When studying the global demographic map, one cannot overlook the presence of a global generation gap, as developing countries struggle to address growing youth populations while developed countries are faced with a “graying” future. As the world watched global population surpass 7 billion people in 2011, demographic concerns and their role as catalysts of global economic, social, and political issues garnered greater attention in policy spheres. Despite an expected decline in the average global annual population growth rate to 0.77 percent over the next half century, world population will continue to climb to 8.9 billion people in 2050.1 However, a figure more disconcerting than the projected increase in population is the distribution across the globe, as “less developed regions will account for 99 per cent of the expected increment to world population,”2 growing at approximately 58% over the 50 year period. Thus, while Europe experiences a halving of its natural population, Africa’s populace will nearly double, which in turn will further stress the increasingly unstable and unsustainable global demographic landscape. A closer examination of this population explosion indicates that economic, social, and political instability are exacerbated by the presence of “youth bulges”3 within the population structure, which was most recently visible in the Arab Spring movement. While many fast-growing countries are ill-prepared to address the economic and social frustrations of their growing, and increasingly vocal youths, many developed countries will be overwhelmed by the opposite end of the population spectrum; “massive age waves”4 will strain social and health programs, also resulting in social and political distress. Today’s policymakers must prevent these population pyramids from toppling over by reconciling increasing demographic instability.
pressures in the developing world with a declining capacity to address these threats in the developed one.

Overpopulation must be credited as an underlying cause of many of today’s interdisciplinary global issues, such as poverty, resource constraints, gender inequality, and social unrest. In developing countries, ranging from Afghanistan to India, excessive population growth has increased pressures on food and water security, physical space, and jobs for all; ultimately, population pressure has acted as kindling to the fire of political, religious, ethnic, and social tensions. An understated factor in this relationship however is age structure, as very young populations, or “youth bulges”, embody sixty-two countries today with two-thirds of their populations under the age of thirty. These sixty-two countries are concentrated in the “demographic time-bomb” regions of the Middle East and Africa, as youth bulges, poverty, and poor education and health hinder their development out of the early demographic stage. Concerns over unbalanced “youth bulges” extend back to Nazi Germany and Maoist China, as large, disenfranchised youth populations have mixed with a weak economy, environmental stresses, and poor governance to produce a dangerous concoction of political violence and social conflict. As countries with “more...
zation. For states that once saw large populations as a sign of wealth and power, the demographic, economic, and political tides are changing with the “age waves” that are rippling through Western Europe and Japan. In the developed world, “graying means paying” because increasing the proportion of elderly and retired individuals will add pressure to the labor force and overall economy, as well as to social services such as pensions, health care, and nursing homes. Aging populations are a more prominent demographic concern today for their future repercussions, as from 2100 to 2300, “the proportion of world population 65 years and older will increase by one-third (from 24 to 32 per cent)... the proportion 80 years and older will double (from 8.5 to 17 per cent).” Due to evolving social norms and technologies that encourage lower fertility rates and longer life expectancies, retired populations will see a surge by 2300, with people retiring 31 years short of their life expectancy (at age 65). Opposing demographic forces are at work in the world, as fertility rates plummet in regions like East Asia to around 1.0 to 1.3, while life expectancy continues to increase across much of the globe. Far below the 2.1 replacement rate necessary to maintain a stable population, these low fertility rates are of particular concern because of their role in “depopulation”. In addition to aging trends, the coming decade will face additional strain due to the retirement of the postwar baby boomer generation, increasing the median ages of Western Europe and Japan from 33-34 years to 47-52 years. While some demographers view this “hyperaging”, and the shift from high to low fertility and mortality, as the inevitable last stage of demographic transition, ill-prepared governments failing to cope with this population problem can create unexpected and heightened risks; developed nations may unjustly fault globalization for depopulation, turn to economic protectionism, discourage immigration, and shrink into oblivion. As the wealthy nations of Western Europe and Asia prepare for a “gray” future, their governments should seek to emulate the population perspective of North America, which has avoided negative growth and a demographic crisis mainly due to liberal migration policies.

