

Contents

Preface	iv
Series	vi
Correlation Guide	xiv
Topic Guide	xvi
Internet Reference	xviii
World Map	xxii



UNIT 1 The Nature of Our Consumption: *Ecophagy*

Unit Overview	xxiv
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- 1. The Psychological Roots of Resource Over-Consumption**, Nate Hagens, *Postcarbon.org* (from the book *Fleeing Vesuvius*), posted May 11, 2011, www.postcarbon.org/article/331819-the-psychological-roots-of-resource-over-consumption
Author Nate Hagens believes humans have an innate **need for status and novelty** in their lives. But the way we pursue these needs, Hagens argues, is **not sustainable**. The essay explores some of the **underlying drivers of resource depletion** and **planetary consumption**. 3
- 2. Why Do We Over-Consume?**, Darek Gondor, *Our World 2.0*, posted December 14, 2009, <http://ourworld.unu.edu/en/why-do-we-over-consume/>
In this brief essay blog, Darek Gordon asks, “Why do we **over-consume**?” He suggests our predisposition to needing more stuff goes back to our premodern roots. However, the **abundance of the resources** necessary to meet those needs **continues to diminish** while competition increases. The solution, the author argues, will lie in our **cultural evolution**. 12
- 3. The Gospel of Consumption: And the Better Future We Left behind**, Jeffrey Kaplan, *Orion Magazine*, May/June 2008.
According to author, Jeffrey Kaplin, “If we want to **save the Earth**, we must also save ourselves from our selves.” While our obsession with work (actually, overwork) contributed to productivity and material wealth in the past, we need time to maintain and nurture the **human relationships** necessary for **sustaining a healthy planet**. 15
- 4. Do We Consume Too Much?**, Mark Sagoff, *The Atlantic Online*, June 1977, www.theatlantic.com/past/docs/issues/97jun/consume.htm
Author Mark Sagoff asked in 1997, “Do we consume too much?” Discourse about the future of our planet (in 1997) was dominated by people who believed an expanding world economy will **use up our natural resources** and others who saw no reasons to **limit economic growth**. The author concluded “neither side has it right.” 20
- 5. How Much Should a Person Consume?**, Ramachandra Guha, *GLOBAL DIALOGUE*, vol. 4, No. 1, Winter 2002; www.worlddialogue.org/content.php?id=180 (from AE: Environment 12/13, Article 38).
Guha argues, “There are . . . more than 300 professional **environmental historians** in the United States . . . and not one has seriously studied the **global consequences** of the **consumer society . . . American Way of Life**.” The essay examines the answer to the title’s question and concludes there are vast **inequalities of global consumption**. 30

The concepts in bold are developed in the article. For further expansion, please refer to the Topic Guide.

6. **Consumption, Not Population Is Our Main Environmental Threat**, Fred Pearce, *Yale Environment* 360; www.guardian.co.uk/environment/2009/apr/15/consumption-versus-population-environmental-impact (from AE: Environment 12/13, Article 36).
The author argues that by almost any measure, a **small proportion of the world's population consumes the majority of the world's resources** and is responsible for most of its **pollution**. The essay encourages the reader to consider the possibility that **material consumption behavior**, not population, may be our greatest **environmental threat**. 40
7. **The Issue: Natural Resources, What Are They?**, *World Resource Forum*, 2012, www.worldresourcesforum.org/issue
In this brief survey, the World Resource Forum reviews the **current state of our natural resources**. It first defines what natural resources are and then provides both text and graphic descriptions of **global patterns of resource use, resource extraction, resource efficiency**, and scenarios of **future resource extraction**. 42
8. **Consumption and Consumerism**, Anup Shah, www.globalissues.org/issue/235/consumption-and-consumerism (from AE: Environment 12/13, Article 37).
The **consumption gap** was wider in 1995 than in 2005. But in 2005, the wealthiest 20 percent of the world still accounted for 76.6 percent of total private consumption; the poorest 20 percent, just 1.5 percent. The United Nations argues that in 2005, consumption was a **leading cause of environmental degradation**. Today, the consumption-poverty-inequality environmental nexus is **accelerating**. In 2012, . . . ? 45



UNIT 2

The Human Factor: Environmental Virus or Symbiosis?

