

DEEPER THAN NUMBERS

Consumers, Condoms, Cows

*Lisa Kemmerer, Daniel Kirjner, Jennifer Gross,
and Nathan Baillet*

Humans were not always so abundant. Our population increased only slowly with the discovery of critical technologies—stone tools, wheels, plows, horticulture, and irrigation. Human numbers reached one billion over a couple hundred thousand years. Then, with improved hygiene, antibiotics, and other key discoveries, human populations exploded in the twentieth century, moving from 1.65 billion to 6 billion (“The World,” n.d.). Just 11 years later, another billion human beings were added to the planet.

Halloween eve, 2011, the 7 billionth human touched down. Danica May Camacho was one of many newborns chosen (by the United Nations) from around the world to “symbolically represent” this “global population milestone” (“World’s” 2011). “Milestone” doesn’t quite capture the moment—the terror that ought to have accompanied the arrival of our 7-billionth baby given that human beings are now so abundant that we threaten the health of the planet, even life as we know it on this spinning globe.

On the surface, the connection between human populations and earth/animals seems obvious—despite its conspicuous absence from the platform of pretty much every earth/animal organization. Looking beyond numbers, which merely record human births, several critical connections emerge.

Population and Consumption

[T]here is little reason to doubt that over-consumption of resources is a problem and that it depends both on lifestyle choices and population sizes.

(Sarkar 2012)

The United Nations predicts that the world will be burdened with somewhere between 8 and 11 billion human beings by the year 2050 (Brown 2008). If only a dozen humans lived on the planet, they could consume (even petroleum) to their

hearts' content. Even if all 12 Earthlings chose to be carnivores (eating *only* flesh), the earth could easily sustain human gluttony. But with 7 billion humans on the planet, we can neither consume nor breed at will.

Demographers use a number of methods to make population projections. For example, total fertility rate (TFR) determines the average number of children a woman might be expected to birth in her lifetime. However, focusing exclusively on TFR can lead to the false conclusion that the problem of human fertility is merely a matter of numbers, and that women and less developed countries are the primary problem.

Distinguishing between more developed countries (MDCs—North America, most countries in Western Europe, and a few Asian countries—most notably Japan) and less developed countries (LDCs—most nations in South America, Africa, and Eastern Europe) is too simplistic. Such stark borderlines are problematic when it comes to assessing populations and environmental footprints. For example, the International Monetary Fund's list of the most advanced economies excludes a number of critical nations, such as Russia, China, India, and Brazil. Most listings of developed countries include Malta and Singapore (but not China), even though consumption in these nations is considerably lower than those of "undeveloped" countries such as Brazil and Argentina. Among nations listed as LDCs, there are even more discrepancies: those with higher rates of consumption, growing economies, and increasing political stability (India and Brazil, for example) are often lumped together with nations devastated by ongoing internal conflict (such as Algeria and the Democratic Republic of Congo) (Adejumobi 2001). In each case, these attempts at categorizing countries clearly miss something vital.

Additionally, nations change, while labels tend to be static. For example, one of the environmentally problematic tendencies of nations labeled as LDC is to adopt the bad habits of powerful, comparatively wealthy countries. Traditional diets in China typically contained very small amounts of flesh and no dairy products, but in recent years "consumption of meat—pork, beef, poultry, and mutton—has climbed several fold [since 1978], pushing China's total meat consumption far above that of the United States" (Brown 2008). Dairy products, traditionally identified as the nursing milk of *another* species (therefore not appropriate for human consumption), are increasingly popular in China ('India' 2011). It is ominously clear that the consumption patterns of the greediest and most materialistic nations are spreading: In nations labeled "developing," "meat production increased more than 450 percent between 1980 and 2010" (Reynolds and Nierenberg 2012). At what point do these nations join MDCs? Are they more likely to be considered "developed" with increased consumption—including the consumption of animal products—despite this being contrary to every indication of what is necessary for sustainability?

Before categorizing any groups with regard to environmental impact, lifestyle patterns must be taken into account. Most citizens of MDCs drive cars, take hot showers daily, and live in heated and/or air-conditioned homes, while a large

percentage of people in LDCs do without these luxuries (International 2013). MDCs, which hold just 16 percent of humanity, consume 80 percent of the world's resources ('World's Wealthiest' 1999). In the United States, each individual (including children) consumes about 22,680 kilograms (25 tons) of raw material each year ('World's Wealthiest' 1999). If every nation burned through resources this fast, it would require four earths to support the current human population (Semon 2012). It is difficult to mitigate these consumer affects with *any* cycling or recycling plan.

