

# As the World Welcomes its Seventh Billionth Human: Reflections and Population, Law, and the Environment

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# AS THE WORLD WELCOMES ITS SEVEN BILLIONTH HUMAN: REFLECTIONS AND POPULATION, LAW, AND THE ENVIRONMENT

By Robert Hardaway\*

## HOLDREN'S EQUATION

In the 1970s John Holdren, Barry Commoner, and Paul Ehrlich developed an equation for measuring the human ecological footprint:  $I=PAT$ , where environmental impact (I) is equal to the product of population (P), affluence in the form of per capita consumption (A), and technology, or impact per unit of consumption (T).<sup>1</sup> The case can be made that the significance of this equation in the realm of environmental policy, directly linking population to the impact on the environment, can be compared to the significance in the realm of physics to Albert Einstein's  $E=MC^2$ .

While the link between the numbers of people on earth making demands on the earth's resources to the environmental health of the planet may seem obvious, it is not currently reflected in environmental policy, nor is it widely recognized or acknowledged by entities in the private environmental movement. Even less recognized, and even flatly denied, is any linkage of population—and thus of the environment—to laws relating to abortion, women's rights, contraception, immigration, family planning, or policies of economic growth. Very occasionally, an influential and authoritative entity in our society, such as the Supreme Court, lets slip an acknowledgement of such links, as in the case of *Roe v. Wade* in which the majority opinion stated that “population growth . . . [and] pollution . . . tend to complicate the [abortion] problem.”<sup>2</sup> But by and large, politicians and mainstream environmental organizations tend to avoid any reference to politically charged areas. In consequence, environmental policy has narrowly focused on a narrow, and ultimately self-defeating focus on reducing human consumption (A) and limiting the emissions of individual units or of production (T). It is not surprising that calls for limiting human consumption is a hard sell in developing nations where millions live on the edge of poverty and starvation. In the United States, it has been noted that the United States has already tried limiting human consumption (albeit involuntarily during the Great Depression), and most people did not think much of it or even tolerate it. Likewise, limiting the emissions of individual automobiles has little overall impact on the global environment where the number of cars expands exponentially.

## POPULATION IN HISTORICAL PERSPECTIVE

It has been estimated that our fragile planet makes room to accommodate one net additional human being every one third of a second, a speed which approximates that at which a machine

gun fires its bullets.<sup>3</sup> To provide each of these new humans with a minimum living standard requires the annual release of 3.2 tons of carbon into the atmosphere,<sup>4</sup> the consumption of 2,000 square meters of fresh water<sup>5</sup>, and 207 gigajoules of energy.<sup>6</sup> Each will require a share of forest resources, contributing to the destruction of 1.5 acres of rainforest per second.<sup>7</sup> Her waste products will include her share of 355,000 metric tons of phosphorus dumped annually into the world's oceans,<sup>8</sup> 270,000 metric tons of methane,<sup>9</sup> 30,000 tons of sulfur,<sup>10</sup> and 80,000 tons of carbon monoxide<sup>11</sup> released into the atmosphere. To provide living space for each new addition to the human population, one entire living species is sacrificed every day, including the extinction of one vertebrate species every nine months.<sup>12</sup> Americans alone dispose of 4.6 pounds of trash per person, per day.<sup>13</sup> A single waste dump visible from the Statue of Liberty is fast reaching the height of the Great Pyramid of Giza.<sup>14</sup>

Every 18 days, the human population increases by a number equal to the entire human population of the world in 5,000 B.C.<sup>15</sup> Every five months, it increases by a number equal to the population in the 1500s;<sup>16</sup> every decade by the population in 1776,<sup>17</sup> and every two and a half decades by a number equal to the population of the earth in 1950.<sup>18</sup> In 1987, the earth welcomed its five billionth human, and in 2013, it has over 7 billion people.<sup>19</sup> Indeed, it has been estimated that 40% of all humans who ever lived on the planet earth are alive today.<sup>20</sup>

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\*Professor of Law at the University of Denver Sturm College of Law. The author has borrowed liberally from his book, *Population, Law, and the Environment* (Praeger publishers, 1994) in the writing of this article, including extracting pages, paragraphs, sentences and phrases in the author's words verbatim, including the author's original citations to sources relied upon in the book. Where these extracted passages from the author's book constitute the author's original language, they are not identified with quotation marks. The author has also relied upon ideas he previously developed in Robert M. Hardaway, Carbon Markets in Context: Into Which Component of Holdren's Equation Do they Fit?, 85 *Denv. U. L. Rev.* 983, 983 (2008); Robert M. Hardaway, Environmental Malthusianism: Integrating Population and Environmental Policy, 27 *Envtl. L.* 1209 (1997); Richard D. Lamm & Robert Hardaway, Prop. 187 Opposition has Origins in Racism, *Los Angeles Daily News*, Nov. 22, 1995, at 13; Robert M. Hardaway & Karen D. Dacres, Tropical Forest Conservation Legislation and Policy: A Global Perspective, 4 *Int'l J. Env't & Pollution* 1 (1994); Robert M. Hardaway & Karen D. Dacres, Tropical Forest Conservation Legislation and Policy: Focus on South-East Asia, 11 *Envtl. & Planning L. J.* 419 (1994); Robert M. Hardaway, Immigration Aids the Rich, *Chicago Sun-Times*, Sept. 18, 1993, at 18; Robert M. Hardaway, 'Fetus as Human Life' has Major Legal Consequences, *Kansas City Star*, Sept. 22, 1991, at K4. The author wishes to acknowledge the research assistance of Alison Ruggiero, Brandi Joffrion, and Chad Eimers, J.D. Candidates, University of Denver Sturm College of Law, 2012.

More recently, the Center for Sustainable Systems has released even more alarming data showing the carbon footprint resulting from consumption in the United States alone.<sup>21</sup>

### THE CIRCLE GAME

With few exceptions, the population pressures on the environment have been largely ignored in favor of largely ineffective public and private “environmental” initiatives.<sup>22</sup> As former EPA Director Thomas has noted, most “pollution cleanup” does not result in any benefit to the environment, because all such programs do is transfer pollution “among the environmental media—from air to water, from surface water to groundwater, from water to soil, and so on. . . . This circle game has to stop. . . . At best it is misleading—we think we are solving a problem and we aren’t. At worst, it is perverse—it may increase rather than reduce pollution risks.”<sup>23</sup>

This circle game has been played in the form of geographical context as well. Much of the government funds used to support “environmentalism” have been used to transfer pollution from communities with wealth and political power to poor communities with little political power. When a hazardous-waste incineration company in the impoverished Arkansas town of El Dorado was found to be importing garbage and waste from 48 states and foreign countries, the Environmental Congress of Arkansas was “successful” in preventing the location of the dump near its community. As a result of its efforts, the landfill was relocated in the Ouachita River Basin where, according to one observer, “one flood will spread garbage and God-knows-what downstream for 60 or 100 miles.”<sup>24</sup>

When a chemical company near Jacksonville, Arkansas, attempted to dispose of 28,300 barrels of toxic waste accumulating over 30 years, several environmental groups took action forcing the company into bankruptcy and to later relocate.<sup>25</sup> Nations described the groups’ efforts as “an environmental success story.”<sup>26</sup> However in 1992, after both sides spent “vast sums” of money, the EPA granted to the Jacksonville site a license to incinerate the toxins into the air. Although this complies with the Clean Air Act, these toxins are nonetheless released into the air “where they don’t know what it will do.”<sup>27</sup> While many lauded the work of the environmental groups as an “environmental success,” the pollutants were transferred from the soil to the air.<sup>28</sup>

One example of such self-defeating government policy is the regulations promulgated by California in the 1960s requiring installation of exhaust control devices. At the cost of billions to consumers, hydrocarbon levels were reduced by a modest 12%, but only at the expense of increasing nitrogen oxide emissions by 28%.<sup>29</sup> A major study of federal and state laws regulating automobile emissions has concluded that such regulations have resulted only in “one pollution problem [being] traded for another.”<sup>30</sup>

Even more damaging to the environmental movement has been the quest for “alternative energy sources.” As early as 1978, the government spent over \$100 million in a quest to build a dam which could harvest carbon-free “clean water power” to serve the energy needs of the poor, only to have environmental

groups sue to shut down the dam on grounds that it would harm a sub-species of snail darter. In *Tennessee Valley Authority v. Hill* (“TVA”), the Supreme Court ordered the halting of the all but completed dam on grounds that it would violate the Endangered Species Act.<sup>31</sup> The Court noted that “It may seem curious to some that the survival of . . . [a] three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than \$100 million,”—and then did exactly that.<sup>32</sup> An exasperated minority of the court could only remark that “the only precondition . . . to thus destroying the usefulness of even the most important federal project in our country would be a finding by the Secretary of the Interior that a continuation of the project would threaten the survival . . . of a newly discovered species of water spider or amoeba.”<sup>33</sup>

In 1983, California built 17,000 100-foot wind turbines, producing an impressive 1% of its energy needs, only to be confronted with outrage by the state’s environmentalists who claimed that windmill fields were worse than the ravages of strip mining, creating a landscape worse than “Salvador Dali’s worst nightmare.”<sup>34</sup> Environmentalist Paul Thayer proclaimed that “these huge wind turbines are virtual cusinarts for birds.” Another concerned spokesman for the environmental movement expressed equal outrage: “wind energy is great, but we can’t go around killing the environment.”<sup>35</sup> The fact that even clean wind power has incited the wrath of environmentalists raises doubts as to whether “alternative energy sources” can ever provide a permanent solution, much less a panacea, to relieve the planet from the pressures of population expansion.

In short, governmental environmental policy has ignored the fundamental principle of ecological law that “everything is connected to everything.” The environment is like a three-legged table: reduce hydrocarbons, and you increase nitrous oxides or other contaminants;<sup>36</sup> reduce the burning of dirty coal, and you end up placing greater reliance on nuclear power and dealing with radioactive waste;<sup>37</sup> build windmills and face environmental lawsuits; build solar panels only to face NIMBY<sup>38</sup> lawsuits amidst realization that panels would need to cover 90% of the globe to produce energy equal to that created by burning coal.<sup>39</sup> An editorial cartoon in the Las Vegas Review-Journal makes this point humorously by showing an electric car hooked up by a long cord to a nuclear power plant.<sup>40</sup>

### THE INSTITUTIONALIZED ENVIRONMENTAL MOVEMENT

Private environmental initiatives have proved equally illusory. As environmentalist Tom Wolf has observed, “environmental organizations courted disaster when they ‘succeeded’ American style. When they got too big, too rich and too remote from the environmental effects of their actions. . . . Like our competitors in organized religion, especially the televangelists, we enviros lost our credibility when we bought into the junk mail business.”<sup>41</sup> As a result, the environmental movement has degenerated and splintered into over “10,000 hopelessly decentralized groups competing for funds,”<sup>42</sup> ranging from societies

dedicated to promoting snails and slugs (the Xerces Society) to groups against Radiation Exposed Food.