A key determinant of the political, economic, and social landscape of the 21st century is extreme population structures, as the world seeks to reconcile an aging future with a youthful present. International population policy is at a virtual stalemate due to opposing perspectives, as wealthy nations cite overpopulation in developing states as the root problem, while developing countries fault the developed world for resource overconsumption. National, regional, and international institutions must recognize that unstable population pyramids have global repercussions, and thus, require global solutions. The United Nations has recognized the global nature of these issues, focusing efforts on satisfying the needs of embittered global youth. However, these hollow calls to reduce population in developing countries evoke rhetoric of the past, such as that of U.S. national security advisor Henry Kissinger, who warned of LDC (Least Developed Countries) youth becoming “volatile, unstable, prone to extremes, alienation and violence” with rapid population growth. Developed nations with the wealth and clout to address population instability in LDCs tend to “tiptoe” around the sensitive issue of population reduction, instead centering the population debate on family planning. The demographic landscape of Japan is one of the most prominent countries facing a “gray” future, with an older population of more than 30 percent. Source: The Daily Telegraph
the world is rapidly changing, yet population is an issue that affects the developed and developing worlds alike, and therefore is of the utmost concern. Demographic problems and policies cannot be viewed in isolation; instead, policymakers must formulate integrated responses to the interrelated problems of unstable populations, gender inequality, poverty, and migration. The “youth bulge” offers positive potential for economic gains with the right investments and institutions, which is why the developed and developing worlds must work in unison to help balance the global population pyramid.

Author: Gabrielle Favorito.

As the world population grows (1 billion in 1900 to 7+ billion 2012), so does the demand and consumption of natural resources. Population growth is often seen as a root cause of the deforestation crisis. In Brazil, much destruction of the Amazon Rainforest is due to soybean harvesting, cattle ranching, and logging which benefits Brazil’s economy but is devastating the rainforest.

The rainforest is home to not only plants and animals, but also thousands of indigenous people who occupy 22% of the Amazon territory and depend on it for survival. One of Brazil’s remaining Indian tribes was spotted along the Envira River in the western Amazon forest near the Peruvian border. Isolated from civilization, this tribe’s way of life is being destroyed due to deforestation.

Although, Brazil’s public policy protects isolated groups and ensures independence; increased population growth pressure invade and destroy their protected lands. Preserving the land of these indigenous groups is not only a matter of human rights, but it also protects thousands of species living on the edge of extinction. The entire world population benefits when the rainforest is protected as it also mitigates from the devastating consequences of global warming.


![Amazon rainforest clearance. Deforestation. Acre State near Rio Branco city, Brazil. Source: Ricardo Funari / BrazilPhotos](image)
The lung is the largest and most vulnerable organ continuously exposed to the environment. It is not surprising, then, that respiratory disease is dominated by environmental factors. Recent research has documented the importance of relatively low levels of particulate pollution in the Western world in the aggravation of asthma and acute respiratory disease, and even in contributing to respiratory and cardiovascular mortality. In the developing world, exposure has been documented to very high levels of particulate pollution from wood and biomass fuels and, in some countries, including China, from burning coal in houses without proper chimneys and ventilation. These high levels of particulate pollution explain the high mortality rates for acute respiratory disease (about 4 million deaths per year) in children under the age of 5 in many countries. Lesser effects include permanent reductions in lung function.

Sulfur dioxide combined with particulate pollution has remained a major problem in Eastern Europe. In the industrialized West, photochemical pollution resulting largely from automobile emissions is believed to be responsible for adverse health effects, and this problem has begun to emerge in such cities as Mexico City and Bangkok. There is little doubt that the worldwide oc-

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**TABLE 1. MECHANISMS BY WHICH SOME KEY POLLUTANTS IN SMOKE FROM DOMESTIC SOURCES MAY INCREASE THE RISK OF RESPIRATORY AND OTHER HEALTH PROBLEMS**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Mechanism</th>
<th>Potential health effects</th>
</tr>
</thead>
</table>
| Particles (small particles less than 10 microns, and particularly less than 2.5 microns aerodynamic diameter) | • Acute: bronchial irritation, inflammation and increased reactivity  
• Reduced mucociliary clearance  
• Reduced macrophage response and (?) reduced local immunity  
• (?) Fibrotic reaction | • Wheezing, exacerbation of asthma  
• Respiratory infections  
• Chronic bronchitis and chronic obstructive pulmonary disease  
• Exacerbation of chronic obstructive pulmonary disease |
| Carbon monoxide                                   | • Binding with haemoglobin to produce carboxyhaemoglobin, which reduces oxygen delivery to key organs and the developing fetus. | • Low birth weight (fetal carboxyhaemoglobin 2–10% or higher)  
• Increase in perinatal deaths |
| Polycyclic aromatic hydrocarbons, e.g. benz[a]pyrene | • Carcinogenic                                                             | • Lung cancer  
• Cancer of mouth, nasopharynx and larynx |
| Nitrogen dioxide                                   | • Acute exposure increases bronchial reactivity  
• Longer term exposure increases susceptibility to bacterial and viral lung infections | • Wheezing and exacerbation of asthma  
• Respiratory infections  
• Reduced lung function in children |
| Sulphur dioxide                                    | • Acute exposure increases bronchial reactivity  
• Longer term: difficult to dissociate from effects of particles | • Wheezing and exacerbation of asthma  
• Exacerbation of chronic obstructive pulmonary disease, cardiovascular disease |
| Biomass smoke condensates including polycyclic aromatics and metal ions | • Absorption of toxins into lens, leading to oxidative changes | • Cataract |

currence of respiratory disease consequent upon man-made environmental factors is enormous.