Dietary habits are also critical to environmental footprint, but again, lumping nations together can be problematic. Humans in MDCs consume approximately 80 kilograms (180 pounds) of flesh per person per year, while people in LDCs consume roughly 30 kilograms (70 pounds) of flesh in the same time period ('Meat' 2011). Some of these MDCs consume excessive amounts of animal products, like the United States (120 kg/264 lbs), Australia (111 kg/244.2 lbs) and New Zealand (106 kg/233.2 lbs), and these extreme cases distort meat consumption statistics for MDCs. Meanwhile, some nations pushed into the LDC category, including Argentina (98 kg) and Kuwait (119 kg), have a higher per capita meat intake than most countries labeled as "developed" ('Agricultural' 2013).

The environmental problems of consumption are aggravated by waste. More than 40 percent of the foods that are produced in the United States are wasted (Bloom 2007). This comes to about 0.5 kg (1 lb) of food per person per day, creating 136 million kg (300 million lbs) of garbage *every 24 hours*—50 billion kg (55 million tons) every year (Martin 2008). People in the U.S. devour some 815 billion calories every day—about 200 billion more than the U.S. population requires—much of which is wasted ('Consumption' n.d.). But waste is not restricted to MDCs. Latin Americans throw away enough food every year to feed 300 million people—one hundred million more than can be fed with the food waste of Europe ('Agricultural' 2013).

Consumption patterns, though more complicated than counting heads, are just as important for assessing a nation's environmental impact. For example, TFRs in the U.S. are one quarter those of Niger, but the environmental impact of a U.S. citizen is, overall, *much* greater than the environmental impact of a citizen in Niger *because of U.S. consumption habits*. To demonstrate this point, consider freshwater depletion and deforestation.

Interconnections: Freshwater Depletion

Freshwater reserves around the world are drying up. Critical waterways such as the Colorado, Nile, and Yellow River now run dry before they reach the sea (Brown 2008). Large water bodies like Lake Chad and the Aral Sea are vanishing along with underwater aquifers. The Ogallala Aquifer, which spans 800 miles (1,287 km) from north to south and 400 miles (644 km) from east to west, supplies 30 percent of U.S. groundwater irrigation to 27 percent of the nation's irrigated land,

and provides drinking water to 82 percent of the residents in eight states, is more than half gone and looks likely to run dry in the next 25 years ('High' n.d.). In 1995, Ismail Serageldin (then vice president of the World Bank) commented: "If the wars of this century were fought over oil, the wars of the next century will be over water."

Excessive human populations certainly threaten freshwater reserves, but so do consumption patterns. Because of the amount of freshwater required for animal agriculture, American omnivores consume 15,900 liters (4,200 gallons) of freshwater every day, while American vegans consume just 1,136 liters (300 gallons) (Schwartz 2001). Grains are often consumed directly in countries like India and Sri Lanka, but in nations where people have diets rich in animal products, like Argentina, Australia, and the United States, grains are cycled through pigs, chickens, and bovines, which requires many more tons of grain: While each person in the U.S. consumes roughly 800 kilograms (1,763 pounds) of grain every year, only 100 kilograms (220 lbs) are eaten directly (i.e. in breads, pasta, rice, etc.) (Brown 2008). Cycling grains through animals requires more grain and water to provide the same number of calories. In fact, consumption of animal products is the biggest threat to freshwater reserves: 500–5,200 gallons (1,893 to 19,700 liters) of water are necessary to produce one pound of beef, but only one-hundredth as much water is necessary to produce one pound of wheat (Kaufman and Braun 2004). In the U.S., irrigation is responsible for 70 percent of freshwater expenditure, primarily to grow grains (wheat, corn, and soy—70 percent of which are used to feed farmed animals). Roughly 80 percent of the world's freshwater is expended for agriculture; animal agriculture is responsible for 90 percent of freshwater depletion worldwide ('Livestock's' 2006).