Wolf's disillusionment went to the heart of what environmentalism was supposed to be about: "Our culture of narcissism spread its sickly, sweet smell through environmental board rooms in the 80[']s, as former radicals changed overnight into yuppies, as small organizations became huge and unwieldy. Poverty, chastity and obedience wilted before the prospect of empire and power, 'careers' in the institutionalized environmental movement."<sup>43</sup>

Meanwhile, environmental fantasies have come to abound, many fostered by environmental groups trying to raise money. Commercial products tout their "biodegradable" characteristics in order to take advantage of public ignorance. A Professor of Archeology at the University of Arizona recently dug up a typical municipal dump to examine its contents, and found the single greatest part of the landfill's bulk to be newspapers, many of which were over a quarter century old.<sup>44</sup> Other types of refuse such as plastic came in a distant third.<sup>45</sup> Although many environmentalists have condemned the use of disposable diapers, they rarely consider that cloth diapers also cause environmental damage since they require approximately 12,000 gallons of water a year per child—not to mention the phosphates that leach into the water supply.<sup>46</sup> William Booth has described the activities of a typical family that "recycles their cans and bans six-pack plastic rings in their house, but drives itself to a shopping mall two blocks away, and drenches their lawn with chemical fertilizers leaching into the same waterways as the six-pack rings."<sup>47</sup>

### THE NARROW FOCUS OF CURRENT ENVIRONMENTAL POLICY

As noted in the previous discussion, public and private environmental policy has focused almost exclusively on the "T" component of the equation, much of it too little or no avail but inevitably at very high cost to society—recall the TVA \$100 million clean water power project which was shut down to save a sub-species of snail darter. But even when environmental programs result in a modest reduction in emissions per unit of consumption (as with the regulations requiring installation of catalytic converters in automobiles), the explosion in the number of units means that for every step forward taken in the cause of reducing environmental impact, three or more are taken backward. Thus while catalytic converters in American cars might reduce hydrocarbons per automobile unit,<sup>48</sup> the introduction of millions of new \$3,000 automobiles in India (not to mention China<sup>49</sup>) means that reduction in emissions of individual units is overwhelmed by the vast expansion in the number of units around the world. In the United States, for each additional human added to the population, two

and a half carbon-spewing, climate-warming, motor vehicles are added to the environmental impact.<sup>50</sup> In South Korea alone, the number of cars increased from 935,271 in 1990 to 2.2 million in 1999.<sup>51</sup>

Nor have environmental policies seriously addressed the "P" factor in Holdren's equation. True, when a car company in India announced production of a cheap \$3,000 car for the masses, the New York Times decried the environmental impact of making cars available to so many millions of poor people who theretofore could not afford cars.<sup>52</sup> Al Gore in his much-proclaimed book, *Earth in the Balance*, suggested that people around the world cut their consumption as a means of reducing environmental impact.<sup>53</sup> The need to consume, Gore asserted, is the mark of a "dysfunctional civilization," and that the environmental crisis is an inner crisis that is, for lack of a better word, "a spiritual crisis."<sup>54</sup> According to Gore, if the "wealthy" could only be induced to reduce their consumption, and the poor convinced to give up the dream of a higher standard of living for themselves and their children, the world's environmental problems could be solved.<sup>55</sup> (Apparently this solution does not apply to him; he has justified his carbon-spewing private jets and extravagant energy-consuming homes by claiming he has "purchased" his right to pollute through the carbon market.)<sup>56</sup>

For those who cannot afford to buy pollution rights on the carbon markets, however, such solutions have so far fallen on deaf ears of those seeking to enhance, rather than reduce their standard of living, particularly those who live in wretched conditions of poverty in undeveloped countries.<sup>57</sup> In the United States, the consumption-reduction solution was actually tried during the Great Depression (albeit involuntarily),<sup>58</sup> and most people did not like it.<sup>59</sup> While Romanian dictator Ceausescu could simply mandate that the power and city lights be turned off to conserve energy,<sup>60</sup> such policies have proved to be impractical in democracies.<sup>61</sup>

P. Harrison has studied the question of what the consumption-reduction solution to the environmental problem would require, and noted that the more people there are the lower mankind's per capita pollution "rations" would have to be.<sup>62</sup> For example, he noted that the Intergovernmental Panel on Climate Change has set a ceiling of 2.8 billion tons of carbon in the atmosphere, beyond which the atmosphere would not be stabilized. At such levels, a person would be allocated .53 tons of carbon per year,<sup>63</sup> or about the same level as Mozambique, the 12<sup>th</sup> poorest country in the world.<sup>64</sup>

While technological environmental advances might increase these per capita rations for a time, Harrison has observed that the planet's capacity to absorb pollution emitted by an expanding population is limited, since the waste-carrying capacity of air and water is "fixed and absolute."<sup>65</sup>

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*Environmental Impact is equal to the population multiplied by their affluence multiplied by their technology outputs.*

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## EXPANDING FOCUS ON THE “P” COMPONENT

In light of the ineffectiveness of environmental policies addressing the “T” component of Holdren’s equation and the impracticality if not impossibility of addressing the “A” component by reducing all of mankind to the consumption level of Mozambique, there is left only the final and third component of the equation: the “P” factor.

With the population component left as the only component of Holdren’s equation that can realistically be addressed by environmental policy, one would think that the environmental movement and its advocates would enthusiastically embrace addressing this component. In fact, however, most environmental groups tread lightly on the issue of population if they address it at all. By way of example, Al Gore devoted only 27 of the 407 pages of his book, *Earth in the Balance*, to population almost as an afterthought toward the end of the book.<sup>66</sup>

At the much-acclaimed World Environmental Conference in Rio de Janeiro in 1992, population issues were never even addressed.<sup>67</sup> Indeed, anti-family planning advocates worked urgently not only to ensure that population issues were not on the agenda but also to ensure the exclusion of family planning groups.<sup>68</sup>

In 1972, at a time when Congress was funding the Tellico Dam,<sup>69</sup> it was also cutting off funding to all family planning groups counseling abortion,<sup>70</sup> which meant that many women were denied the means to plan their families. The result was hundreds of thousands of unplanned pregnancies, the offspring of which no doubt would demand power from future Tellico dams.<sup>71</sup> Further, in 1989, the Bush Administration resisted funding the United Nations Funds for Population on grounds that it encouraged abortions.<sup>72</sup>

The reasons for right wing hostility to family planning and population issues will be addressed in some detail in later sections of this article. The reason for left wing environmental group hostility toward, or at least indifference to, population issues is more difficult to document inasmuch as they rarely express their views on population issues directly.<sup>73</sup> However, the reasons for it are not difficult to surmise.

A clean environment is like Mom and apple pie—everyone is in favor of it. As long as voters and financial supporters can be persuaded that environmental action is being taken (even if it is only the circle game being played), large public allocations can be promoted and generous private contributions inspired. But environmentalists who address issues of birth control, family planning, abortions, and population control often find themselves vulnerable to emotional arguments that mire them in issues they consider not sufficiently related to environment to justify the expense, time, diversion, and political costs of addressing them.

## ANTI-MALTHUSIANISM

Although Thomas Malthus is less widely-known as being the world’s first professional economist, his essay on population declared, “The power of population is indefinitely greater than the power in the earth to provide subsistence for man.”<sup>74</sup>

This essay set forth an economic hypothesis of the relationship between population and the earth’s capacity to provide for that population.<sup>75</sup> Carried to its logical conclusion, it predicted that mankind was doomed to expand until the limits of food production checked its expansion through either starvation or starvation-induced man-made calamities.<sup>76</sup> Not surprisingly, this pessimistic thesis induced outrage that continues to this day.<sup>77</sup> Critics have called his essay a “libel against the Almighty himself,”<sup>78</sup> and induced others to label the emerging discipline of economics as the “dismal science.”<sup>79</sup>

Had Malthus limited his thesis to the obvious truism that mankind can not survive if it expands beyond its capacity to produce food, the criticisms of his essay might have been limited to the manner of criticism heaped upon him by the likes of Karl Marx, who described Malthus as a “plagiarist” and “sycophant of the ruling classes.”<sup>80</sup> Unfortunately, however, Malthus went on to draw unpopular political conclusions, including that welfare and poor laws were counterproductive because they fomented the expansion of the poor population and thus accelerated mankind’s march toward widespread poverty, starvation, and economic doom.<sup>81</sup>

Anti-Malthusians today point to such advancements in food production as the “Green Revolution” begun in 1944, which resulted in an exponential increase in food production, permitting a country like Mexico to transform itself from a country that imported half of its wheat to one that was almost entirely self-sufficient in wheat.<sup>82</sup> Exaggerations of imminent doom by Paul Ehrlich in his 1968 book *The Population Bomb*,<sup>83</sup> and Donella Meadows (who among other predictions in her 1972 book *The Limits to Growth* declared that oil would run out by 1992 and gold would run out in 1981),<sup>84</sup> have given the anti-Malthusians the opening to claim that modern day Malthusians are alarmists and have “cried wolf” once too often.

On a more positive note, anti-Malthusians have made the case that population expansion is essential to economic growth, the inspiration for incentives for technological innovation, and the creation of opportunities for economies of scale.<sup>85</sup>

Kuznets, the Russian-American economist, has pointed out that “More populations mean more creators and producers, both of goods along established production patterns, and of new knowledge and inventions. Why should not the larger numbers achieve what the small numbers accomplished in the modern past—raising total output to provide not only for a current population increase but also for a rapidly rising supply per capita?”<sup>86</sup>

Along these lines, Schumpeter, the Austrian-American economist and political scientist, has observed: “With rare exceptions, [nation-states] were enthusiastic about ‘populousness’ and rapid increases in numbers. . . . A numerous and increasing population was the most important symptom of wealth; it was the chief cause of wealth; it was wealth itself—the greatest asset for a nation to have.”<sup>87</sup>

In Nazi Germany, Hitler instituted a state policy of encouraging German women to have more children, both to man his armies and to spread the “Aryan” race around the globe.<sup>88</sup> In

Stalinist Russia, women were awarded medals for giving birth to more than eight children.<sup>89</sup>

According to this theory, when mankind runs out of something (like ivory for billiard balls), technological advances in chemistry and plastics will always find a substitute;<sup>90</sup> they make their point by citing Ansley Coale, a demographer at Princeton University, who mused that a Malthusian living in 1890 might have said “there’s no way the United States can support two hundred and fifty million people. Where are they going to pasture all their horses?”<sup>91</sup>

But substitute cars for horses and billions of people for millions of people; at some point a limit must be acknowledged.

Defending the Pope’s ban on birth control, bishops have asserted that the earth could theoretically feed 40 billion people. This assertion could make the seven billion humans now inhabiting the planet feel quite selfish about not welcoming an additional 33 billion people, until it is revealed upon closer examination that this assertion is based on the following assumptions: all available cropland is deforested without soil erosion, no cash crops (such as cotton or coffee) are grown, and no livestock is raised, which implies that all humans agree to live on vegan diets.<sup>92</sup>

Not mentioned at the gathering was whether mankind should ever recognize any limits to the expansion, even after the human race reaches a theoretically supportable 40 billion people.

At some point, even the most ardent promoter of unlimited expansion of the human race must concede that there are absolute physical limits and that the human race cannot continue to double as it did from 1960 to 1998.<sup>93</sup> (This can be confirmed by a simple exercise: take an ordinary sheet of paper and double its thickness by folding it over and repeating the folding 42 times. The thickness would reach from the earth to the moon.)<sup>94</sup> Presumably sometime before mankind expands to an equivalent number, expanding outward from the earth at the speed of light, the human race will cease expanding.

Despite anti-Malthusians’ assertion that the Malthusians are “crying wolf,” it should be recalled that there were two morals to the story of the boy who cried wolf. The first was that those who alarm prematurely or with exaggeration will be ignored; but the second is that when the crisis does come, it may be too late.