The lung is continuously exposed to the environment. It is not surprising, then, that despite elaborate defenses, it is vulnerable to environmental factors. Considerable research conducted in the Western world over the past 10 years has increased our understanding of the role of man-made environmental pollutants in the genesis and aggravation of lung disease; this has, in turn, shed light on the predictable effects of such pollution in the developing world. In the following discussion, individual pollutants are reviewed separately. In reality, they often occur together.

**Particulate Pollution**

After the control of the dense particulate pollution resulting from coal-burning in the Western world, there was a tendency to dismiss particulate pollution from automobiles as unimportant. These particles are small and easily respirable, affect visibility, and are composed of a variety of aerosols, carbon, and other materials. Recent data have shown that even levels less that the current United States standard for particles <10 μm (150 g/m³) are associated with daily mortality, acute respiratory disease in children, and worsening of asthma. The very high particulate levels measured in developing countries range up to 100 times the U.S. standard. The consequences are increased rates of death from acute respiratory disease, even in some countries with low infant mortality, and higher rates in countries with medium and high infant mortality. Acute respiratory disease is believed to be the second major cause of death, after diarrhea, in children under the age of 5 in the developing world, accounting for up to 4 million deaths a year. People who live and grow up in areas with high levels of particulate pollution probably also have lower levels of lung function and possibly an increased incidence of asthma. These effects may well be related to survival, and they certainly impair physical performance.

**Sulfur Dioxide**

Usually derived from uncontrolled coal-burning, sulfur dioxide has been the major air pollutant in Eastern European countries, where lignite coal is commonly used, and in parts of China. The effects of this pollutant are difficult to dissociate from those of the particulate pollution that often accompanies it. There is considerable recent evidence from such countries as Israel, Canada, France, and Finland, however, that a variety of adverse effects are associated with even low levels of this chemical. A recent report from Beijing chronicled the impaired pulmonary function among adults in regions of that city with elevated particulate and SO2 levels. This same effect was documented in Britain in 1965.

**Oxides of Nitrogen**

Exposure to oxides of nitrogen occurs both outdoors, from sources such as large generating plants and automobiles, and indoors, from cigarette smoking and unvented gas stoves. This gas has been demonstrated to affect airway responsiveness, and increased levels in German cities have recently been shown to be associated with the occurrence of croup in children. Apart from this, we have little direct evidence of its general adverse effects, but the fact that there is inhalation of high concentrations of this gas generated by silage or by the underground use of explosives has been known for some years. The indoor use of cheap kerosene heaters can lead to the formation of acid aerosols in high concentrations. These are intensely irritating to the lung and may lead to respiratory illness.

**Photochemical Oxidant Pollution**

The chemical reaction chain that leads to the formation of ozone from oxides of nitrogen in the presence of hydrocarbons and sunlight has been known since 1952. Studies of the effects of ozone on human beings that began about 10 years later have generated a considerable volume of data. Even at levels as low as 0.08 ppm of ozone, pulmonary function falls during moderate exercise in normal, healthy subjects. It is probable that inflammation is induced in the airway. Long-term effects of very low concentrations of ozone have been shown to occur in animals.

The increasing density of automobiles, often without controls on oxide of nitrogen or hydrocarbon emissions, has led to an increase in tropospheric ozone levels in the northern hemisphere. With sufficient sunlight,
they can reach as high as 0.40 ppm. We are not yet confident that we know the long-term effects on people of repeated ozone exposure, but aggravation of asthma and, possibly, acute respiratory disease have been occurring. In northeastern North America, ozone episodes in the summer are often associated with peaks of sulfuric acid aerosol and raised sulfate levels. The resulting acid summer haze has been shown to be associated with increased hospital admissions for treatment of respiratory disease. Comparable health data from such cities as Mexico City or Bangkok, where high ozone levels are known to occur, is expected.

**Exposure to Biological Agents**

Spores from moldy hay cause "farmer's lung," an acute process in the lung that may lead to chronic effects. Various forms of lung inflammation caused by inhalation of sensitizing spores or fungi occur widely and have recently been studied intensively in Japan. House dust mites are known to be associated with childhood asthma. Occupational asthma can result from exposure to many different compounds, some of which, like the western red cedar, are naturally occurring and others, like toluene di-isocyanate, are widely used industrial chemicals.