- Unit Overview** 48
9. **People and the Planet: Executive Summary**, *Royal Society Policy Center*, April 2012.
The Royal Society Policy Center's 2012 report contends that **global human population** is experiencing rapid and widespread changes and is coupled with "**unprecedented levels of consumption**." The Society argues that this condition presents profound challenges to human and **planetary well-being** and offers recommendations to avoid the most harmful impacts. 50
10. **The Human Factor**, Elizabeth Kolbert, *OnEarth Magazine*, November 24, 2010.
Elizabeth Kolbert interviewed renowned scientist E. O. Wilson for insights on our current situation as **humans on earth**. According to Wilson, we can fix problems such as energy, economy, war, and the political instability of nations. Our real problem—**loss of genetic and species diversity by the destruction of natural habitats**—will be the challenge. 52
11. **Global Aging and the Crisis of the 2020s**, Neil Howe and Richard Jackson, *Current History*, January, 2011.
By the 2020s, **global aging** will have a profound effect on the shape of the **world order**. While authors Howe and Richardson do not directly address how this **demographic change** will impact consumption patterns and resource needs, *readers are encouraged to postulate what may be some future sustainability and environmental consequences*. 56
12. **The New Population Bomb: The Four Megatrends That Will Change the World**, Jack A. Goldstone, *Foreign Affairs*, January/February 2010 (from AE: Environment 12/13, Article 4)
The author believes four **population mega trends** will have significant political and economic consequences across the globe. However, the **impacts will vary between places and peoples**, and will most likely result in variable environmental consequences. Policy makers must reconsider the old **three-world economies paradigm** and look at a new one based on **changing demographics**. 61



UNIT 3

The Geopolitical-Economy of Planetary Consumption

Unit Overview

66

13. **The Competitive Exclusion Principle**, Garrett Hardin, *Science Magazine*, April 29, 1960 (from AE: Sustainability 12/13, Article 17).

The “**exclusion principle**” states that *complete competitors cannot coexist* according to renowned biologist Garrett Hardin. While his article was published in 1960, the principle remains more poignant today than ever in its argument that humans are so detrimental to earth’s **ecosystems** and **life support services** because we behave in a manner that not only competitively excludes other species, but ourselves as well, from benefitting from earth’s life-supporting service.

69

14. **Of the 1%, by the 1%, for the 1%**, Joseph E. Stiglitz, *Vanity Fair*, May 2011.

Noble Prize economist, Joseph Stiglitz, states that the top 1 percent of American’s control 40 percent of American wealth. Stiglitz describes this **inequality of income**, how it distorts markets, and its implications for the American middle class. *The reader is asked to speculate what this income inequality may mean with regard to environmental sustainability priorities.*

76

15. **The New Economy of Nature**, Gretchen C. Daily and Katherine Ellison, *Orion Magazine*, Spring 2002.

A three-year-old child died because an **ecosystem service** failed—fresh water filtration. Authors Daily and Ellison argue the **labor of nature** (e.g. providing fresh water) is often thought of as free, and its services unregulated. A system of appraising and monitoring the **value of natural assets** is needed to ensure against their damage or loss.

79

16. **Environmental Justice for All**, Leyla Kokmen, *Utne Reader*, March/April 2008

Can **environmental degradation** and **poverty** be battled at the same time? Leyla Kokmen says yes, but it’s a delicate balancing act. The author believes today’s **environmental justice proponents** are focusing less on **environmental and social degradation cleanup**, and instead, being **proactive** and realizing that “you have to go upstream . . . to **stop bad things from happening.**”

83



UNIT 4

The Whole Earth Café: Bellying Up to the Trough

Unit Overview

86

Menu Item 1: *Farmer’s Omelet*

17. **Radically Rethinking Agriculture for the 21st Century**, N. V. Fedoroff et al., *Science*, February 12, 2010

Environmental experts are becoming increasingly aware of the **critical challenge** that producing **enough food** for humanity in the twenty-first century and beyond presents. According to international researchers, new **agricultural technologies** are available to help meet that challenge. But new **attitudes** and better alignment of current **regulatory polices** with **scientific knowledge** must be addressed.

90

18. **The Cheeseburger Footprint**, Jamais Cascio, *Open the Future*, 2007, http://openthefuture.com/cheeseburger_CF.html

What is the **carbon footprint** of a cheeseburger? Substantial. Author Jamais Cascio compiles some “carbon facts” regarding one of America’s most beloved consumption pastimes—cheeseburgers in paradise.