To those who claim that Malthus cried wolf, it should be noted that in many parts of the world, Malthusian effects are already upon us. Nine hundred forty million human beings live in squalor,<sup>95</sup> almost 1 billion people are starving,<sup>96</sup> and 18,000 children starve to death every day.<sup>97</sup> Meanwhile, the world must produce food for an additional 90 million new people each year and do so with 26 billion less tons of topsoil and ever decreasing supplies of fresh water.<sup>98</sup> While it may be true that the percentage of living humans who starve to death has decreased since the time of Malthus, it is also true that in absolute terms, the number of people who starve to death has increased geometrically.<sup>99</sup>

Even in face of such evidence, however, the anti-Malthusians continue to make their case. An article by Jonathan Last in the August 4, 2011 issue of the Wall Street Journal expressed horrified alarm at United Nations demographic projections of

a modest reduction in fertility in the developed nations, particularly in Japan, Italy, and Poland.<sup>100</sup> “As populations age and shrink,” Last notes, “the labor force contracts and the tax base dwindles while the cost of support for pensioners increases. Then economic dynamism sputters as the demand for everything (except health care) decreases. Low fertility is modernity’s great trap.”<sup>101</sup>

While no one doubts that as a country’s economy and standard of living rises and women have more access to education, they will tend to have fewer children; in underdeveloped countries children are considered an economic asset who can be counted on to rummage through garbage dumps to support their parents in old age—and therefore, the more children the better. It is also true that the demographics of an aging population in a developed country can wreak havoc on the balance of contributions and entitlements in pension funds and public safety nets like social security and Medicare. But, this hardly supports the conclusion that a globally expanding population is somehow good for the environment. Indeed, a child in a developed country will place a far greater ecological footprint than a child in an undeveloped country.<sup>102</sup> Going back to Holdren’s  $I=PAT$  formula, this means that the  $A$  (affluence or per capita consumption) and the  $T$  (technology or impact per unit of consumption) would necessarily be larger for the portion of  $P$  (the population) that resides in wealthy countries. It is therefore in the industrialized nation that over-population presents the greatest threat to the environment.

### ENVIRONMENTAL MALTHUSIANISM

The premises of environmental Malthusianism are as follows:

First, that an expanding world population, combined with the quest for higher living standards, currently places unsustainable pressure on the global environment.<sup>103</sup>

Second, that the “ $P$ ” component of Holdren’s equation offers mankind its best opportunity for addressing mankind’s pressures on the environment in a manner compatible with human dignity.<sup>104</sup> (Addressing the “ $A$ ” component by reducing human living and consumption standards, particularly those of the desperately poor in developing nations, is neither humane nor politically feasible;<sup>105</sup> addressing the “ $T$ ” component by playing the circle game or making marginal reductions in emissions per unit of consumption is ultimately self-defeating as the number of units expands exponentially with an expanding global population seeking higher living standards).<sup>106</sup>

Third, policies addressing the “ $P$ ” component must take into account politically sensitive areas of public policy not commonly associated with either population or the environment, including family planning, women’s rights, abortion law, and immigration policy.

### FAMILY PLANNING

Historically, cultural, socio-economic, and religious factors have inhibited family planning and continue to do so to this day. As a result, less than half the women in developing nations “have

access to family planning.”<sup>107</sup> Many women worldwide would limit their family size if given access to contraceptive methods and devices now denied to them.<sup>108</sup> Until relatively recently, the United States was on the forefront of government policies denying women the right to plan their families. In 1872, Anthony Comstock introduced a bill in the U.S. Congress which labeled any contraceptive device as “obscene, lewd, lascivious, indecent, filthy or vile . . .” and made it a crime to “sell, lend or give away any article whatever for the prevention of conception.”<sup>109</sup> The statute’s description of contraceptive devices as “filthy and vile” was not deleted until the 1970s.<sup>110</sup>

As U.S. Postal Inspector, Comstock had spent much of his energies entrapping doctors who associated with family planners. For example, “he had two women associates write to a Midwestern physician, claiming that their husbands were insane and that they feared that any children might inherit their insanity. When the doctor wrote them some simple advice, Comstock had him arrested and sent to seven years of hard labor.”<sup>111</sup>

In response to such policies, Margaret Sanger rose to become the founder of the American birth control movement. Sanger first came to prominence in the aftermath of the “Sadie Sachs Affair.” After Sachs was informed that a pregnancy would threaten her life, her doctor scolded her by saying “you want to have your cake and eat it too. Well, it can’t be done,” and cruelly advised her that her only option was for her husband to “sleep on the roof.”<sup>112</sup> When Sachs died an agonizing death after her husband apparently declined to sleep on the roof, Sanger adopted the phrase as the movement’s slogan.<sup>113</sup>

In 1930, Congress passed the Tariff Act of 1930, which prohibited the import of contraceptive devices along with any writing urging “treason [or] murder.”<sup>114</sup> That contraceptive devices were grouped with treason and murder was suggestive of the public mood regarding contraceptives.

In 1936, New York passed a law making it a crime to “sell, give away, or advertise . . . any articles for the prevention of conception.”<sup>115</sup> As recently as 1965, a draconian Connecticut statute made it a felony punishable by twenty years at hard labor to use any “medicinal article or instrument for the purpose of preventing conception.”<sup>116</sup> It was only in that year that the Supreme Court, in a sharply divided opinion, finally held such laws unconstitutional as violating the right to privacy.<sup>117</sup> Finally, in the 1972 case of *Eisenstadt v. Baird*, the Supreme Court overturned a conviction in the Massachusetts’ courts of a man who had given away a contraceptive device, a crime that carried a five-year prison term.<sup>118</sup>

Even as criminal laws against the use of contraceptives fell away, cultural and religious factors continued to pressure women

not to use any form of contraception. In 1930, Pope Pius XI, in *Casti Connubii*, declared that even married couples could engage in intercourse only for the specific purpose of generating children.<sup>119</sup> The Catholic Church declared that having intercourse for the purpose of pleasure was a sin and that “intercourse is unlawful and wicked where the conception of the offspring is prevented.”<sup>120</sup>

Even prominent members of the medical and scientific community supported denying women the right to plan their families. Dr. John Billings, an eminent Australian neurologist, argued vigorously for the prohibition of all forms of “artificial” birth control and opposed international birth control programs because they discriminate against the poor.<sup>121</sup> In the United States, Ryan Bomberger has asserted that birth control is a form of “genocide” against black people.<sup>122</sup>

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*“Even prominent members of the medical and scientific community supported denying women the right to plan their families.”*

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Respected academics such as Jacqueline Kasun, an eminent professor of economics, have associated family planning organizations with Nazi-type “eugenics.”<sup>123</sup> In her book, *The War against Population*, she condemned Margaret Sanger as the most “enthusiastic eugenics[t]” of her time.<sup>124</sup> She also mentions Edward Pohlman’s “confession” that “some Indians regard this foreign control of their population as a form of ‘genocide.’”<sup>125</sup> (Interestingly, Kasun does not note that Nazi Germany had the most draconian laws against abortion and gave awards for womanly feats of reproduction.)<sup>126</sup>

Kasun condemns the “slick, professional booklets of the likes of Planned Parenthood and the Gutmacher Institute [which] are profusely illustrated with pictures of pot-bellied, dusky women surrounded by hordes of children living in slums here and abroad. To explore the rationale of the eugenics movement—scientific racism—would fill another volume.”<sup>127</sup>

Kasun joins Simon, Miller, Billings, and other respected academics in maintaining that “[e]ight times, and perhaps as much as 22 times, the world’s present population could support itself at the present standard of living,”<sup>128</sup> and notes that “there would be standing room for the entire population of the world within one quarter of the area of Jacksonville Florida.”<sup>129</sup>

Ehrlich has referred to this latter illustration as an example of the “Netherlands Fallacy: The Netherlands can support 1[,]031 people per square mile only because the rest of the world does not. In 1984-1986, the Netherlands imported almost 4 million tons of cereals, 130,000 tons of oils, and 480,000 tons of pulses (peas, beans, lentils).”<sup>130</sup> Not addressed by Kasun was what her position would be once the world’s population did expand to 22 times its present number. Would she then concede that some kind of environmental limit had been reached and agree to the family planning she despises?

Much of the anti-family planning literature has been directed towards the coercive policies of such countries as China. Such coercive measures are neither desirable nor as effective as voluntary measures based on providing access to the one half of the world's women who are currently denied access to family planning services. But much of the anti-family planning literature is directed against the whole idea of family planning. As a result, the cultural, socio-economic, and religious coalition against family planning, while weaker than 100 years ago, remains largely successful in denying women around the world the right to plan their families and leaving the "P" component of Holdren's equation deliberately unaddressed.

## ABORTION

That abortion may be an important factor in formulating environmental policy was recognized by the Supreme Court as early as 1973 in *Roe v. Wade* when the Court announced in dicta that "population growth . . . [and] pollution . . . tend to complicate the [abortion] problem."<sup>131</sup>

Unfortunately, abortion issues are so charged both politically and religiously in many countries that most environmental groups assiduously avoid the issue. This is unfortunate, as it means that an important component of environmental policy is ignored by policy-makers and even unrecognized by many.

In countries where family planning services are either not available or denied to women, abortion is often used as birth control.<sup>132</sup> In countries where women have no legal right to abortion, this means that hundreds of thousands of women around the world die from illegal abortions. The number of women dying from illegal abortions is documented by the World Health Organization as exceeding over 68,000 a year.<sup>133</sup>

In Kenya (which bans abortion), 35% of maternal deaths are caused by unsafe abortions; more than 2,500 women die and 21,000 women are hospitalized every year due to improper abortions.<sup>134</sup> One abortion scholar has noted that "The tale of death that illegal abortions caused is well known; the personal tragedies that tale recounts [are] widespread, and evident in every social stratum. Paradoxically, the tale has been so often told that many listeners have become anesthetized to the human pain it reflects."<sup>135</sup>

Unfortunately, in many countries the callous response to such tragic deaths has been to impose or call for even greater legal restrictions on abortions, apparently on the theory that strict enforcement can reduce the number of abortions.<sup>136</sup> Tragically, however, this theory has proved to be spurious.<sup>137</sup> There are far more abortions in countries with rigid enforcement of abortion laws than in countries in which abortion is legal.<sup>138</sup>

For example, no countries were more oppressive in enforcement of abortion laws than Nazi Germany, which imposed the death penalty for abortion, and Romania under the dictator Ceausescu.<sup>139</sup> According to a report in *Newsweek*, in Romania "women under the age of 45 were rounded up at their workplaces every one to three months and taken to clinics, where they were examined for signs of pregnancy, often in the presence of a government agent dubbed the 'menstrual police.' . . . A woman

who failed to produce a baby at the proper time would expect to be summoned for questioning."<sup>140</sup>

Not surprisingly as a result of such brutal policies, combined with laws against use of contraceptive devices, 60% of pregnancies ended in illegal abortion.<sup>141</sup> By contrast, in the Netherlands, where contraceptive services are freely available and abortion is legal, the abortion rate is much lower.<sup>142</sup>

Religious restrictions and inhibitions regarding abortion also turn out to be based on a misunderstanding of religious doctrine and history. As early as medieval times, the eminent Catholic theologian Thomas Aquinas had adopted the doctrine that life began only when a fetus was "ensouled," and ensoulment took place only after "quickening."<sup>143</sup> As Aquinas stated in his *Politicorum*, "seed and what is not seed is determined by sensation and movement."<sup>144</sup>