**Conclusions**

As this brief summary indicates, the worldwide occurrence of environmental lung disease is enormous. Some problems associated with gross particulate and sulfur dioxide pollution may be circumvented easily by the control of industrial sources or the redesign of traditional housing. Others, however, such as the major environmental hazard posed by the growing number of automobiles associated with urbanization, are difficult to control. Furthermore, as the population in developing countries moves from village life to suburban slums, one form of pollution may be exchanged for another.

Many effects on the lung are interactive. Thus, cigarette smoking worsens the effects of ambient pollution; exposure to oxidants reduces the ability of the lung to combat naturally occurring infections; and increased airway responsiveness, which may result in asthma, may follow a variety of environmental assaults, both natural and man-made. For this reason, the pattern of induced lung disease is complex, and attribution (in numerical terms) of the burden of lung disease to single causes is rarely possible.

**References**


**TABLE 3. COMMON AIR POLLUTANTS AND THEIR EFFECTS**

<table>
<thead>
<tr>
<th>MAJOR SOURCES</th>
<th>HEALTH EFFECTS</th>
<th>ENVIRONMENTAL EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SO₂</strong></td>
<td>Industry</td>
<td>Respiratory and cardiovascular illness</td>
</tr>
<tr>
<td><strong>NOₓ</strong></td>
<td>Vehicles, industry</td>
<td>Respiratory and cardiovascular illness</td>
</tr>
<tr>
<td><strong>PM</strong></td>
<td>Vehicles, industry</td>
<td>Particles penetrate deep into lungs and can enter bloodstream</td>
</tr>
<tr>
<td><strong>CO</strong></td>
<td>Vehicles</td>
<td>Headsaches and fatigue; especially in people with weak cardiovascular health</td>
</tr>
<tr>
<td><strong>Lead</strong></td>
<td>Vehicles (burning leaded gasoline)</td>
<td>Accumulates in bloodstream over time; damages nervous system</td>
</tr>
<tr>
<td><strong>Ozone</strong></td>
<td>Formed from reaction of NOₓ and VOCs</td>
<td>Respiratory illness</td>
</tr>
<tr>
<td><strong>VOCs</strong></td>
<td>Vehicles, industrial processes</td>
<td>Eye and skin irritation; nausea; headaches; carcinogenic</td>
</tr>
</tbody>
</table>

Source: Air Pollution’s Causes, Consequences and Solutions, Matt Kallman, World Resources Institute, August 20, 2008, http://www.intellectualtakeout.org/library/chart-graph/common-air-pollutants-and-their-effects
FOOD FOR THOUGHT:
Evaluating Environmental Impacts of Energy Generation Technologies: Effects on Environmental Policy

In order to fully comprehend the problem of evaluating the environmental impacts of energy generation technologies, we need to review the types of negative externalities associated with the most common electricity generation technologies. From that perspective, the implications of having a multitude of different negative environmental consequences associated with each technology on environmental policy making can easily be explicated.

Negative Environmental Externalities: Commonly Used Generation Technologies:

In Environmental Impacts of Energy Use, Russell Lee provides a detailed overview of the impact of coal, natural gas, oil, nuclear, hydro, biomass, solar, and wind technologies. While Lee focuses on a whole range of implications including associated occupation hazards and public health effects, only his accounting of environmental implications is relevant here. Lee summarizes the environmental implications of generation and on the entire fuel cycle (including components such as plant construction, mining and extraction, transportation of fuel sources, etc.). This type of ‘cradle to the grave’ analysis is crucial in providing an accurate assessment of the true environmental implications of a given technology. For example, the process of generating energy through fusion for nuclear power emits no carbon dioxide, however, almost every other phase of the nuclear fuel cycle (plant construction, uranium exploration, mining, milling, processing, enrichment, fuel fabrication, fuel assembly, spent fuel disassembly, reprocessing (if applicable), storage, plant decommissioning, and transportation of fuel sources is carbon intensive. In fact, the emissions from a ‘cradle to the grave’ analysis of nuclear power plants shows that on average, nuclear power is responsible for 66 kilotons of carbon dioxide emissions per TWh of energy produced. While this is considerably lower than emissions from coal and natural gas fired power plants, it is far larger than the carbon footprint of most renewable technologies as we will discuss later.

Coal:

According to Lee’s analysis, the most significant impacts of coal fired power plants are land use change associated with mining to extract coal ore, water pollution due to tailings from mining and waste from the power plants themselves, damage to forestry, agriculture and livestock due to airborne pollutants released by coal fired plants, anthropogenic climate change due to carbon dioxide emissions occurring during plant operation as well as plant construction and coal production and finally, increased haze due to emissions. While most consider coal to be one of the dirtier technologies available, on first review one might be inclined to attribute only carbon dioxide emissions from plant operation and perhaps some land use change effects from coal mining to coal fired power plants. Yet, further analysis shows a host of other negative externalities associated with multiple different phases of the fuel cycle.