Dietary choice is the *single largest factor* with regard to human water consumption. Consumption is therefore the primary indicator of how much water an individual will consume in his or her lifetime. While a couple in Mali might be likely to have six children compared with one or two per couple in England, the water consumption of two omnivorous Brits is almost certain to exceed that of six grain-eating Africans. In other words, the greedy consumption patterns of flesh-eating nations carry more environmental weight than high fertility rates in nations that maintain a plant based diet.

Interconnections: Deforestation

One fifth of the world's rainforests were destroyed between 1960 and 1990. Between 1985 and 1990, 210 million acres of forest were turned to pasture, "an area nearly the size of Texas and Oklahoma" (Kaufman and Braun 2004). A section of rainforest roughly equivalent to 20 football fields (22 soccer/football fields) is destroyed pretty much every minute of every day, and in "the Amazon, cattle ranching is now the primary reason for deforestation" ('Livestock's' 2006). Only 13 percent of Costa Rica's original rainforest remains, and what remains is now in

a "highly fragmented and degraded state" (Reynolds and Nierenberg 2012). In just 50 years, 50 percent of Costa Rica's forests disappeared—60 percent were cleared for bovines—for beef ('Cattle Ranching's Impact' 2012).

South America is still at the top of the list for loss of forests, and Brazil continues to lead the way (by a considerable margin) in rainforest destruction. Agriculture is responsible for roughly 98 percent of Brazil's deforestation (Butler 2012): Ranchers are responsible for 65–70 percent of Brazil's lost forests (Butler 2012). There were about 10 million bovines in Brazil in 1980, and there are now upwards of 55 million ('Deforestation' n.d.). The U.S. imports some 80 million pounds of Brazilian beef every year; 85 percent of EU beef originates in Brazil.

All this ecological devastation for a mere spot of flesh—55 feet (17 meters) of tropical forests yield just a quarter pound (120 grams) of hamburger. If we continue as we are, primary forests will be altogether gone by 2050 (Hawthorne 2012; Pimm and Raven 2000). Those who consume turkeys, pigs, chickens, eggs, and dairy products are also blameworthy: The primary reason for loss of forests is conversion of lands to agriculture—*both for grazing and for feedcrops*. In Latin America, land is converted from forests to agriculture largely for feed crops, "notably soybeans and maize" ('Livestock's' 2006). Brazil's soy crop grew more than 3,000 percent in the last 40 years, becoming the world's second largest soybean producer worldwide—80 percent of Brazil's soybean crop is fed to farmed animals (Reynolds and Nierenberg 2012). In the U.S. 98 percent of soy is turned into meal to feed poultry, bovines, hogs ... and farmed catfish; more than 50 percent of U.S. soy is fed to poultry. *Worldwide, 80 percent of soybean crops are planted, tended, and harvested for farmed animals, implicating those who eat cheese and chicken—not those who eat tofu and tempeh* (Reynolds and Nierenberg 2012).

Again, consumption patterns prove critical to our environmental footprint. Nations comprised of individuals who habitually cycle grains through chickens and pigs and dairy cattle, are responsible for the destruction of South American forests, leveled for grazing cattle and feeding farmed animals. Those convinced that condoms are the key need to consider cattle versus kale.

Deeper than Numbers

A fuller picture of environmental impact must take into consideration capitalism, materialism, and consumerism, as well as attitudes, values, and beliefs that undergird and foster excessive human fertility (more than two children birthed/fathered by any one individual), including sexism.

Sex Discrimination

A woman's expected TFR—the number of children she is likely to birth—often correlates with her social and economic status. With access to education and gainful employment, birth tends to decline. The expected TFR for uneducated women in Botswana is nearly six; the expected TFR for those with four

to six years of schooling is just three. In Senegal, the expected TFR for women with no education is seven, compared with 3.6 for women with just ten years of education (Knox and Marston 2007). In the United States, both boys and girls are expected to stay in school until they are 16 years old. Additionally, affirmative action in the U.S. reserves a portion of coveted jobs for females. Women in the U.S. have an expected TFR of just two—replacement level (Beauchamp 1998).¹ Less educated women in the U.S. suffer higher incidences of unintended pregnancies—17 percent among females with at least an undergraduate degree, compared with 41 percent among women with less education ('Intended' 2012). Education and opportunity are both critical for curbing and controlling human fertility.