Historian Noonan has noted that Martin Azplicueta, the leading Catholic canonist of the 16th Century and consultant to the Sacred Penitentiary held that "the rule of the Penitentiary was to treat a fetus over forty days as ensouled. Hence therapeutic abortion was accepted in the case of a fetus under this age."<sup>145</sup>

It was not until October 29, 1588, that Pope Sixtus V decided to reverse a millennium of church doctrine by issuing the bull *Effraentam* declaring abortion to be a homicide regardless of the age of the fetus—apparently part of a campaign to punish prostitutes by forcing them to have unwanted children.<sup>146</sup>

Fortunately this bull, issued in the heat of the anti-prostitute campaign, did not last long. Only two years after its issuance, the new Pope Gregory XVI, noting that the "hoped for fruit had not resulted," repealed "all the penalties except those applying to a fetus which has been ensouled."<sup>147</sup>

Ironically, the theological notion of quickening as being the point at which a fetus is ensouled is remarkably close to *Roe v. Wade*'s recognition of the constitutional right to abortion prior to the end of the first trimester of pregnancy.<sup>148</sup>

It was not until almost 300 years after Pope Gregory's re-establishment of quickening as the point of ensoulment, when God revealed to Pope Pius XI in 1869 that all the Catholic theologians over the past millennium had been all wrong, and that abortion of a fetus, regardless of quickening, was a sin worthy of the punishment of ex-communication.<sup>149</sup>

U.S. laws prohibiting abortion were also promulgated relatively late in the nation's history. Prior to 1800, there was not a single jurisdiction in the United States that banned abortion before quickening.<sup>150</sup> Indeed, the common law as set forth in Coke's legal commentaries in the first part of the seventeenth century was quite clear that abortion before quickening was not a crime. As Cyril Means' study of the common law states, "[a]n abortion before quickening, with the woman's consent . . . was not, at common law, an indictable offense, either in her or in her abortionist. It was not a crime at all."<sup>151</sup>

It was only around the year 1860, when resistance to abortions began to appear—not from religious groups but from the medical profession which soon began a campaign to "protect their turn" from midwives by lobbying for the criminalization of abortion even before quickening. By the year 1880, this

campaign by the doctors was largely effective in persuading legislatures in over 40 states to pass laws criminalizing abortion even before quickening.<sup>152</sup> By 1900, the campaign was complete: Abortion, without regard to quickening, was forbidden in every state.<sup>153</sup>

It was not until 70 years later that states began to revert to the traditional canon and common law by legalizing early stage abortion and not until 1973 that the Supreme Court of the United States upheld a woman's right to an abortion in the first trimester.<sup>154</sup>

### RELATIONSHIP OF ABORTION TO POPULATION AND THE ENVIRONMENT

Few women would ever choose abortion as the preferred method of family planning, but policy makers who oppose abortion also opposed contraception.

Sixtus VI's notion that bringing an unwanted child into the world is just punishment for the mother has little place in today's world where 45,000 children die each day from neglect and starvation.

Although the connection between abortion policies, population, and the environment did not become apparent until the Supreme Court recognized the connection in *Roe v. Wade*, it now behooves environmental groups to follow up on that connection and lobby for policies that ensure that the rights of women to plan their families are important, not only in forestalling the cruel Malthusian consequences of 45,000 daily deaths of starving children, but in protecting the environment as well.

### RELATIONSHIP OF IMMIGRATION POLICY TO POPULATION AND THE ENVIRONMENT

Another contributor to the "P" component of Holdren's equation, the critical relationship between immigration policies and the environment, has not often been recognized by environmental groups. It is sometimes asserted that since immigration involves only the movement of people from Point A to Point B, but does not itself increase total global population, immigration does not increase global population pressures on the environment. However, this view fails to take into account the political and cultural pressures in a country faced with a population expanding at a rate that exceeds the ability of that country to care for their people's basic human needs.

Such a country has several options in addressing a population expanding beyond its ability to care for them. If religious and cultural factors inhibit family planning, birth control, and a woman's right to choose, that country can instead take the course of least resistance—that is, instead of taking on domestic political, religious, or cultural resistance to the promulgation of women's rights, it can simply export their excess humans to neighboring countries and thereby relieve both the economic and environmental pressures that the expanding population exerts on their society.

Were such a course not available to that country, it would be forced to address such resistance directly by promulgating laws

that give every woman access to family planning and the right to choose.

On the other hand, if a more developed neighboring country becomes complicit in a less developed neighboring country's policy of exporting its excess humans—either through greed, incompetence, or a desire to exploit the cheap labor of those humans being exported from the less developed country—it undermines the entire global environmental movement and provides incentives for unsustainable population expansion.

Perhaps the most cynical example of such complicity arose in 1980, when Cuba, taking advantage of a hypocritical U.S. refugee policy begging to be exploited,<sup>155</sup> decided to rid itself of its 125,000 prisoners and inmates of mental institutions, by putting them into boats and sending them to the United States in what has since been called the "Mariel Boatlift." The Mariel Entrant Tracking System later estimated that up to 80,000 of these people were convicted criminals.<sup>156</sup> Psychological profiles of the first wave of Mariels revealed that "only fifty were considered normal [or] sane."<sup>157</sup> Shortly after the boatlift, arrests of Cubans in New York City skyrocketed to between 2,000 and 3,000 a year, compared to 214 the year before the boatlift.<sup>158</sup>

Less egregiously, but more commonly, other human-exporting countries have preferred to rely on emigration to relieve their population pressures rather than tackling the politically daunting task of internal reform. But such reliance on emigration as an escape valve for Malthusian population pressures in the human-exporting countries would not be possible but for the complicity of the human-importing countries eager to exploit the opportunities for cheap labor. Such complicity, when it occurs, is especially heartbreaking when one realizes that global population could begin to be stabilized if all the human-exporting countries were to make family planning services freely available to its citizens and provide basic human rights to its women.<sup>159</sup> One can only imagine what reforms a country such as Ireland would have had to consider if it did not have the option in the mid-1800s of exporting a quarter of its population that it could not support. Would it have had to consider providing its people with family planning and contraception services or even reforming its laws denying women the right to choose?

In the United States, environmental groups such as the Sierra Club have hesitated to consider the environmental impact of immigration for "fear of being labeled racists or xenophobes"<sup>160</sup> and therefore lose the support of left wing groups and liberals. As Thomas Wolf has noted, it is far easier to raise money by sending out colorful brochures showing baby seals being clubbed than by entering the politically charged minefield of the immigration debate.

Nevertheless, by 1993, even the Sierra Club was conducting internal discussions of immigration, and the head of the Club's population committee conceded that "short of wars or plague, reducing immigration and fertility levels are the only ways of meeting the goal of 'stabilizing or reducing the population.'"<sup>161</sup>

In some ways the reluctance of environmental groups to acknowledge immigration as an environmental factor is

understandable, for it would mean taking on the powerful corporate interests whose interest in profits is based on the exploitation of foreign labor, particularly that of the human-exporting countries. Indeed, those interests have been dominant since the American Civil War, in the aftermath of which millions of African Americans were released on to the free labor market. The racist inclinations of the titans of industry were not disposed to hire African Americans, who preferred to import cheap (white) foreign labor.

It was to a gathered group of these giants of industry that on September 18, 1895 Booker T. Washington was invited to speak at the Atlanta International Exposition. That an African American had been invited at all to speak to such an august gathering of industrialists was itself remarkable for the time. But despite considerable opposition to an African American being given such a platform, the board of directors of the Exposition prevailed and voted to invite Washington to speak on opening day.

The result was one of the greatest speeches in American history, known in the history books today as the “cast down your bucket where you are” speech. Washington told the story of a sea captain of a distressed vessel which sent a signal to a neighboring vessel pleading for water, to which the reply was “cast down your bucket where you are,” for the vessel in distress was near the fresh sparkling water of the Amazon River.

And so Washington pleaded with the titans of industry: “To those of my race who depend on bettering their condition in a foreign land, I would say ‘cast down your bucket where you are.’ To those who but did so, Washington promised “we shall stand by you with a devotion that no foreigner can approach, ready to interlac[e] our industrial, commercial, civil and religious life with yours.”<sup>162</sup>

Unfortunately, the industrialists rebuffed Washington and continue to do so to this day, preferring instead to encourage importation of cheap foreign (generally white) labor. The results have been catastrophic for the African American community.

For example, in the 1970s most large office buildings in Los Angeles hired black union workers as janitors, paying a then generous wage of \$9 an hour plus full benefits. Then the building managers learned that they could do what the robber barons did after the civil war—import cheap foreign labor to replace them. They hired independent contractors, who in turn hired illegal

immigrants for minimum wage and no benefits. Thousands of African Americans lost their jobs and livelihood, and wages remained depressed.

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*“In some ways the reluctance of environmental groups to acknowledge immigration as an environmental factor is understandable, for it would mean taking on the powerful corporate interests whose interest in profits is based on the exploitation of foreign labor . . .”*

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In 1987, at a time when the black teenager unemployment rate approached 80%, “garment workers in Los Angeles were pleading with the Immigration and Naturalization Service to allow them to import foreign workers on grounds that there was a ‘labor shortage’ of unskilled workers.”<sup>163</sup>

The replacement of domestic workers by illegal immigrants has often been justified on grounds that illegal workers will take jobs no American will take. In fact, however, it is not the dirty work that deters Americans from taking such jobs, but the low wages of such jobs, which in turn is caused by the influx of foreign workers willing to work for slave wages.<sup>164</sup> For example, there is probably no dirtier work than garbage collection, yet these jobs are greatly sought after when wages and benefits are sufficient to support a family—despite the filthy nature of the work.

A Chicago Tribune survey of employers who had hired illegal immigrants revealed the following reasons why employers preferred illegal immigrants to hiring African Americans: “The blacks are unreli-

able . . . whereas the illegal immigrants are reliable.”<sup>165</sup> In light of such blatant expressions of racial prejudice, one might ask what these employers might do if the government declined to continue encouraging illegal immigration? Would the employers just go out of business, or would they get down to offering African Americans work-training programs and other opportunities?

In their quest for profits, the modern day industrialists have joined forces with pro-illegal immigration groups to convey the impression that replacing African Americans with illegal immigrants is supported by Hispanics and African Americans alike, and somehow compassionate or moral. In fact, a Harris Poll revealed that 73% of African Americans fully realize that their employers are replacing them with illegal immigrants.<sup>166</sup> An Immigration and Naturalization Poll revealed that only 11% of Hispanics wanted to see more visas granted to people from Mexico—not surprising since Hispanics are among those most likely to suffer from the influx of cheap and exploited foreign labor. Chinese Americans have also suffered. In New York City, an influx of thousands of illegal Chinese immigrants caused the fancy restaurant prices to fall. Wages of dishwashers fell by 40%

after the influx, bringing legal and illegal immigrants alike to the brink of poverty and desperation.