Natural Gas:

Like coal fired power plants, natural gas fired plants emit air pollution which also has negative effects on plants and animals. Moreover, the carbon dioxide and other emissions likewise produce haze and perpetuate global warming.
Oil:

Oil fired power plants cause the same negative externalities as natural gas systems but also extraction and transportation of oil pollutes bodies of water both as a result of leakages and accidents. Furthermore, waste materials from oil fired power plants have similar polluting effects when they come in contact with water supplies.

Nuclear:

In addition to the effects of irradiation as a result of nuclear accidents, normal plant operations also result in increased water temperatures in the body of water used to cool the plant, climate change effects resulting from carbon dioxide released from fuel mining and production as well as plant construction, and environmental contamination from uranium mining tailings as stated previously.

Hydroelectric:

The construction of hydroelectric power plants necessarily results in significant land use changes which alter the local and/or regional climate. Damming creates a reservoir which, impacts fish population. Additionally, towns, forests, agricultural space and historic sites are often lost in order to accommodate the dam and reservoir. This is also associated with the loss of biodiversity of plant species, animals and their habitats. Upon completion, the installation of a hydroelectric power plant affects surrounding land causing it to become “partly dry and partly wet, with significant changes in function of the water level in the water reservoir.” (Lee p. 84). Sedimentation fills in reservoirs affecting water levels and results in toxic substance accumulation in sediments. The construction of the power plant and the production of its construction materials are carbon intensive thus fomenting global warming. One positive aspect is that dams can help with flood control.

Biomass:

The production of biomass based fuel results in odors from stored fuels and land use change due to the use of agricultural land to produce fuel crops. Moreover, monoculture on these fields can have detrimental effects related to biodiversity.

Solar:

The construction of a solar plant (e.g. solar cells, etc.) as well as backup or energy storage systems is carbon intensive and affects climate change. Disposition of solar cells releases toxic chemicals into the natural environment and large-scale installation requires massive amounts of land. Sheffield notes that to produce 4,000 Mtoe/a of electricity from solar energy (less than two thirds of the world’s total current energy consumption) would require installing solar plants on one tenth of a percent of all the world’s land (excluding Antarctica).

Wind:

Similar to solar, wind energy generation also releases carbon dioxide during plant construction and materials production and requires considerable land use.

While Lee’s list of negative environmental implications is by no means exhaustive, it amply illustrates the complex array of drawbacks associated with each generation technology. As such, when crafting environmental policy, it is not possible to simply evaluate and prioritize generation technologies on one or even a small number of similar externalities.

In addition to evaluating the negative externalities of generation technologies, in order to craft beneficial environmental policies, cost also plays a crucial role. Presumably, the purpose of environmental policy is to mitigate climate change or some other negative environmental effect. Given this reality, and that resources are finite, the cost of a given technology, which can be converted into cost per ton of carbon dioxide savings or per unit of another negative environmental impact averted, is crucial. For example, many still consider, following Chernobyl and Fukushima, that nuclear energy as a panacea for low carbon growth in the energy sector. But if the goal of environmental policy is to reduce emissions by substituting cleaner generation technologies for older coal fired power plants, nuclear does not make economic sense. In the U.S., the cost of a 1,000MW nuclear power plant can be as high as US$18 billion. While much of this cost is a result of insurance and regulatory expenditures rather than technology itself, the installed cost of the plant is crucial for evaluating the financial efficiency of a proposed alternative. Thus the same money could purchase approximately 15,000MW of installed renewable energy generation capacity (solar PV and wind).

In this same vein, Susan Roaf and Rajat Gupta, in their chapter Solar Power: Using Energy from the Sun in Buildings, evaluate the cost per ton of carbon dioxide savings accruing from different technologies employed in household emissions’ reduction in Oxford, United Kingdom. They note that for the scenarios they consider the cost per ton of emissions reductions falls within an extremely wide range between 6BSP to 77BSP. Furthermore, the authors note that the way in which technologies are installed has a profound effect on cost per ton of emissions avoided. For example, they calculate that relying on solar hot water heating alone incurs a cost of 335BSP per ton of carbon dioxide avoided while using solar PV alone results in a cost of 644BSP per ton. However, when the two technologies are employed together and alongside energy efficiency measures the cost per ton of emissions avoided drops approximately 15 fold (over solar PV alone) to just 44BSP per ton of avoided emissions. Thus, one need not only consider the cost of the technology or rather the cost per ton of emissions avoided (or per unit of what every
undesired environmental effect avoided) but also how different combinations of technology increase efficiency, thereby making environmental policy more cost effective and thus more efficient.