Overall, one's sex is important in determining how much an individual's life will be affected by environmental degradation; the natural environment is "inextricably connected to rural and household economies," which tend to be governed by women (Warren 2000). Development and destruction of the natural environment therefore creates "particular burdens for women," especially in underdeveloped countries (Des Jardins 2001). For instance, women constitute 80 percent of Africa's farmers, and are therefore directly affected by deforestation, soil erosion, and water shortages (Riley 2003). Women are primarily responsible for gathering fuel and water, and Women in Africa, Asia, and South America now "spend up to forty-three hours per week collecting and carrying water," traveling many miles to find aspects of the natural world that used to be readily available (Warren 2000). In this way, consumption (especially of animal products) in wealthier, avaricious, capitalistic countries blocks opportunities for women and girls, preventing empowerment and the possibility of independence for many individuals. How can women and girls study, work outside the home, or have hope for a brighter future if they spend much of each day toting large bundles of wood long distances to prepare food because we choose to eat animal products? It is unreasonable for someone chowing down cheese to complain about those who have "too many children."

Larger Families

Patriarchal attitudes, values, beliefs, and laws tend to encourage and lead to larger families in most nations. For example, property-owning men prefer to pass accumulated wealth to sons, and to do this they must have male offspring (Lerner, n.d.). Traveling in Kenya, a few questions can quickly establish the common belief that a man demonstrates his virility by siring many children (Chalcraft 2015). In Zambia, boys learn that masculinity requires dominance over women, including sexual domination, and "demonstrations of sexual potency" require vaginal penetration; Zambian men are therefore more likely to forego condoms in order "to prove their virility" (Simpson 2005). As a result, schoolchildren father children. Men and boys seek "multiple partners" yet refrain "from using condoms," fearful that condoms will "impair their

sexual performance," especially if they have been drinking (Simpson 2005). In the U.S., norms also continue to encourage childbirth and large families, though not generally as a matter of proving a man's virility. Veneration of motherhood is perhaps more at fault—as if bearing (and raising) children were somehow exceptional ('Why' n.d.). This, too, is a function of patriarchy, whereby women are identified with their biological functions, and praised for creating babies rather than bridges or space craft, leaving the latter work to be dominated by men (Spelman 1982). Additionally decades of popular U.S. television shows, including *Eight is Enough*, *Sister Wives*, *19 Kids and Counting*, *The Brady Bunch*, and *Jon and Kate Plus 8*, glorify irresponsibly large families. In the U.S., the infamous "Octomom" used fertility treatments to more than double her brood—despite already having six kids and no practical means of support ... and consequently attained celebrity status (Suze n.d.).

Additionally, tax breaks are offered for *every* child born in the United States: U.S. tax burdens amount to a whopping \$1000 per child per year without even accessing a host of additional child deductions ('Ten' 2011). Some would argue that, on a planet overburdened by humanity, it is unconscionable and irrational for the U.S. government to offer tax reductions for *every child born*. It makes more sense to provide aid and service to *anyone in need*—whether or not they have a dependent child at home. There are thousands of parents who have no need of a tax break to raise and tend progeny. Meanwhile, there are many child-free individuals who are in great need of government aid, which they may or may not be able to access.

How might nations offer incentives for citizens to *not* bring more humans onto the planet? Why not provide free vasectomies on request? Why is it difficult for young women in the U.S. (and many other nations) to find doctors willing to perform tubal ligations on request? Why don't we have a law protecting a woman's right to decide not to be able to be impregnated—without having to ask multiple doctors and, if married, the permission of her husband? Married or unmarried, a woman ought to be able to decide for herself whether or not to alter her body so as to prevent pregnancy. Why don't wealthier nations supply birth control on request without limits both at home and abroad? This would seem our best return on small investments to help stabilize failing states and help nations that are struggling with water, land, and food shortages. Why are individuals and organizations so quick to criticize nations taking a proactive stance to help stabilize population growth while failing to offer viable alternative solutions? Fertility rights and freedoms must not be juxtaposed against critical environmental concerns that threaten all of us.