A 1992 study by the Center for Immigration Studies concluded:

When blacks ask why their economic plight has not improved since the Civil Rights Act took effect in 1965, the answer is that the Immigration Act passed the same year. Since then, the importation of millions of foreign workers into the [United States] has done two things: it has provided an alternative supply of labor so that urban employers have not had to hire available black jobseekers, and the foreign workers have oversupplied labor to low-skill markets. . . . Whether intended or not, the present immigration policy is a revived instrument of institutionalized racism.<sup>167</sup>

Supporters of illegal immigration often argue that luring illegal foreign workers to the United States helps Americans by lowering the cost of products consumed by Americans. They point to the “brain drain” of how America can lure away doctors from impoverished native lands. Business Week has gloated that the United States “is reaping a bonanza of educated foreign workers.”<sup>168</sup> Of all the reasons for supporting illegal immigration, the notion of stealing away educated doctors from the impoverished countries which spend their scarce treasure to educate them so that Americans could save a few pennies on their doctors’ bills seems the most immoral of them all.

As a study by Gary Imhoff revealed:

[I]f an influx of illegal professionals could lower the wages of the overpaid, of doctors and lawyers, rather than the wages of the poor, there might be some economic benefit to their coming to this country. . . . Instead, it is the low-wage labor markets, the wages at the bottom that are being depressed.<sup>169</sup>

The study concluded that illegal immigration: “Widens the differences between classes in the United States; it keeps down the price of hiring a maid or a gardener for the rich while it makes things worse for the poor.”<sup>170</sup>

Meanwhile, by refusing to enforce America’s immigration laws, and luring illegal immigrants to their deaths in the desert with promises of free education, free medical care, and calls for amnesty, business and government in the United States become complicit in fostering human exportation as the path of least resistance rather than taking on the entrenched religious and cultural interests, promulgating access to family planning, and promoting the rights of women around the globe.

## POPULATION AND THE CLIMATE CHANGE DEBATE

The current debate over global carbon emissions and climate change has obscured a fact that should not be debatable—namely that the environment is degraded by the human footprint.<sup>171</sup> As global population continues its inexorable expansion, that footprint upon our fragile earth becomes ever bigger and deeper.

Unfortunately, global policy makers, like most environmental groups, have chosen largely to ignore the population factor (“P” component), and instead have focused almost exclusively on one relatively minor element of the human footprint—namely carbon emissions (“T” component).<sup>172</sup> The most widely promoted schemes for addressing this one element have been the “Cap and Trade”<sup>173</sup> schemes, of which the U.S. Acid Rain Program<sup>174</sup> and the European Emissions Trading Scheme<sup>175</sup> are currently being implemented. Voluntary cap and trade schemes include the Chicago Climate Exchange Program,<sup>176</sup> the Kyoto Protocol Clean Development Mechanism,<sup>177</sup> the Regional Greenhouse Gas Initiative,<sup>178</sup> the California Global Warming Solution Act,<sup>179</sup> and the Climate Stewardship Act of 2007.<sup>180</sup>

The premise behind such schemes is that markets can be created in which the right to pollute and emit carbon into the earth’s atmosphere can be bought and sold. Governments can set overall limits, and those industries that wish to exceed those limits must buy them from industries or countries whose emissions fall below the set limits.<sup>181</sup>

An alternative method of coercing industries to emit less carbon is to tax industries that emit higher than an established minimum or to discourage carbon emissions by imposing financial penalties on those who do.<sup>182</sup>

Research has established that the economic benefits to taxing carbon emissions could equal that of charging for a permit price in a cap and trade system, where both result in the same level of reduction in consumption.<sup>183</sup> Given that the effect of cap and trade schemes and carbon taxes are the same, the question arises as to why politicians, particularly in the United States, have opted to promote tax and trade schemes rather than direct excise taxes on carbon emissions.

One answer may be that tax and trade schemes are less transparent. Consumers and voters are apt to understand clearly what the consequences of a “gasoline tax” will be on the price they pay at the pump but less likely to understand that consequences of a carbon tax imposed on a “big corporation” may be the same as a gasoline tax because the cost of an input in the production of a product is ultimately reflected in the price of the product.<sup>184</sup>

However, schemes that rely on consumer ignorance or lack of understanding of economic principles are unlikely to prevail once consumers realize they have been duped. For this reason, policy makers should be honest about the costs and benefits of carbon emission reductions.<sup>185</sup> An NBC poll indicated that while only 27% of Americans would support a gasoline tax to discourage driving and 51% think that jobs in the Northwest are more important than the spotted owl, 51% of Americans said they would drive less safe cars to help the environment.<sup>186</sup>

Only when such programs as cap and trade are made transparent can the public support be achieved which is necessary to long-term programs to save the environment. Even more important, both policy makers and environmental leaders must work to educate the global public to the inconvenient truth that population, not consumption or circle-game politics, is the key to reversing the trend toward environmental degradation.

## CONCLUSION

Two familiar similes help explain the environmental dangers now facing mankind:

The first is that of rearranging the deck chair on the Titanic. While policy makers rearrange the deck chairs by playing the circle game (the “T” component of Holdren’s equation) or urging passengers not to use them (the “A” component), the ship that is planet Earth is sinking under the weight of an inexorably expanding number of passengers.

The second is that of the human body. As one type of cell (the cancer cell) expands exponentially at the expense of all the other human cells needed for life, the whole living organism that is a man or woman dies a slow inexorable death.

In the 1992 Presidential election, campaign workers posted reminders that “It’s the economy, stupid.” Today, all those interested in saving the environment must put up posters reading, “It’s the population, stupid.” 

## Endnotes: As the World Welcomes its Seven Billionth Human: Reflections and Population, Law, and the Environment

<sup>1</sup> See Jan J. Boersema, *Environmental Sciences, Sustainability, and Quality*, in *PRINCIPLES OF ENVIRONMENTAL SCIENCES 9-10* (J. J. Boersema & Lucas Reijnders eds., 2009).

<sup>2</sup> *Roe v. Wade*, 410 U.S. 113, 116 (1973).

<sup>3</sup> *International Programs – World Vital Events Per Unit: 2013*, U.S. CENSUS BUREAU (Nov. 3, 2013, 8:32 PM), <http://www.census.gov/population/international/data/idb/worldvitalerevents.php> (data indicates population increase of 2.5 persons per second); NAFIS SADIK, *THE STATE OF WORLD POPULATION: CHOICES FOR THE NEW CENTURY 7* (1990) [hereinafter *THE STATE OF WORLD POPULATION*] (as cited in ROBERT M. HARDAWAY, *POPULATION, LAW, AND THE ENVIRONMENT 17* (1994) [hereinafter *POPULATION, LAW, AND THE ENVIRONMENT*]); see also Nafis Sadik, *Three People Born Every Second—250,000 Daily*, L.A. TIMES, Feb. 22, 1990, at 10 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra*, at 17).

<sup>4</sup> *THE STATE OF WORLD POPULATION, supra* note 3, at 11.

<sup>5</sup> WORLD RESOURCES INSTITUTE, *WORLD RESOURCES: A GUIDE TO THE GLOBAL ENVIRONMENT 316*, Table 22.1 (1992) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 17); see also SANDRA POSTAL & BRIAN RICHTER, *RIVERS FOR LIFE: MANAGING WATER FOR PEOPLE AND NATURE 7* (2003) (2,000 cubic kilometers of fresh water consumed per year by global economy).

<sup>6</sup> WORLD RESOURCES INSTITUTE, *supra* note 5, at 316, Table 21.2.

<sup>7</sup> *Call of the Wild: More Environmental Facts*, UNIV. MINN. (Summer 2004), <http://cla.umn.edu/news/clatoday/summer2004/facts.php> (last visited Nov. 3, 2013) (“1.5 acres of rainforest are destroyed every second”).

<sup>8</sup> WORLD RESOURCES INSTITUTE, *supra* note 5, at 348, Table 24.2.

<sup>9</sup> WORLD RESOURCES INSTITUTE, *supra* note 5, at 351, Table 24.5.

<sup>10</sup> WORLD RESOURCES INSTITUTE, *supra* note 5, at 351, Table 24.6.

<sup>11</sup> WORLD RESOURCES INSTITUTE, *supra* note 5, at 351, Table 23.2.

<sup>12</sup> LESTER R. BROWN ET AL., *VITAL SIGNS: THE ENVIRONMENTAL TRENDS THAT ARE SHAPING OUR FUTURE 124* (1996); DANIEL CHIRAS, *ENVIRONMENTAL SCIENCE: ACTION FOR A SUSTAINABLE FUTURE 5* (1991) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 17).

<sup>13</sup> Dan Kulpinski, *Human Footprint: Where Does All the Stuff Go?*, NAT’L GEOGRAPHIC, <http://channel.nationalgeographic.com/channel/human-footprint/trash-talk.html> (last visited Nov. 3, 2013) (“Americans generated 251 million tons of trash in 2006, the most recent year for which the Environmental Protection Agency (EPA) has data. Our per capita trash disposal rate was 4.6 pounds per person, per day.”).

<sup>14</sup> Michael Luke, *Fresh Kills*, NYC GARBAGE PROJECT, <http://newyorkgarbage.wordpress.com/fresh-kills/> (last visited Nov. 3, 2013).

<sup>15</sup> Ralph Hamil, *The Arrival of the 5-Billionth Human*, FUTURIST, July/August 1987, at 36 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 17).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*; U.S. Population Growth, SURVEYSEZ.COM, <http://web.archive.org/web/20110828004310/http://surveysez.com/joomla/index.php/us-population-growth.html> (last visited Nov. 17, 2013) (noting that U.S. population growth increases annually by the amount of people in the United States in 1776).

<sup>18</sup> Hamil, *supra* note 15.

<sup>19</sup> Currently, there are 7,122,017,290 people on earth. See U.S. & World Population Clocks, U.S. CENSUS BUREAU (Nov. 3, 2013, 8:58 PM), <http://www.census.gov/main/www/popclock.html>.

<sup>20</sup> Actual estimates of the number of humans living today as a percentage of the total number of humans who ever lived varies from 9% as reported by the New York Times in *9 Percent of Everyone Who Ever Lived is Alive Now*, to 75% as referenced in Carl Haub’s article *How Many People have Ever Lived on Earth*. John No & Ble Wilford, *9 Percent of Everyone Who Ever Lived is Alive Now*, N.Y. TIMES, Oct. 6, 1981, <http://www.nytimes.com/1981/10/06/science/9-percent-of-everyone-who-ever-lived-is-alive-now.html>; Carl Haub, *How Many People have Ever Lived on Earth?*, POPULATION REFERENCE BUREAU (Feb. 1995), <http://www.prb.org/Articles/2002/HowManyPeopleHaveEverLivedonEarth.aspx> (last visited Nov. 3, 2013) (“... at some time back in the 1970s, a now-forgotten writer made the statement that 75[%] of the people who had ever been born were alive at that moment.”).

<sup>21</sup> “On average, U.S. household food consumption adds 8.1 metric tons of [carbon dioxide equivalent] each year. The production of food accounts for 83% of emissions while its transportation accounts for 11%. . . . In the [United States], for each kilowatt hour generated an average of 1.3 pounds of [carbon dioxide] is released at the power plant. Coal releases 2.1 pounds, petroleum releases 2.0 pounds, and natural gas releases 1.3 pounds. . . . U.S. fuel economy decreased 4% from 1988 to 2009, down to 21.1 miles per gallon, while annual per capita miles driven have increased 9% since 1996, to 10,045 miles. Cars and light trucks emitted nearly 1.2 billion metric tons of [carbon dioxide], or 17% of the U.S. total.” CENTER FOR SUSTAINABLE SYSTEMS, UNIV. MICH., CARBON FOOTPRINT FACTSHEET (2013), available at [http://css.snre.umich.edu/css\\_doc/CSS09-05.pdf](http://css.snre.umich.edu/css_doc/CSS09-05.pdf).