**Implications:**

In order to craft the most efficient environmental policy, one must consider the express goal of reducing the undesired environmental effect (be it through reducing carbon dioxide emissions, land use change effects, etc.). However, the technology that best accomplishes that goal (i.e. least carbon intensive, has the most insignificant land use change effects, etc.) is currently not available. Therefore, in order to arrive at the best possible result using current available technologies, policy makers will need to evaluate the effect of externalities associated with each of the technologies capable of delivering on the primary goal. Then they will need to evaluate the cost of each technology and determine which technology or grouping of technologies (bearing in mind that a combination of technologies might be more cost effective) delivers enough of the desired result, with an acceptable amount of negative environmental impacts and at an affordable cost. This is, of course, no easy task.

**Potential Solutions:**

One potential solution is to monetize externalities. Because one cannot easily compare between carbon dioxide emissions from one generation technology and land use change from another, converting all negative externalities into a dollar amount allows for simple cross comparison. Monetization also fits well, with the aforementioned discussion regarding concerns over cost per unit of emissions reductions as all figures are in a dollar amount and costs both per emissions avoidance and incurred due to externalities can simply be summed. In theory, the technology with the lowest total cost is the ideal solution.

To provide a bit of perspective, there are numerous ways to monetize externalities. Common practices include ‘cost of control,’ that is how much it would cost to control, prevent or remediate an externality; ‘damage function,’ which determines what an actor or actors are willing to pay to avoid the harms associated with an externality; and ‘monetization by emission,’ which calculates the cost per unit of emissions based on environmental impacts. Unfortunately, monetization is not as precise as it sounds. Depending on how one weights the externalities and the type of monetization used, vastly different results may be derived. Moreover, externalities themselves are difficult to evaluate and monetize. This is especially true for certain environmental externalities where the full extent of a type of emission or similar negative environmental effect is unknown. Finally, while monetization, given its quantitative approach might appear to be a universally applicable solution, it is not. Different evaluations for externalities will be required for different projects and different locations. For example, the land use change for a hydro-electric dam will be much more significant and thus much more costly in a biodiverse tropical rainforest than it would be in a deciduous forest.

Even though monetization cannot provide a general, universally applicable model, this does not mean that it is not useful. Rather, monetization can be used – based on site and project specific calculations – as part of a larger environmental impact assessment. Site and project specific monetization can provide insight into what appears to be the best option for a given environmental policy. An environmental impact assessment ought to not just include monetization but should also take a parallel, qualitative approach in an attempt to describe negative externalities, especially those that are not easily quantified (and therefore accurately monetized).

Finally, for macro-level (e.g. national or international level) environmental policy the axiom, ‘think globally, act locally’ ought to be applied. For example, if the national policy is to reduce emissions by a given amount, locally projects should be carried out based on local assessments of unique variables. By coordinating policy between levels of governance, policy makers can ensure that the overall, national or international policy goal is achieved while simultaneously limiting negative externalities and providing unique benefits based on location specific criteria. While this approach is certainly not perfect and unfortunately is not a ‘cookie cutter’ solution which policy makers tend to look for, it is likely the best approach for making effective environmental policy.

**Conclusion:**

In their anthology, Energy: Science, Policy, and the Pursuit of Sustainability, Robert Bent, Lloyd Orr and Randall Baker as well as other authors, suggest that different electricity generation technologies have myriad environmental impacts. For example, while a coal fired power plant’s most significant (though certainly not the only) negative externality is the massive amount of carbon dioxide it emits, a large-scale hydroelectric power plant’s largest negative environmental implication is likely related to land use change. As the world has begun large-scale implementation of a plethora of different generation technologies in an effort to mitigate climate change and environmental degradation, it has become extremely important to understand the environmental effects of different technologies and be able to select the best technology for a given application based on its environmental impact. This however is challenging as there is not a clear cut way of valuating negative externalities between technologies given that they each have vastly different negative effects, thus complicating environmental policy creation.
Lee’s analysis of the myriad types of negative environmental externalities associated with coal, nuclear, hydro, biomass, solar, and wind generation technologies coupled with the discussion of cost per unit of avoided emissions or similar negative environmental consequences attempts to clearly explicate the difficulties faced by environmental policy makers. However, in reality their task is even more difficult than described herein due to other, non-environmental externalities (e.g. occupation hazards and public health effects) as well as political pressure from disparate interests. It would be preferable if a simple, quantitative approach such as monetization could provide a globally applicable formula for evaluating environmental policy options, but unfortunately this is not the case. In order to craft efficacious environmental policy a detailed, laborious and costly process of environmental impact assessments is required. Moreover, a means of implementing larger-scale policies in the most judicious way at the local level is needed. Unfortunately, the type of inter-bureaucracy communication needed to achieve this is arguably lacking.