Archaic religious attitudes, values, and beliefs—sealed into sacred texts—also tend to encourage large families, assuring the continuation of religious institutions while demonizing family planning, including access to birth control. In the Americas, Mormons, Catholics, and several strains of Protestantism (such as the Straight Arrows) are known for excessively large families. These same households are more likely to have stay-at-home mothers who are busy raising kids, and who therefore are less likely to find gainful employment—let alone positions of power and influence.

This, in turn, discourages communities from prioritizing education for girls, especially higher education during a young woman's reproductive years.

While the world's many patriarchal nations encourage fathering children, child-birth, motherhood, and larger families, the environmental impact of larger families varies according to consumption patterns. Population growth in Kenya is not environmentally problematic in the same way as population growth in North America or Europe. For example, Kenyan water use in 2006 was 72.44 m³ (2,558.2 ft³) per inhabitant per year ('Agricultural' 2013). In the same period, U.S. water use was 1,550 m³ (54,738 ft³) per inhabitant per year—more than 21 times greater. A Kenyan mother could bear more than 20 children before her brood matched the water expenditure of just one child in the United States. Similarly, a Kenyan mother would have to bear more than 14 children to match the likely energy consumption of just one U.S. child (World Bank 2014).

Excessive fertility on a limited planet in a sexist world is problematic. Nonetheless, for those living in Europe, North America, Australia, and New Zealand—for those likely to be reading this book—the environmental problem of greatest concern is consumption—an issue that people reading this essay are likely empowered to change. Rather than point the finger at women in Latin America or Africa, *you* decide whether or not to have bacon and eggs for breakfast. With regard to environmental problems, as with most problems, changing our own behavior is much more effective than blaming others. Family planning is important, but meal planning is even more important for those in “developed” nations—minimizing our environmental footprint requires that we quit consuming animal products.

Refocusing Activist Platforms

Depriving girls and women of education and opportunity increases the likelihood that they will birth a greater number of children. Bringing offspring into the world always increases our environmental footprint—much more so in “developed” nations that have higher rates of consumption (and waste)—especially higher rates of consumption for animal products. Environmental organizations should encourage people to grab a condom and leave cows alone, but a sampling from ten different environmental organizations² reveals that these groups fail to advocate for women's equality, do not foster a child-free lifestyle, and make no mention of the importance of adopting a plant based diet. Environmental organizations are surprisingly soft—most often just plain silent—when it comes to deep societal change. Yet their unwillingness to take a stand on these matters undermines their effort to protect the planet. It is only sensible that environmental organizations take a strong stand against sex discrimination and the consumption of animal products, while noting the benefits of a child-free lifestyle.

Lower fertility also benefits nonhuman animals: As humans expand they snatch habitat, deplete water, destroy forests, and so on—fewer humans are clearly a benefit to other living beings. Nonetheless, a sampling of websites from ten different animal

organizations³ indicates that these groups, while focusing a great deal of energy on dietary choice and change, fail to connect animal concerns with sex discrimination and reproduction. This lack of engagement is particularly surprising given the tendency among animal organizations to employ numbers to encourage change: People for the Ethical Treatment of Animals calculates that the average person consumes roughly 200 farmed animals each year, including 130 shellfish, 40 fish, 26 chickens, 1 turkey, nearly half a pig, and a little more than a tenth of a cow ('Vegans Save' 2010); the Farm Animal Rights Movement notes that some 10 billion animals are slaughtered each year in the U.S. ('10 Billion' 2012). In spite of this mathematical focus, these organizations fail to suggest that there is any connection between numbers of animals consumed and numbers of human mouths consuming—let alone that there is any need for sex equality or to offer women options beyond motherhood. The vast majority of animal organizations are surprisingly soft (most often just plain silent) when it comes to sex equality and human fertility. The unwillingness of animal advocacy organizations to take a stand on these critical issues undermines their efforts to protect both farmed and free ranging/wild animals.

Fighting for the earth and nonhuman animals requires that we also fight for universal sex equality, especially for education for girls and women and for employment opportunities for women. At a minimum, every environmentalist and animal activist ought to maintain memberships with Population Connection (or a similar group working on behalf of women and the earth) and an organization dedicated exclusively to educating girls and women. (Visit *Educating Girls Matters*—<http://www.educatinggirlsmatters.org/howtohelp.html>—to select your favorite organization.)

