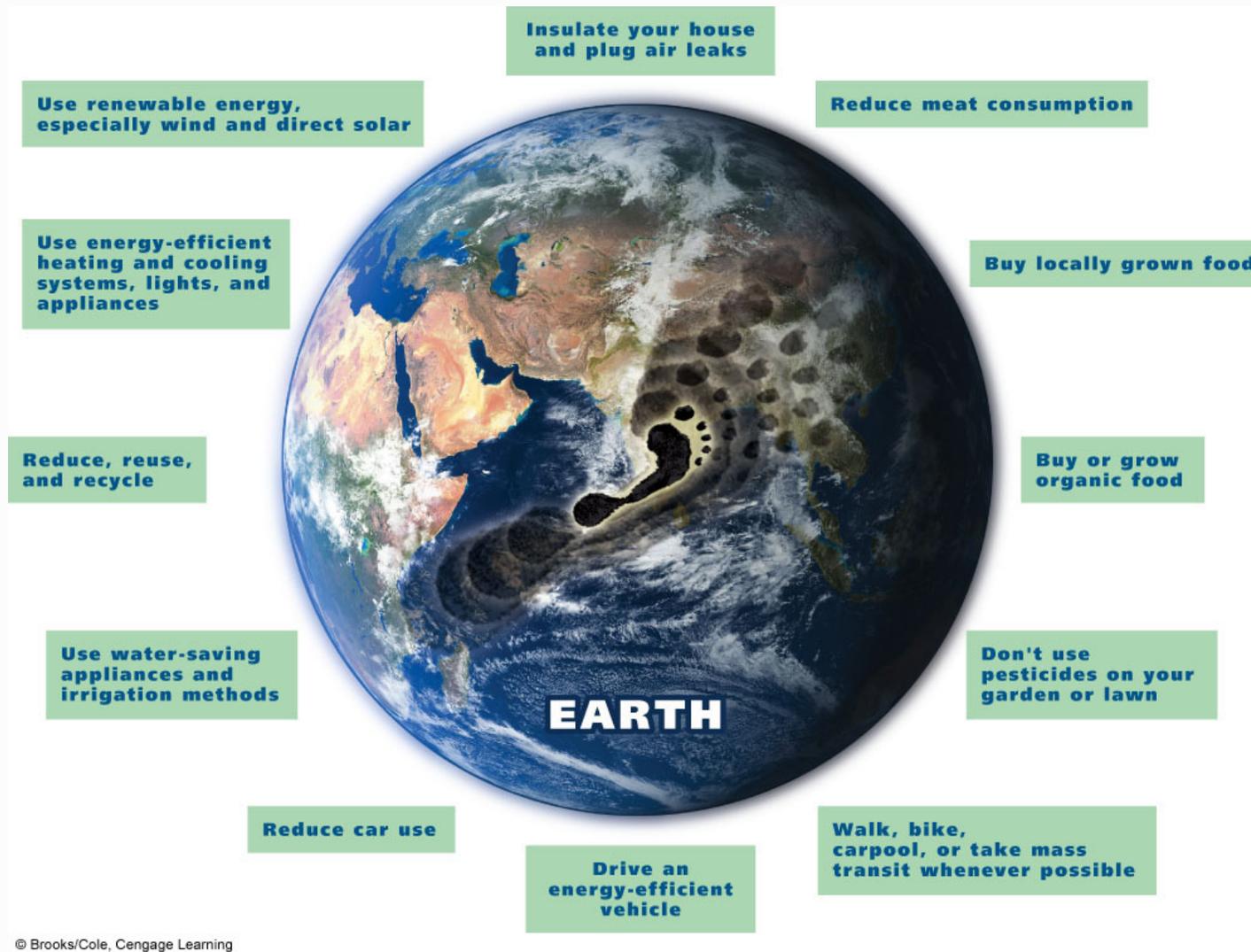
- What are our basic needs?
 - What are our qualitative needs?
-