**DID YOU KNOW?**

**Global Frackdown**

On September 22, thousands of people around the world showed their concern about a new trend in the oil and gas industry: fracking. Fracking is a technique used to release petroleum, natural or other substances for extraction. The energy from the injection of a highly pressurized fluid creates new channels in the rock, which can increase the extraction rates. However, the fracking fluid is also capable of contaminating groundwater, poisoning the air and the power with which it is injected has already created earthquakes. It has also created spills and the associated dangers are so high that some countries have already banned the technique. The oil and gas industry are lobbying hard and fracking is expanding in the US. With this global event, citizens all over the world are showing that they can’t live with the risks of this new drilling technique. This is one of the rising struggles in the environmental field that can use continued support and more attention from the broader public.

**Source:** AMPED

**Modified crops increase herbicide use, research reveals**

For years, proponents have argued that genetically-modified crops help reduce the use of herbicides. The claim, in fact, is on the chemical-giant Monsanto’s website. But according to a new analysis, genetically-modified crops have led to a significant increase in the use of herbicides.

Charles Benbrook, a researcher at Washington State University found that genetically-modified crops have led to a significant increase in the use of herbicides. Since 1990, when companies like Monsanto introduced seeds that were genetically engineered to deal with pests, 90% of US corn, soybeans and cotton are genetically engineered which is of considerable concern. Benbrook calculates that 527 million additional pounds of herbicides were used on the genetically-engineered crops between 1996 and 2011 and in 2012 farmers are spraying about 25 percent more herbicide on each acre of crop than they would if they were planting conventional varieties. Older chemicals that are now used, particularly 2,4-D have been linked with birth defects, reproductive problems and certain cancers.


**Carry-over of AAUs from CP1 to CP2 – Future Implications for the Climate**

A new independent study by Thomson Reuters Point Carbon estimates the surplus of emission permits from the first Kyoto commitment period (2008-2012) to be 13.1 billion tonnes of CO2. Russia (5.8), Ukraine (2.6) and Poland (0.8) are the largest surplus holders, followed by Romania (0.7), the UK (0.5) and Germany (0.5). The surplus is over three magnitudes higher than the estimated demand of 11.5 million tonnes (Mt).

The study shows that even without the surplus from the first commitment period, countries will likely accumulate a surplus of 3.6 billion tonnes of CO2 by 2020. This is because developed coun-

**Author:** Barnett S. Koven

**Sources:**
tries have made very weak emissions reduction pledges for 2020. Together with lenient rules on the use of offsets, they will be able to emit 3.6 billion tonnes of CO2 more than they are projected to emit under business-as-usual (BAU) emissions projections until 2020.

This could bring the total surplus from 2008-2020 to 16.2 billion tonnes. If Australia and New Zealand decide not to join the second Kyoto commitment period, the combined surplus could be as high as 17.2 billion tonnes. This is more than what the EU is expected to emit in the next five years.

The study also shows that the preservation of the AAU surplus might have considerable implications in the longer term.

The study “Carry-over of AAUs from CP1 to CP2 – Future Implications for the Climate” was authored by Thomson Reuters Point Carbon and commissioned by CDM Watch.

Source: Anja Kollmuss, Carbon Market Expert, CDM Watch Swiss, cell phone: +41 77 485 3667 (primary phone); German cell phone: +49 1 573 401 3307 Skype: anja667; www.cdm-watch.org

The chemical industry denial of harm

At the recent ICCM3 meeting, the topic of the chemical industry’s denial of harm came up in conversation among our NGO team. The series of steps that the industry uses to protect itself from responsibility was first outlined in a funny (but very serious) way by Professor David Ozonoff of Boston University. He used the series to describe how the asbestos industry denies harm. You can read his original here: thepoptort.com/asbestos.

Adapted Ozonoff’s piece to chemicals or pesticides more broadly. Here is how it goes:

Chemical X does not hurt your health.

OK, it does hurt your health, but it does not cause cancer.

OK, chemical X can cause cancer, but not our formulation of chemical X.

OK, our kind of chemical X can cause cancer, but not the kind of cancer this person got.

OK, our kind of chemical X can cause that kind of cancer, but not at the doses to which this person was exposed.

OK, chemical X does cause cancer, and at this dosage, but this person got their disease from something else.

OK, the person was exposed to our chemical X and it did cause their cancer, but we did not know about the danger when we exposed them.

OK, we knew about the danger when we exposed the person, but the statute of limitations has run out.

OK, the statute of limitations has not run out, but if we are guilty, we will go out of business and everyone will be worse off.

OK, we will go out of business, but only if you let us keep part of our company intact, and only if you limit our liability for the harms we have caused.