Conclusion

It is generally easier to focus on surface matters than it is to ferret out and target underlying, core causes, but *addressing root causes is essential if we are to bring lasting change*. Every newborn is necessarily a consumer, and is likely to subsequently produce his or her own offspring, continuing the cycle of human reproduction and consumption that has caused severe environmental degradation, depletion of species and the reduction of biodiversity, and the exploitation of billions of nonhuman animals. In nations such as England, the United States, Australia, Luxemburg, Kuwait, and Argentina, the environmental footprint of any one individual is as much about consumption as it is about childbirth—most importantly, the consumption of animal products. Animal activists and environmentalists alike should advocate for a vegan diet and sex equality, while extolling the benefits of a child-free lifestyle.

Discussion Questions

- 1 Explain the subtitle, “Consumers, Condoms, Cows.”
- 2 Why is the essay called “Deeper than Numbers?”

- 3 Is it racist for environmentalists in Luxembourg, Germany, or the United States to complain about fertility rates in poorer countries? Why or why not? Under what conditions and in what ways would it be acceptable for such activists to focus on population control in poorer nations?
- 4 While it is ill advised to expect other nations to be interested in our particular ideas for positive change, it is admirable to help other nations bring about positive changes. How can we best help other nations provide education and opportunities for girls?

Essay Questions

- 1 Visit *Educating Girls Matters* (<http://www.educatinggirlsmatters.org/how-tohelp.html>). Select your favorite organization and explain why you would support this organization over all the others that are mentioned on the site.
- 2 If you were in charge of an environmental or animal advocacy organization, how would you incorporate the connected concerns of fertility, girls' education and job opportunities, and consumption patterns into your platform?
- 3 Search on the internet for organizations that support women, such as those providing seed-funds to develop small businesses or those that provide skills training. Choose several and, with regard to what they are doing, explain what seems most effective and least effective, and why.
- 4 If you were in charge of teaching the class you are in, what interactive exercises would you add to help teach students about the importance of reducing fertility and consumption, while fostering girls' education and opportunities both at home and overseas? (The editor would like to hear about any interesting responses to this or any other question in the text. Instructor's quality-control is appreciated.)

Suggested Further Reading

- Cafaro, Philip, 2012, *Life on the Brink: Environmentalists Confront Overpopulation*, University of Georgia Press, Athens, GA.
- Diamond, Jared, 2005, *Collapse: How Societies Choose to Fail or Succeed*, Penguin Group, New York, NY.
- Dorling, Danny, 2013, *Population 10 Billion: The Coming Demographic Crisis and How to Avoid It*, Constable and Robinson Ltd, London.
- Hartmann, Betsy, 1999, *Reproductive Rights and Wrongs: The Global Politics of Population Control*. South End Press, Cambridge, MA.
- Kirby, David, 2010, *Animal Factory: The Looming Threat of Industrial Pig, Dairy, and Poultry Farms to Humans and the Environment*. St. Martin's Press, New York.
- Mikell, Gwendolyn, 1997, *African Feminism: The Politics of Survival in Sub-Saharan Africa*. University of Pennsylvania Press.
- Population Education, 2014, Supplemental Materials, viewed 14 June 2014, <http://www.populationeducation.org/content/supplemental-materials>.

Notes

- 1 This is not to suggest that women in the U.S. have gained equal social or economic status. Sexism remains less blatant in the U.S. than in some other countries, but remains a serious problem. In the U.S., for example:
 - Women's earnings are roughly 77 percent of men's ('Wage' 2012);
 - In the 113th Congress, a record 81 women served in the House of Representatives, while 20 women served in the Senate (just 19 percent of seats in Congress);
 - Only 12 of the Fortune 500 are run by women ('Women' n.d.).
- 2 We visited the websites of Nature Conservancy, Earth First, Environmental Defense Fund, Greenpeace, Wilderness Society, EarthJustice, Intergovernmental Panel on Climate Change, United Nations Environment Programme, Earth System Governance Project, and Global Environment Facility.
- 3 We visited the websites of PETA, Farm Sanctuary, Mercy for Animals, Compassion Over Killing, United Poultry Concerns, Farm Animal Welfare, Humane Society, Animal Defense League, International Primate Protection League, and Last Chance For Animals.