93

19. **The New Geopolitics of Food**, Lester R. Brown, *Foreign Policy*, April 25, 2011
The era of abundant **food supplies** may soon become replaced by world **food scarcity** according to environmental leader Lester Brown. A new **food economy** is fast approaching—climbing food prices combined with an inequitable global impact. Such an economy can lead to global **political instability** and increasing **environmental pressures**. 96
20. **How to Feed 8 Billion People**, Lester R. Brown, *The Futurist*, January/February 2010
Noted environmentalist Lester R. Brown believes **global demand for food** and **diminishing returns of the Green Revolution** are leading to an impending **food crisis**. The author argues that to avoid the crisis, we need to better **manage** the factors that affect our **food production systems**: population, climate change, water, soils, and **consumption behaviors**. 100
21. **Rethinking the Meat-Guzzler**, Mark Bittman, *The New York Times*, January 27, 2008
What is cheap, plentiful, widely enjoyed, and part of daily life? No, not oil. It's **meat**. The author says Americans consume close to 200 pounds of meat, poultry, and fish per person per year. The problem is that meat demands so many **resources** and has so many **environmental impacts**. 104
22. **Chart: This Is What You Eat in a Year (Including 42 Pounds of Corn Syrup)**, Derek Thompson, *The Atlantic*, September 2011
As a graphic follow-up to author Mark Bittman's previous Article 26, Derek Thomson provides an easy-to-read chart displaying **what we eat**. 107
- Menu Item 2: Sparkling Water**
23. **The World's Water Challenge**, Erik R. Peterson and Rachel A. Posner, *Current History*, January 2010 (from AE: Environment 12/13, Article 15)
Some experts estimate that over the next twenty years, we may see as much as a **49 percent gap between global water demand and available resources**. Growing demand, **consumption**, and *climate change* will contribute to increasing **competition**. Despite this situation, the authors see little effort aimed at establishing a **value for this resource** which could aid in **managing its sustainability**. 109
24. **Wet Dreams: Water Consumption in America**, Cynthia Barnett (from "Blue Revolution"), *Utne Reader*, March/April 2012
The American illusion of **water abundance** follows a long and peculiar tradition. We have flaunted water as a symbol of power, wealth, and control of nature. Why? Author Cynthia Barnett says because it's cheap and always seems to be there—for now. But there are signs we need to stop **ignoring our water**. 112
25. **Water Footprints of Nations: Water Use by People as a Function of Their Consumption Pattern**, A.Y. Hoekstra, A. K. Chapagain, *Water Resources Management*, 2007
The "**water footprint**" is a tool used to show the extent of water use in relation to **consumption** by people. The "water footprint" of a county is described as the volume of water needed for the production of the goods and services consumed by the inhabitants of the country. The study examines the four major factors determining the water footprint of a county: **consumption volume, consumption pattern, climate, and agricultural practice**. 115
26. **The Big Melt**, Brook Larmer, *National Geographic*, April 2010
Earth's water is often described in **environmental science** in terms of the "**interacting compartments**" where it resides. One compartment is **glaciers** (accessed via melt water) that regions such as Asia depend on for **agriculture and domestic use**. Brook Larmer examines the **glacial shrinkage** in these areas and the potential for **future conflict** in the region. 123

Menu Item 3: *Electrical Banana*

27. **Eating Fossil Fuels**, Dale Allen Pfeifer, *From the Wilderness Publications*, 2004
The article argues that nearly 40 percent of all **land-based photosynthetic capability** has been appropriated by human beings for purposes other than growing food. To make up for this, in the United States, 400 gallons of oil equivalent are expended annually to feed Americans. Given the potentiality of **peak oil** production, the author believes we have three choices. 127
28. **The Myth of Mountaintop Removal Mining**, Beth Wellington, *The Guardian*, August 19, 2011
In the last decade, U.S **coal** has been touted as a viable way to reduce our **energy dependence** on foreign supplies. But extracting it is **environmentally disruptive**. Big Coal says we can either have jobs and energy independence, or we can have a pristine environment. The author says, “How about we choose both?” 133
29. **The Efficiency Dilemma**, David Owen, *The New Yorker*, December 20, 2010
Jevons’ Paradox: Increasing **energy efficiency** = increasing productivity of energy = reducing implicit price = more return for money = increased demand. Author David Owen discusses the growing “**energy efficiency dilemma**.” Our efforts to improve energy efficiency may negate any environmental gains. Can squeezing more consumption from less fuel carry an **environmental cost**? 135
30. **Jevons’ Paradox and the Perils of Efficient Energy Use**, Greg Lindsay, *FastCompany*, March 16, 2010, www.fastcompany.com/1583947/jevons-paradox-and-perils-efficient-energy-use
Greg Lindsay offers some more (brief) insights into the **Jevons Paradox** of energy efficiency with some different emphasis. Note the corollary to Jevons Paradox, **The Piggy Principle**, presented in the article. 140

Menu Item 4: *Mud Pie*

31. **Rich Countries Launch Great Land Grab to Safeguard Food Supply**, Julian Borger, *The Guardian*, November. 21, 2008
Wealthy countries are buying up agricultural land in developing countries to secure their **long-term food supplies**. The U.N. Food and Agricultural Organization is concerned that such land-buying activities could create a form of “**neo-colonialism**,” with poor nations producing food for the rich at the expense of their own **hungry people**. 142
32. **Global Urbanization: Can Ecologists Identify a Sustainable Way Forward?**, Robert I. McDonald, *Frontiers in Ecology and Environment*, vol. 6, no. 2, 2008
Harvard Graduate School of Design professor Robert McDonald discusses the connection between **urban farms** and **ecosystem service** generation and consumption. He also discusses how urban farming controls energy use and argues that urban growth must be addressed if we hope to achieve a **sustainable biosphere**. 144
33. **Development at the Urban Fringe and Beyond: Impacts on Agriculture and Rural Land**, Ralph E. Heimlich and William D. Anderson, *Economic Research Service, United States Department of Agriculture. Agricultural Economic Report no. 803*, 2001
The report examines **urban development** at the edges of cities and in rural areas, often referred to as “**sprawl**,” and presents a summary of findings regarding the **forces driving development** and its impacts on agricultural and rural communities. The report also provides information on the means available to **channel and control growth**. 150