<sup>22</sup> Stephen Stec, *Ecological Rights Advancing the Rule of Law in Eastern Europe*, 13 J. ENVTL. L. & LITIG. 275, 334 (1998).

<sup>23</sup> Lee M. Thomas, Adm’r, U.S. Env’tl. Prot. Agency, Address at the National Press Club: The Next Four Years: An Agenda for Environmental Results 6-7 (Apr. 3, 1985).

<sup>24</sup> Donovan Webster, *Sweet Home Arkansas*, UTNE READER, July/Aug. 1992, at 116 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 63-64).

<sup>25</sup> *Id.* at 112, 116.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* at 113.

<sup>28</sup> *Id.*

<sup>29</sup> GEORGE TYLER MILLER, *LIVING IN THE ENVIRONMENT: CONCEPTS, PROBLEMS, AND ALTERNATIVES 318* (1975) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 162).

<sup>30</sup> *Id.*

<sup>31</sup> *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 54).

<sup>32</sup> *Id.* at 172.

<sup>33</sup> *Id.* at 203-204 (Powell, J., dissenting).

<sup>34</sup> Maria Goodavage, *Battling Safe Windmills: Bird Deaths in Turbines Spur Outcry*, USA TODAY, May 27, 1993, at 3A (as cited in *POPULATION, LAW, AND THE ENVIRONMENT, supra* note 3, at 37).

<sup>35</sup> *Id.*

## Endnotes: AS THE WORLD WELCOMES ITS SEVEN BILLIONTH HUMAN: REFLECTIONS AND POPULATION, LAW, AND THE ENVIRONMENT

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- <sup>36</sup> JEAN-PAUL RODRIGUE ET AL., *THE GEOGRAPHY OF TRANSPORT SYSTEMS: AIR POLLUTANTS EMITTED BY TRANSPORT SYSTEMS* (2009), available at <http://people.hofstra.edu/geotrans/eng/ch8en/appl8en/ch8a1en.html>.
- <sup>37</sup> U.S. NUCLEAR REGULATORY COMM'N, *BACKGROUND OF RADIOACTIVE WASTE* (2011) available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/radwaste.html>.
- <sup>38</sup> NIMBY, or "not in my backyard" refers to the "opposition to the locating of something considered undesirable (as a prison or incinerator) in one's neighborhood." *Definition of NIMBY*, MERRIAM-WEBSTER.COM, <http://www.merriam-webster.com/dictionary/nimby> (last visited Dec. 23, 2013).
- <sup>39</sup> GEMMA AYMONNE HEDDLE, *SOCIOPOLITICAL CHALLENGES TO THE SITING OF FACILITIES WITH PERCEIVED ENVIRONMENTAL RISKS 2* (June 2003), available at <http://web.mit.edu/mitei/lfee/programs/archive/publications/2003-05-th.pdf>.
- <sup>40</sup> Jim Day, *How Electric Cars Really Work*, *LAS VEGAS REV.-J.*, Aug. 24, 2009, <http://www.politicalcartoons.com/cartoon/b544da69-4bd9-42e2-9be2-40a29cb908e0.html>.
- <sup>41</sup> Tom Wolf, *The Rise and Fall of the Environmental Movement*, *L.A. TIMES*, Mar. 24, 1991, at M6 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 61).
- <sup>42</sup> Dana Milbank, *Despite Appeal, Saving the Earth Lacks Donors*, *WALL ST. J.*, July 11, 1990, at B1 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 67).
- <sup>43</sup> Wolf, *supra* note 41, at M6.
- <sup>44</sup> *Misunderstood Mess: A Survey of Waste and the Environment*, *THE ECONOMIST*, May 29, 1993 Supp., at 1-18 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 75).
- <sup>45</sup> *Id.*; see also Amanda Onion, *The Diaper Debate: Are Disposables as Green as Cloth?*, *ABC NEWS*, May 26, 2005, <http://abcnews.go.com/Technology/story?id=789465&page=1> ("Research by Bill Rathje, a trash expert and professor emeritus at the University of Arizona, has shown that even a head of lettuce, let alone a plastic diaper, can persist for decades in a landfill where there is often a lack of exposure to air and sun that would otherwise break materials down.").
- <sup>46</sup> Bob Schildgen, *Hey Mr. Green: The Great Diaper Debate*, *SIERRA CLUB MAG.* (Nov. 3, 2009), <http://sierraclub.typepad.com/mrgreen/2009/11/the-great-diaper-debate.html>; see also Amanda Onion, *supra* note 45, at 1 ("After a three-year . . . study, the London-based Environmental Agency concluded that disposable diapers have the same environmental impact as reusable diapers when the effect of laundering cloth diapers is taken into account. . . . The Union of Concerned Scientists has estimated about 18 billion diapers are thrown into landfills every year. And a 1998 study by the Environmental Protection Agency found that diapers made up 3.4 million tons of waste, or 2.1[%] of U.S. garbage in landfills that year.").
- <sup>47</sup> William Booth & D'Vera Cohn, *Sharing the Environmental Burden*, *WASH. POST*, April 18, 1990, at 1 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 75).
- <sup>48</sup> *The Catalytic Converter*, WORCESTER POLYTECHNIC INSTITUTE, <http://www.wpi.edu/about/history/catalytic.html> (last visited Aug. 14, 2011); U.S. ENVTL. PROT. AGENCY OFFICE OF MOBILE SOURCES, *AUTOMOBILE EMISSIONS: AN OVERVIEW* (1994), available at <http://www.epa.gov/oms/consumer/05-autos.pdf>.
- <sup>49</sup> *The Race to Build Really Cheap Cars*, *BLOOMBERG BUSINESSWEEK* (Apr. 23, 2007), [http://www.businessweek.com/magazine/content/07\\_17/b4031064.htm](http://www.businessweek.com/magazine/content/07_17/b4031064.htm).
- <sup>50</sup> Mark Trumbull, *Poverty Now Comes with a Color TV*, *MSN MONEY*, <http://web.archive.org/web/20080212091343/http://articles.moneycentral.msn.com/Investing/Extra/PovertyNowComesWithAColorTV.aspx> (last visited Nov. 17, 2013) (stating that in 2002, the wealthiest 10% of Americans had 2.4 cars per household).
- <sup>51</sup> Taehan Min-guk, *Korea, South*, *ENCYCLOPEDIA NATIONS*, <http://www.nationsencyclopedia.com/economies/Asia-and-the-Pacific/Korea-South.html> (last visited Nov. 17, 2013).
- <sup>52</sup> Heather Timmons, *In India, a \$2,500 Pace Car*, *N.Y. TIMES*, Oct. 11, 2007, [http://www.nytimes.com/2007/10/12/business/worldbusiness/12iht-12cars.7864085.html?pagewanted=2&sq=car%20company%20in%20India%20announces%20\\$3000%20car&st=cse&sc=1](http://www.nytimes.com/2007/10/12/business/worldbusiness/12iht-12cars.7864085.html?pagewanted=2&sq=car%20company%20in%20India%20announces%20$3000%20car&st=cse&sc=1).
- <sup>53</sup> See AL GORE, *EARTH IN THE BALANCE: ECOLOGY AND THE HUMAN SPIRIT* 333-34 (1992) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 14).
- <sup>54</sup> See generally, *id.* at 216-237.
- <sup>55</sup> *Id.*
- <sup>56</sup> Peter Schweizer, *Gore Isn't Quite as Green as He's Led the World to Believe*, *USA TODAY*, Dec. 7, 2006, [http://www.usatoday.com/news/opinion/editorials/2006-08-09-gore-green\\_x.htm](http://www.usatoday.com/news/opinion/editorials/2006-08-09-gore-green_x.htm).
- <sup>57</sup> UN SECRETARY-GENERAL, *THE MILLENNIUM DEVELOPMENT GOALS REPORT 2009* (2009), available at <http://www.unhcr.org/refworld/docid/4a534f72.html>.
- <sup>58</sup> Christina D. Romer, *Great Depression*, [http://elsa.berkeley.edu/~cromer/great\\_depression.pdf](http://elsa.berkeley.edu/~cromer/great_depression.pdf) (last visited Aug. 19, 2011).
- <sup>59</sup> See *id.*
- <sup>60</sup> Jerry Morton, *Romania, BREAD, SALT & PLUM BRANDY*, <http://breadsaltandplumbrandy.com/index-4.html> (last visited Nov. 17, 2013); *The People's Palace: Ceausescu's Lasting, Loathed Legacy*, *BUCHAREST LIFE*, <http://www.bucharest-life.com/bucharest/palace-of-parliament> (last visited Aug. 19, 2011).
- <sup>61</sup> See generally Kelvin Teo, *Between Tolerating the Future Dictator and Perpetuating Democracy*, *NEW ASIA REPUBLIC*, Mar. 7, 2011, <http://newasiarepublic.com/?p=26175>.
- <sup>62</sup> MILLER, *supra* note 29, at 318.
- <sup>63</sup> MILLER, *supra* note 29, at 318.
- <sup>64</sup> *The Poorest Countries in the World*, *GLOBAL FINANCE*, (Aug. 14, 2011), <http://www.gfmag.com/tools/global-database/economic-data/10502-the-poorest-countries-in-the-world.html#axzz1V2hDbxpb>.
- <sup>65</sup> See MILLER, *supra* note 29, at 304.
- <sup>66</sup> See generally GORE, *supra* note 53.
- <sup>67</sup> See Thomas Goltz, *Earth First Meeting Reflects Gap Between Radicals, Mainstream*, *WASH. POST*, July 19, 1990, at A3 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 14).
- <sup>68</sup> See Laurene Conner, *Sustainable Development: A Global Agenda Structured on Population Control*, *ILLUMINATI CONSPIRACY ARCHIVE*, [http://www.conspiracyarchive.com/NewAge/sustainable\\_development.htm](http://www.conspiracyarchive.com/NewAge/sustainable_development.htm) (last visited Nov. 17, 2013).
- <sup>69</sup> Public Works Appropriation Act, 1967, Pub. L. No. 89-689, 80 Stat. 1002, 1014 (1966).
- <sup>70</sup> Joy G. Dryfoos, *Family Planning Clinics—A Story of Growth and Conflict*, *20 FAMILY PLAN. PERSPECTIVES* 282, 284 (1988).
- <sup>71</sup> Anna Clark, *Why the GOP's Plans to Cut Family Planning Will Cost Us All*, *ALTERNET: PERSONAL HEALTH* (May 25, 2011), [http://www.alternet.org/health/151063/why\\_the\\_gop's\\_plans\\_to\\_cut\\_family\\_planning\\_will\\_cost\\_us\\_all](http://www.alternet.org/health/151063/why_the_gop's_plans_to_cut_family_planning_will_cost_us_all).
- <sup>72</sup> Ann Devroy, *Bush Hints at Veto of Foreign Aid Bill; President Denounces Provision to Fund Population-Control Agency*, *WASH. POST*, Oct. 10, 1989, <http://www.highbeam.com/doc/1P2-1216468.html> (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 29).
- <sup>73</sup> *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 80. There do exist some environmental groups that focus on population, but they are a small percentage of environmental groups. Groups that do address population issues include Zero Population Growth, the Population Crisis Committee, and the Population Institute.
- <sup>74</sup> THOMAS R. MALTHUS, *AN ESSAY ON THE PRINCIPLE OF POPULATION, AS IT AFFECTS THE FUTURE IMPROVEMENT OF SOCIETY* 4 (1798), available at <http://www.esp.org/books/malthus/population/malthus.pdf> (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 19).
- <sup>75</sup> *Id.*
- <sup>76</sup> *Id.* at 1-5.
- <sup>77</sup> See generally Morgan Rose, *What Malthus Missed, and Attacks on Individualists*, *LIBRARY OF ECON. & LIBERTY* (Oct. 28, 2002), <http://www.econlib.org/library/Columns/Teachers/critiquemalthus.html>.
- <sup>78</sup> Charles C. Mann, *How Many Is Too Many*, *ATLANTIC MONTHLY*, Feb. 1993, at 50, available at <http://www.theatlantic.com/past/docs/issues/93feb/mann1.htm> (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 20).
- <sup>79</sup> *Id.*
- <sup>80</sup> *Id.* at 49.
- <sup>81</sup> *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 20.
- <sup>82</sup> CHIRAS, *supra* note 12, at 152 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 31).
- <sup>83</sup> PAUL R. EHRLICH, *THE POPULATION BOMB* (1968) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 1).