References

- Adejumobi, S., 2001, 'Citizenship, Rights and the Problem of Conflicts and Civil Wars in Africa,' *Human Rights Quarterly*, vol. 21, no. 1.
- 'Agricultural Outlook 2013–2022,' 2013, OECD – FAO, Available from: <http://www.oecd.org/site/oecd-faoagriculturaloutlook/highlights-2013-EN.pdf>. [1 May 2014].
- Beauchamp, T. L. 1998, 'In Defense of Affirmative Action,' *The Journal of Ethics*, pp. 143–158.
- Bloom, J., 2007, 'Food Waste: The Food Not Eaten: Out of Sight, Out of Mind,' *Culinate*, 19 November. Available from: http://www.culinate.com/articles/features/wasted_food. [27 January 2013].
- Brown, L., 2008, *Plan B: 4.0*, Earth Island Institute, New York.
- Butler, R. A., 2012, 'Causes of Deforestation in the Brazilian Amazon,' *Mongabay.com*, 20 May. Available from: <http://www.mongabay.com/brazil.html>. [13 April 2013].
- 'Cattle Ranching's Impact on the Rainforest,' 2012, *Mongabay*, 22 July. Available from: <http://rainforests.mongabay.com/0812.htm>. [11 October 2014].
- Chalcraft, V. J., 2015, 'Essential Elements for Elephants: Problems and Solutions,' in *Animals and the Environment: Advocacy, Activism, and the Quest for Common Ground*, ed. L. Kemmerer, Routledge, New York.
- 'Consumption by the United States,' n.d. Available from: <http://www.mindfully.org/Sustainability/Americans-Consume-24percent.htm>. [26 January 2013].
- 'Deforestation: The Leading Cause of CO2 Emissions,' n.d., *Global Warming Science*. Available from: <http://www.appinsys.com/globalwarming/deforestation.htm>. [13 April 2013].
- Des Jardins, J., 2001, *Environmental Ethics: An Introduction to Environmental Philosophy*, 3rd edn. Wadsworth, Belmont, California.
- Hawthorne, M., 2012, 'Planet in Peril,' *VegNews*, March–April, pp. 34–41.
- 'High Plains Regional Ground Water Study,' USGS, n.d., Available from: http://co.water.usgs.gov/nawqa/hpgw/HPGW_home.html. [29 March 2013].
- 'India, China to Boost Global Milk Production: Tetra Pak,' 2011, *The Economic Times*, 11 July. Available from: http://articles.economicstimes.indiatimes.com/2011-07-11/news/29761312_1_flavoured-milk-liquid-dairy-products-tetra-pak. [12 December 2011].
- 'Intended and Unintended Births in the U.S.: 1982–2010,' 2012, *The Reporter*, vol. 44, no. 3, October 2012, pp. 45.