Menu Item 5: *The Gaia Kabob*

34. **The End of a Myth**, Julia Whitty, *OnEarth Magazine*, February 12, 2012
The **ocean** is the largest wilderness on earth. It is a biome composed of **myriad ecosystems** and staggering numbers of species. An ounce of sea water alone is home to as many as 30 billion microorganisms. But author Julia Whitty explains that **what we once thought to be infinite and inexhaustible is not**. 160

- 35. Land-Use Choices: Balancing Human Needs and Ecosystem Function**, Ruth S. DeFries, Jonathan A. Foley, and Gregory P. Asner, *Frontiers in Ecology and Environment*, vol. 2, no. 5, 2004
Our **consumption needs and desires** (food, fiber, timber, space for settlements) require **land-use change**. However, there are often unintended alternations to ecosystem functions with land use changes and so land use decisions require **trade-offs** between satisfying human needs and unintended ecosystem consequences. Quantitative knowledge about **ecosystem responses** to such changes can minimize potential damage. 163
- 36. Economic Report into Biodiversity Crisis Reveals Price of Consuming the Planet**, Juliette Jowit, *The Guardian*, May 21, 2010
This brief report reveals that **species loss** around the world could cost the Earth food shortages, floods, and expensive clean-up costs. The U.N. biodiversity report states that in every corner of the globe, the **evidence of biodiversity change** is impossible to ignore. Global action is necessary to prevent further destruction of nature. 171
- 37. Putting People in the Map: Anthropogenic Biomes of the World**, Erle C. Ellis and Navin Ramankutty, *Frontiers in Ecology and Environment*, vol. 6, no. 8, 2008
Most of the **terrestrial biosphere** has been altered by humans and **impacted global patterns of biodiversity and ecosystem processes**. The authors map “**anthropogenic biomes**” derived from empirical analysis of global population, land use, and land cover. Such mapping can help us better understand the **human/environment relationship**. 173



UNIT 5

The Consumption-Sustainability Conundrum: Is There an Answer?

Unit Overview 180

- 38. Theses on Sustainability: A Primer**, Eric Zencey, *Orion Magazine*, May/June 2010
Eric Zencey presents his “thesis” on **sustainability**. He opens and builds his 18-point discourse on what he believes is a term called *sustainability* that has become so widely used that it may be becoming meaningless. The term has been applied to all manners of activities in order to give these activities the **gloss of moral imperative, the cachet of environmental enlightenment**. 183
- 39. Collaborative Consumption: Shifting the Consumer Mindset**, Rachel Botsman and Roo Rogers, *Mother Earth News*, November 19, 2010
In this excerpt from the book, *What’s Mine is Yours: The Rise of Collaborative Consumption* Rachel Botsman and Roo Rodgers use examples of real entrepreneurial and revolutionaries around the world to show how **social technologies** and **economic/environmental imperatives** are moving us to a new realm of consumerism marked by **sustainability** and **shared access**. 186
- 40. Toward a New Consciousness: Values to Sustain Human and Natural Communities**, Anthony A. Leiserowitz and Lisa O. Fernandez, *Environment Magazine*, September/October 2008
The Yale School of Forestry and Environmental Studies convened an esteemed group of leaders from diverse disciplines to focus on discourse regarding the role of **cultural values** and **worldviews** in **environmentally destructive** behaviors within affluent societies—patterns that are being adopted throughout the world, including the developing world. 189

41. Consuming Passions: Everything That Can Be Done to Bring the Age of Heroic Consumption to Its Close Should Be Done , Jeremy Seabrook, <i>The Guardian</i> , June 10, 2008	
In this article, the author argues that the greatest threat to global stability comes not from the poor, but from the rich. But it is not the excessive materialism associated with wealth that threatens the earth. Rather, it is a distorted kind of mysticism that believes we can consume the earth and still avoid the consequences of our ravenous appetites.	197
42. Reversal of Fortune , Bill McKibben, <i>Mother Jones</i> , March 2007	
Bill McKibben observes that our single-minded focus on unbridled growth credo is bumping humanity up against profound ecological limits like climate change and resource limits like oil. We have succeeded not in finding more happiness , but rather in degrading our natural capital and some of very things that made us happy originally.	199
Test Your Knowledge Form	209