<sup>84</sup> DONELLA H. MEADOWS, ET AL., *THE LIMITS TO GROWTH* (1972) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 2).

<sup>85</sup> JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM, AND DEMOCRACY 83 (1962) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 21).

<sup>86</sup> SIMON KUZNETS, POPULATION, CAPITAL, AND GROWTH 3 (1973) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 21-22).

<sup>87</sup> JOSEPH A. SCHUMPETER, HISTORY OF ECONOMIC ANALYSIS 251 (1994 ed.) (emphasis omitted) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 18).

<sup>88</sup> RODERICK STACKELBERG, THE ROUTLEDGE COMPANION TO NAZI 158 (2007).

<sup>89</sup> MILTON JACOB ROSENBERG, AN AMERICAN TRAPPED IN A COMMUNIST PARADISE: AN HISTORICAL AUTOBIOGRAPHY 90 (2003) (“Stalin awarded women with medals and privileges if they gave birth to five or more children. If a Soviet woman gave birth to ten or more children, she was awarded the title of Hero of Socialist Labor.”).

<sup>90</sup> WILLIAM L. STEFFEN, GLOBAL CHANGE AND THE EARTH SYSTEM: A PLANET UNDER PRESSURE 289-91 (2d prtg. 2005).

<sup>91</sup> Mann, *supra* note 78, at 47.

<sup>92</sup> POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 2.

<sup>93</sup> K. BRUCE NEWBOLD, POPULATION GEOGRAPHY: TOOLS AND ISSUES 17 (2010) (“Between 1960 and 1998, the world’s population doubled from three to six billion.”).

<sup>94</sup> GEORGE TYLER MILLER, ENVIRONMENTAL SCIENCE: WORKING WITH THE EARTH 5 (5th ed. 1995).

<sup>95</sup> John Vidal, *Every Third Person Will Be a Slum Dweller Within 30 Years*, UN Agency Warns, GUARDIAN, Oct. 4, 2003, <http://www.guardian.co.uk/world/2003/oct/04/population.johnvidal> (“The largest study ever made of global urban conditions has found that 940 million people—almost one-sixth of the world’s population—already live in squalid, unhealthy areas, mostly without water, sanitation, public services or legal security.”).

<sup>96</sup> Julian Borger & Juliette Jowitt, *Nearly a Billion People Worldwide are Starving*, UN Agency Warns, GUARDIAN, Oct. 4, 2003, <http://www.guardian.co.uk/world/2008/dec/10/hunger-population-un-food-environment> (estimating 963 million people are starving).

<sup>97</sup> *18,000 Children Die Everyday of Hunger*, UN Says, USA TODAY, Feb. 17, 2007, [http://usatoday30.usatoday.com/news/world/2007-02-17-un-hunger\\_x.htm](http://usatoday30.usatoday.com/news/world/2007-02-17-un-hunger_x.htm).

<sup>98</sup> *Eliminating Non-Sustainability/Regenerating the Environment*, WORLD GAME INST., [http://www.unesco.org/education/tlsf/mods/theme\\_a/interact/www.worldgame.org/wwwproject/what14.shtml](http://www.unesco.org/education/tlsf/mods/theme_a/interact/www.worldgame.org/wwwproject/what14.shtml) (last visited Nov. 17, 2013); *World Demands Surpassing Food Supplies*, HOUSTON CHRONICLE, Jan. 16, 1994, at A22.

<sup>99</sup> David Biello, *Another Inconvenient Truth: The World’s Growing Population Poses a Malthusian Dilemma*, SCIENTIFIC AM. (Oct. 2, 2009), <http://www.scientificamerican.com/article.cfm?id=growing-population-poses-malthusian-dilemma>; Borger & Jowitt, *supra* note 96; U.N. DEP’T ECON. & SOC. AFFAIRS, WORLD POPULATION TO 2300, at 84 (2004), available at <http://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf> (Currently, 1 billion people are starving to death while in Malthus’ time there were approximately 1 billion people on earth).

<sup>100</sup> John V. Last, *The U.N.’s Imaginary Babies*, WALL ST. J., Aug. 4, 2011, <http://online.wsj.com/news/articles/SB10001424053111903341404576482451390287410>.

<sup>101</sup> *Id.*

<sup>102</sup> George Carey, *Waste Footprint*, HEC GLOBAL LEARNING, <http://www.globalfootprints.org/waste> (last visited Nov. 17, 2013) (“A child born in a wealthy country is likely to consume, waste, and pollute more in his lifetime than 50 children born in developing nations. Our energy-burning lifestyles are pushing our planet to the point of no return.”).

<sup>103</sup> See Biello, *supra* note 99 (“Today, at least one billion people are chronically malnourished or starving. Simply to maintain that sad state of affairs would require the clearing (read: deforestation) of 900 million additional hectares of land, according to Pedro Sanchez, director of the Tropical Agriculture and Rural Environment Program at The Earth Institute at Columbia University.”); AMANDA LEIGH HAAG, *Checking Earth’s Vital Signs*, in NASA: Supporting Earth System Science 44, 44-45 (Laurie J. Schmidt ed., 2005), available at [http://nasadaacs.eos.nasa.gov/articles/2005/2005\\_mea.html](http://nasadaacs.eos.nasa.gov/articles/2005/2005_mea.html) (“[The earth’s] vital signs aren’t looking good. Of the 24 categories of ecosystem health that were evaluated, 15 are being seriously degraded at a rate that cannot be sustained, said Walt Reid, director of the MA [Millennium Ecosystem Assessment], an international, multimillion dollar undertaking. ‘If we think of the planet’s ecosystem services as a bank account that could last indefinitely if managed wisely,

we are instead spending the principal. That does provide short-term benefits, but the long-term costs will be significant,” said Reid. By altering the planet, be it through deforestation, over-fishing, or degradation of land and climate change, ‘we’re depleting a capital asset,’ he said.”); U.N. ENV’T PROGRAMME, GLOBAL ENVIRONMENT OUTLOOK GEO-4: ENVIRONMENT FOR DEVELOPMENT 12 (2007) (“changes such as a growing population and increased consumption of energy have had a huge impact on the environment, challenging society’s ability to achieve sustainable development”), available at [http://www.unep.org/geo/geo4/report/GEO-4\\_Report\\_Full\\_en.pdf](http://www.unep.org/geo/geo4/report/GEO-4_Report_Full_en.pdf).

<sup>104</sup> See generally POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3.

<sup>105</sup> See RICHARD M. MOSEY, 2030: THE COMING TUMULT 91-93 (2009); See generally POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3.

<sup>106</sup> See MOSEY, *supra* note 105, at 91-92, 98-99; see generally POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3; Robert M. Hardaway, *Environmental Malthusianism: Integrating Population and Environmental Policy*, 27 ENVTL. L. 1209 (1997).

<sup>107</sup> George D. Moffett, *Fertility Rates Decline in Third-World Nations*, CHRIST. SCI. MO., July 8, 1992, at B16, available at <http://www.csmonitor.com/1992/0708/08101.html> (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 100).

<sup>108</sup> M. Peter McPherson, Address on International Family Planning, 86 DEP’T ST. BULL. 43 (Nov. 25, 1985), available at [http://pdf.usaid.gov/pdf\\_docs/pdaas192.pdf](http://pdf.usaid.gov/pdf_docs/pdaas192.pdf) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 100).

<sup>109</sup> Comstock Act, Ch. 258 § 2, 17 Stat. 598 (1873) (presently codified as amended at 18 U.S.C. § 1461 (2011)) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 92).

<sup>110</sup> Pub. L. No. 91-662, 84 Stat. 1973 (1971) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 92).

<sup>111</sup> MILTON LADER & LAWRENCE MELTZER, MARGARET SANGER: PIONEER OF BIRTH CONTROL 44 (1969) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 92).

<sup>112</sup> MARGARET SANGER, MARGARET SANGER: AN AUTOBIOGRAPHY 89-91 (Cooper Square Press ed., 1999) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 93).

<sup>113</sup> *Id.* at 89.

<sup>114</sup> Tariff Act of 1930, ch. 497, tit. 3, § 305, 46 Stat. 688 (1930) (codified as amended at 19 U.S.C. § 1305 (2011)) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 95).

<sup>115</sup> N.Y. PENAL LAW §§ 1141-42 (McKinney Supp. 1937) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 95).

<sup>116</sup> CONN. GEN. STAT. §§53-32, 54-196 (West, 1969) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 95).

<sup>117</sup> *Griswold v. Connecticut*, 381 U.S. 479 (1965).

<sup>118</sup> *Eisenstadt v. Baird*, 405 U.S. 438 (1972).

<sup>119</sup> Casti Connubii, Encyclical of Pope Pius XI on Christian Marriage (Dec. 31, 1930), in JOHN CAVANAUGH, THE POPES, THE PILL, AND THE PEOPLE; A DOCUMENTARY STUDY (1965), available at [http://www.vatican.va/holy\\_father/pius\\_xi/encyclicals/documents/hf\\_p-xi\\_enc\\_31121930\\_casti-connubii\\_en.html](http://www.vatican.va/holy_father/pius_xi/encyclicals/documents/hf_p-xi_enc_31121930_casti-connubii_en.html) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 87).

<sup>120</sup> CAVANAUGH, *supra* note 119, at 14 (citing de Convig. Aduit ii: 12) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 87).

<sup>121</sup> CAVANAUGH, *supra* note 119, at 109 (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 87).

<sup>122</sup> Miriam Zoila Perez, *Past and Present Collide as the Black Anti-Abortion Movement Grows*, COLORLINES: NEWS FOR ACTION (Mar. 3, 2011, 9:35 AM), [http://colorlines.com/archives/2011/03/past\\_and\\_present\\_collide\\_as\\_the\\_black\\_anti-abortion\\_movement\\_grows.html](http://colorlines.com/archives/2011/03/past_and_present_collide_as_the_black_anti-abortion_movement_grows.html).

<sup>123</sup> JACQUELINE KASUN, THE WAR AGAINST POPULATION: THE ECONOMICS AND IDEOLOGY OF WORLD POPULATION CONTROL 159 (1st ed.1988) (citing KARL PEARSON, LIFE, LETTERS, AND LABOURS OF FRANCIS GALTON (4 vols. 1914-40)) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 88).