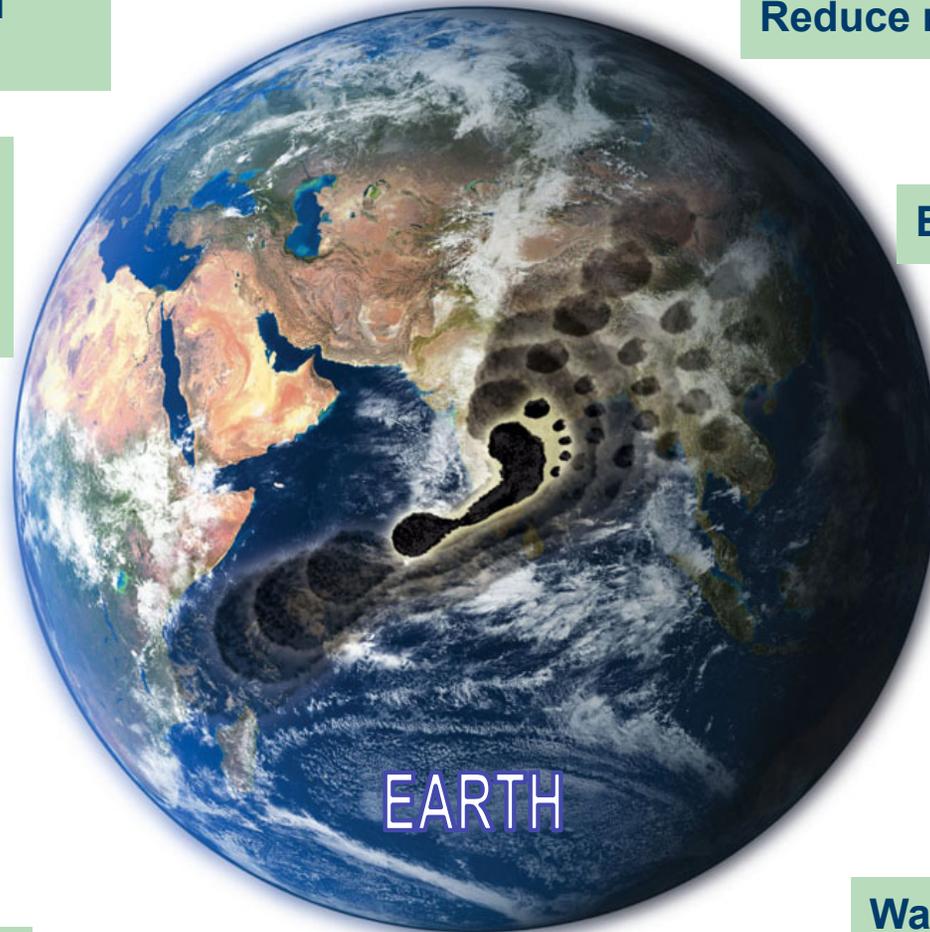
We Can Each Choose Ways to Live More Lightly

- Make an environmental difference
 - Use the sustainability dozen



The Sustainability Dozen





Use renewable energy, especially wind and direct solar

Insulate your house and plug air leaks

Reduce meat consumption

Use energy-efficient heating and cooling systems, lights, and appliances

Buy locally grown food

Reduce, reuse, and recycle

Buy or grow organic food

Use water-saving appliances and irrigation methods

Don't use pesticides on your garden or lawn

Reduce car use

Drive an energy-efficient vehicle

Walk, bike, carpool, or take mass transit whenever possible

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Fig. 25-8, p. 669

We Can Become Better Environmental Citizens (1)

- Be environmentally informed
 - Evaluate and reduce environmentally harmful aspects of our lifestyle
 - Become politically involved
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We Can Become Better Environmental Citizens (2)

- Avoid these mental traps
 - **Gloom-and-doom pessimism**
 - **Blind technological optimism**
 - **Paralysis by analysis**
 - **Faith in simple, easy answers**

 - **Good earthkeeping**
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The Earth Charter Is a Blueprint for Building More Sustainable Societies

- 1992: Earth Summit in Rio de Janeiro, Brazil
 - 2000: The Earth Charter
 - Four guiding principles
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Religion Can Play an Important Role in the Sustainability Revolution

- Environment: great unifier of religions
 - Religion: powerful force for bringing about a sustainability revolution
 - The World Council of Churches
 - For 10 years has had an active group working on climate change
 - 2004: **Creation care movement**
-

Individuals Matter: Sister Diane Cundiff and Her Sister Teachers

- Environmental instructions part of core instruction
 - Students test local water and teach the community how to make the water drinkable
 - Sort trash: recycle and reuse
 - During the summer, students help the poor learn these recycling methods
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We Can Bring About a Sustainability Revolution during Your Lifetime

- **Environmental or sustainability revolution**
 - Biodiversity protection
 - Commitment to eco-efficiency
 - Energy transformation
 - Pollution prevention
 - Emphasis on sufficiency
 - Demographic equilibrium
 - Economic and political transformation
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