- 'International Energy Outlook,' 2013, *Energy Information Administration*, U.S. Government, Washington D.C.
- Kaufman, S. R., and Braun, N., 2004, *Good News for All Creation: Vegetarianism as Christian Stewardship*, Vegetarian Advocates Press, Cleveland.
- Knox, P. L. and Marston, S. A., 2007, *Human Geography: Places and Regions in a Global Context*, Pearson Prentice Hall, New Jersey.
- Lerner, G., n.d., 'The Creation of Patriarchy: Summarized from *The Creation of Patriarchy*,' Available from: http://faculty.stedwards.edu/bobs/documents/patriarchy_creation.pdf. [4 January 2014].
- 'Livestock's Long Shadow: Environmental Issues and Options,' 2006, Food and Agriculture Organization of the United Nations, Rome. Available from: <http://www.fao.org/docrep/010/a0701e/a0701e00.HTM>. [15 June 2014].
- Martin, A., 2008, 'One Country's Table Scraps, Another Country's Meal,' *The New York Times*, 18 May. Available from: http://www.nytimes.com/2008/05/18/weekinreview/18martin.html?_r=0. [23 February 2013].
- 'Meat Production Continues to Rise,' 2011, *WorldWatch Institute: Vision for a Sustainable World*. Available from: <http://www.worldwatch.org/node/5443>. [23 November 2011].
- Pimm, S. L. and Raven, P., 2000, 'Extinction by Numbers,' *Nature*, 403, pp. 843–845.
- Reynolds, L. and Nierenberg, D., 2012, *Worldwatch Report 188: Innovations in Sustainable Agriculture: Supporting Climate-Friendly Food Production*, Worldwatch Institute, Washington, DC.
- Riley, S. S., 2003, 'Ecology Is a Sistah's Issue Too: The Politics of Emergent Afrocentric Ecowomanism,' in *Worldviews, Religion, and the Environment: A Global Anthology*, ed. Foltz R. C., Thompson, Belmont California, pp. 472–481.
- Sarkar, S., 2012, *Environmental Philosophy: From Theory to Practice*, Wiley Blackwell, West Sussex.
- Schwartz, R. H., 2001, *Judaism and Vegetarianism*, Lantern, New York.
- Semon, J. J., 2012, 'If Everyone Lived Liked Americans, How Many Earths Would We Need?,' *SiOWfa12: Science in Our World: Certainty and Controversy* October 24. Available from: <http://www.personal.psu.edu/afr3/blogs/siowfa12/2012/10/if-everyone-lived-liked-americans-how-many-earths-would-we-need.html>. [22 February 2013].
- Simpson, A., 2005, 'Sons and Fathers/Boys to Men in the Time of AIDS: Learning Masculinity in Zambia,' *Journal of Southern African Studies*, vol. 31, no. 3, pp. 569–586. Available from: <http://africomnet.org/events/practicum/2007/resources/resource1%20%2810%29.pdf>. [26 April 2014].
- Spelman, E. V., 1982, 'Woman as Body: Ancient and contemporary views,' *Feminist Studies*, vol. 8, no.1, p.109-131.
- 'Suze Orman's Intervention with "Octomom" Nadya Suleman,' n.d., *Ophna.com*. Available from: http://www.oprah.com/oprahshow/Suze-Ormans-Intervention-with-the-Octomom_1/4. [18 February 2013].
- '10 Billion Lives: North American Tour,' 2012, *FARM*, May. Available from: <http://www.10billiontour.org/>. [3 February 2013].
- 'Ten Facts About the Child Tax Credit,' 2011, *IRS* 10 February. Available from: <http://www.irs.gov/uac/Ten-Facts-about-the-Child-Tax-Credit>. [27 January 2013].
- 'Vegans Save 198 Animals a Year,' 2010, *PETA*, 13 December. Available from: <http://www.peta.org/blog/vegans-save-185-animals-year/>. [11 Oct 2014].
- 'Vegetarian 101,' n.d., *People for the Ethical Treatment of Animals*. Available from: <http://www.peta.org/living/vegetarian-living/vegetarian-101.aspx>. [12 December 2011].
- 'Wage Gap Remains Statistically Unchanged,' 2012, *National Committee on Wage Equity*. Available from: <http://www.pay-equity.org>. [13 February 2012].

- Warren, K., 2000, *Ecofeminist Philosophy: A Western Perspective on What It Is and Why It Matters*, Rowman and Littlefield Publishers, Inc., Lanham, Maryland.
- 'Why are Mothers Glorified?' n.d., *The Childfree Life: A Safe-haven in a Baby-Crazed World*. Available from: <http://www.thechildfreelife.com/forum/viewtopic.php?f=4&t=10050>. [14 June 2014].
- 'Women CEOs' *CNN Money*, n.d. Available from: <http://money.cnn.com/magazines/fortune/fortune500/2011/womenceos/>. [15 February 2012].
- World Bank, 2014, *Energy Use (kg or equivalent per capita)*. Available from: <http://data.worldbank.org/indicator/EG.USE.PCAP.KG.OE>. [1 May 2014].
- 'The World at Six Billion,' n.d., *United Nations*. Available from: <http://www.un.org/esa/population/publications/sixbillion/sixbilpart1.pdf>. [15 June 2014].
- 'World's Seven Billionth Baby is Born,' 2011, *The Guardian*, October 30. Available from: <http://www.theguardian.com/world/2011/oct/31/seven-billionth-baby-born-philippines>. [15 June 2014].
- 'World's Wealthiest 16 Percent Uses 80 Percent of Resources,' 1999, *CNN*, 12 October. Available from: <http://www.cnn.com/US/9910/12/population.cosumption/>. [11 October 2014].