<sup>124</sup> *Id.* at 160.

<sup>125</sup> *Id.* at 86 (quoting EDWARD POHLMAN, HOW TO KILL POPULATION 161 (1971)).

<sup>126</sup> POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 88.

<sup>127</sup> KASUN, *supra* note 123, at 209.

<sup>128</sup> KASUN, *supra* note 123, at 207 (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 89-90).

<sup>129</sup> KASUN, *supra* note 123, at 38 (citing ROBERT L. SASSONE, HANDBOOK ON POPULATION 99 (4th ed. 1978)) (as cited in POPULATION, LAW, AND THE ENVIRONMENT, *supra* note 3, at 90).

- <sup>130</sup> PAUL R. EHRLICH & ANNE H. EHRLICH, *THE POPULATION EXPLOSION* 39 (1991) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 22).
- <sup>131</sup> *Roe*, 410 U.S. at 116.
- <sup>132</sup> Karen Breslau, *Overplanned Parenthood: Ceausescu's Cruel Law*, NEWSWEEK, Apr. 22, 1990, at 35, available at [http://www.ceausescu.org/ceausescu\\_texts/overplanned\\_parenthood.htm](http://www.ceausescu.org/ceausescu_texts/overplanned_parenthood.htm) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 103).
- <sup>133</sup> David Grimes et al., *Unsafe Abortion: the Preventable Pandemic*, WORLD HEALTH ORG.: SEXUAL & REPRODUCTIVE HEALTH 4 (2006), available at [http://www.who.int/reproductivehealth/publications/general/lancet\\_4.pdf](http://www.who.int/reproductivehealth/publications/general/lancet_4.pdf).
- <sup>134</sup> Lindsay Beyerstein, *Illegal Abortion Kills Kenyan Women*, THE FOCAL POINT (Mar. 4, 2010, 2:08 PM), <http://bigthink.com/ideas/18925> (“[A] staggering 35% of all maternal deaths in Kenya are due to unsafe abortions. At least 2,600 women die from complications of unsafe abortions every year and another 21,000 are hospitalized at great cost to Kenya’s cash-strapped health system. Kenyan health care providers told CRR [the Center for Reproductive Rights] the true numbers are probably much higher because so many women never seek medical attention. When they die, the true cause is seldom recorded.”).
- <sup>135</sup> LAURENCE H. TRIBE, *ABORTION: THE CLASH OF ABSOLUTES* 35 (1990) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 112).
- <sup>136</sup> See Susan A. Cohen, *Toward Making Abortion ‘Rare’: The Shifting Battleground Over the Means to an End*, 9 GUTTMACHER POLICY REV., 1 (2006), available at <http://www.guttmacher.org/pubs/gpr/09/1/gpr090102.html>.
- <sup>137</sup> *Id.* at 2.
- <sup>138</sup> *Id.* at 3.
- <sup>139</sup> *Id.*; MYRA MARX FERREE, *SHAPING ABORTION DISCOURSE: DEMOCRACY AND THE PUBLIC SPHERE IN GERMANY AND THE UNITED STATES* 27 (2002).
- <sup>140</sup> Breslau, *supra* note 132, at 35.
- <sup>141</sup> Breslau, *supra* note 132, at 35.
- <sup>142</sup> The Netherlands had one of the world’s lowest abortion rates in the 1990s but subsequently saw a rate increase due to increased abortions among poor, minority populations “in which access to birth control [is] restricted, in which female sexuality [is] tightly policed, in which girls who become pregnant outside marriage are disgraced[,] and in which the costs and obligations of child-bearing [are] loaded almost entirely on women alone.” David Frum, *Let’s Get Real about Abortions*, CNN, Oct. 29, 2012, <http://www.cnn.com/2012/10/29/opinion/frum-abortion-reality/>.
- <sup>143</sup> JOHN T. NOONAN, *THE MORALITY OF ABORTION: LEGAL AND HISTORICAL PERSPECTIVES*, 23 (1970) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 113).
- <sup>144</sup> *Id.*
- <sup>145</sup> *Id.*
- <sup>146</sup> Effraenatam, I Codicis Juris Fontes, ed. P. Gasparri, 308 (as cited in NOONAN, *supra* note 143, at 27 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 113)).
- <sup>147</sup> Sedes Apostolica, I Codicis Juris Fontes, 330-31 (as cited in NOONAN, *supra* note 143, at 33 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 113)).
- <sup>148</sup> *Roe*, 410 U.S. at 132-34.
- <sup>149</sup> LAURENCE H. TRIBE, *ABORTION: THE CLASH OF ABSOLUTES* 31 (1990) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 112).
- <sup>150</sup> JAMES C. MOHR, *ABORTION IN AMERICA: THE ORIGINS AND EVOLUTION OF NATIONAL POLICY, 1800-1900*, at 3 (1978) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 115).
- <sup>151</sup> *Id.* at 5.
- <sup>152</sup> Reports of Persons Arrested Under the Auspices of ‘the Committee for the Suppression of Vice’ of the Young Men’s Christian Association of New York City, 1872-1873, MSS ledgers in the Library of Congress Entry #5 (as cited in MOHR, *supra* note 150, at 197) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 116).
- <sup>153</sup> MOHR, *supra* note 150 at 226.
- <sup>154</sup> *Roe*, 410 U.S. at 154.
- <sup>155</sup> See Refugee Act of 1980, 8 U.S.C.A. § 1101 (West 2011) (allowing immigration from anywhere in the world if an immigrant claimed “fear of prosecution” based on a social group or political opinion. Such a policy virtually invited dictatorial human-exporting countries to rid themselves of their prison populations.).
- <sup>156</sup> RICHARD D. LAMM & GARY IMHOFF, *THE IMMIGRATION TIME BOMB: THE FRAGMENTING OF AMERICA* 62-63 (1985) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 133).
- <sup>157</sup> *Id.*
- <sup>158</sup> *Id.*
- <sup>159</sup> See generally *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 85-109.
- <sup>160</sup> Vlax Kershner, *A Hot Issue for the 90s: California Leads in Immigration—and Backlash*, S.F. CHRON., June 21, 1993, at A6 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 144).
- <sup>161</sup> *Id.*
- <sup>162</sup> BOOKER T. WASHINGTON, *The Atlanta Exposition Address*, in *UP FROM SLAVERY: AN AUTOBIOGRAPHY* (1901), available at <http://www.bartleby.com/1004/14.html> (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 138).
- <sup>163</sup> LAMM & IMHOFF, *supra* note 156, at 138.
- <sup>164</sup> Martha R. Gore, *Foreign Workers Take Jobs From Americans*, EXAMINER, Feb. 1, 2009, <http://www.examiner.com/watchdog-politics-in-national/foreign-workers-take-jobs-from-americans>.
- <sup>165</sup> Vlax Kershner, *Why Immigration Laws are so Hard to Change*, S.F. CHRON., June 21, 1993, at A7 (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 139).
- <sup>166</sup> Michael Mandel et al., *The Immigrants*, BLOOMBERGBUSINESSWEEK (July 12, 1992), <http://www.businessweek.com/stories/1992-07-12/the-immigrants> (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 140).
- <sup>167</sup> Vernon M. Briggs, *Despair Behind the Riots: The Impediment of Mass Immigration*, 11 CENTER IMMIGR. STUD. 1 (1992) (as cited in *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3, at 139-40).
- <sup>168</sup> Mandel, *supra* note 166.
- <sup>169</sup> LAMM & IMHOFF, *supra* note 156, at 140.
- <sup>170</sup> LAMM & IMHOFF, *supra* note 156, at 140.
- <sup>171</sup> RICHARD M. MOSEY, *supra* note 105, at 98-99; Biello, *supra* note 99; HAAG, *supra* note 103, at 44-45; *Global Warming Effects-Mitigate Temperature Increase*, TIME FOR CHANGE, <http://timeforchange.org/mitigate-global-warming-effects-temperature-simulation> (last visited Aug. 29, 2011); See generally *POPULATION, LAW, AND THE ENVIRONMENT*, *supra* note 3.
- <sup>172</sup> Carbon is only a trace element in our atmosphere (less than 2%); of this 2%, only 3% is attributable to human carbon emissions; of that 3%, only 22% is attributable to U.S. carbon emissions; thus even if the United States reduced its carbon emissions to zero, it would have only an infinitesimal effect on global carbon emissions. Chip Knappenberger, *Climate Impacts of Waxman-Markey (the IPCC-based arithmetic of no gain)*, MASTERRESOURCE (May 6, 2009), <http://www.masterresource.org/2009/05/part-i-a-climate-analysis-of-the-waxman-markey-climate-bill—the-impacts-of-us-actions-alone/>; see also TIME FOR CHANGE, *supra* note 171, <http://timeforchange.org/CO2-emissions-by-country>.
- <sup>173</sup> Nadia Zakir, *Emissions Trading Initiatives: Responding to Climate Change Through Market Forces*, 16 A.B.A. BUS. L. TODAY 6 (2007), available at <http://apps.americanbar.org/buslaw/blt/2007-07-08/zakir.shtml>.
- <sup>174</sup> Eric Shaffner, *Repudiation and Regret: Is the United States Sitting Out the Kyoto Protocol to its Economic Detriment*, 37 ENVTL. L. 441, 454 (2007).
- <sup>175</sup> See Council Directive 2003/87, art. 1, 2003 O.J. (L 275) 32, 36 (EC).
- <sup>176</sup> ICE OTC: Chicago Climate Exchange, available at <https://www.theice.com/ccx.jhtml>.
- <sup>177</sup> Clean Development Mechanism, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, [http://unfccc.int/kyoto\\_protocol/mechanisms/clean\\_development\\_mechanism/items/2718.php](http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php).
- <sup>178</sup> Regional Greenhouse Gas Initiative, <http://www.rggi.org/>.
- <sup>179</sup> CAL. HEALTH & SAFETY CODE § 38500 et seq. (West 2006), available at <http://www.arb.ca.gov/cc/ab32/ab32.htm>.
- <sup>180</sup> Climate Stewardship Act of 2007, S. 280, 110th Cong. (2007), available at <http://www.govtrack.us/congress/bill.xpd?bill=s110-280>.
- <sup>181</sup> DICKINSON, MACKAMAN, TYLER & HAGEN, *ABCs OF CARBON MARKETS*, 7 (2009), available at <http://www.dickinsonlaw.com/docs/publications/280.pdf>.
- <sup>182</sup> *Id.*
- <sup>183</sup> Ian W.H. Parry, *Fiscal Interactions and the Case for Carbon Taxes over Grandfathered Carbon Permits*, 19 OXFORD REV. ECON. POL’Y 3, 385, 397 (2003).
- <sup>184</sup> *The Basic Principles: Supply and Demand*, BASIC ECONOMICS.INFO, <http://www.basiceconomics.info/supply-and-demand.php> (last visited Nov. 18, 2013).
- <sup>185</sup> See generally Ian W. H. Parry, *Reducing Carbon Emissions: Interactions with the Tax System Raise the Cost*, 128 RESOURCES FOR FUTURE 9 (1997), available at <http://www.rff.org/rff/Documents/RFF-Resources-128-co2redux.pdf>.
- <sup>186</sup> Rose Gutfeld, *Shades of Green*, WALL ST. J., Aug. 2, 1991, at A1.