Sources: 1. Joseph DiGangi, PhD, Senior Science and Technical Advisor, IPEN, ipen.org; ipen-china.org; 2. The larger issue is whether the federal government should be a watchdog for public health, or a lap dog for industry. Nicholas D. Kristof, Op=Ed Columnist; nytimes.com/2012/10/07/opinion/sunday/kristof-the-cancer-lobby.html.

TOXIC TRUTH

Six years ago, in August of 2006, the people of Abidjan in Côte d’Ivoire were faced with horror and tragedy as large quantities of toxic waste were illegally dumped in a number of places around their city. The company responsible for the offense was Trafigura, a multinational oil-trading firm that exported the waste from Europe.

Several hundred tons of toxic waste was made on board a ship named Probo Koala, through a process called caustic washing that was used to treat large amounts of coker naptha, an unrefined fuel bought by Trafigura. The illegal dumping of toxic waste caused a public health crisis in Abidjan as 100,000 people were effected from exposure and 15 to 17 people dead. Initially, the waste was to be unloaded in the Netherlands but as the price to process the waste proved to be costly, Trafigura decided to dump the waste in Abidjan instead.

Trafigura was convicted in a Dutch court of illegally exporting waste from the Netherlands although the Dutch courts decided that a considerably amount of the allegations laid beyond their jurisdiction. The company was given legal immunity from prosecution in Côte d’Ivoire as part of a local settlement. In the UK, where the company directed operations on board the Probo Koala, UK authorities launched no investigation or prosecution into the matter. A lack of justice pervaded the case and the people of Abidjan did not receive just compensation for the crime. After a three-year investigation by Amnesty International and Greenpeace a joint report was produced. The report, titled “The Toxic Truth,” closely examined the tragic incident, highlighting how companies easily bypass laws regulating toxic waste movements and concluded that too little regulation, misinformation, and lack of accountability and credibility on the part of Trafigura led to human rights abuses and an absence of justice for the victims. The NGOs have called for Trafigura to be tried in the UK for criminal charges and for freedom from toxic waste dumping be deemed a human right, allowing victims to have easier access for legal redress. The report was presented to the United Nations, to which executive director of UN Environment Programme Achim Steiner expressed that toxic waste dumping stresses the urgency of strengthening UN treaties, specifically the Basel convention, which governs transnational movements of hazardous waste and disposal, in order to bring forth amendments that would ban the export of toxic waste from developed to developing countries.

Amnesty International and Greenpeace’s investigation also underlined the issue of governments failing to uphold international human rights and environmental law and the law of the sea, as well as failing to hold perpetrators accountable, justly compensate the victims and take necessary steps to prevent future corporate crimes. Labeling the incident in Abidjan “an ongoing travesty of justice today,” the NGOs’ report has put a spotlight on illegal toxic waste dumping, stimulating discussions on how to bring change so that human rights are strengthened and justice enforced.

The Folly of Shortchanging Family Planning

Lurking behind almost every global development and survivability issue is a question that has been in the shadows for too long. Simply put, it is whether - despite the assurances of some leading demographers - the world is heading toward the moment when people will irrevocably outstrip the resources needed to sustain life and the environment.

The optimists who look at declining fertility figures - that’s the average number of births per woman - foresee population growth coming naturally under control in poor countries as well as industrial societies. Other experts, struggling to raise awareness of the need for a new global family planning push, say this may be missing the point. Population growth, and mostly in the poorest countries, will continue for generations before there can be hope of a global decline. By then, how many people will the planet be trying to support?


“This seeming contradiction between smaller-than-ever families and near-record births is easily explained,” he writes. “The number of women of childbearing age keeps growing and global life expectancy at birth continues to rise.” Engelman notes that at the end of 2007 there were “1.7 billion” women in the childbearing ages of 15 to 49. In 1970 there were 856 million. Many do not have access to family planning.

The UN Population Fund knows what is happening at ground level. The agency has watched money for family planning decline for years, yet women around the world increasingly ask for more help in limiting births. They know it is key to improving a family’s living standards and raising healthier, better-educated children for whom life can hold more promise. This is win-win: better lives and less pressure on the environment.

UNFPA estimates that at least 200 million women do not have access to family planning, or information about it and where to get help. Of the 190 million women who become pregnant annually, 50 million have abortions, UNFPA finds. This sad fact is directly related in many cases to the family planning dearth. Furthermore, what UNFPA calls the unmet need for contraception is expected to grow at about 40 percent for the next 15 years. As millions more women enter the childbear-
China’s Cancer Village: Toxic Legacy of Economic Growth

Numerous denim factories have created jobs in the town of Xintiang, but residents say they have also polluted some of the town’s rivers. In Xinglong in the south, one of the “cancer villages”, resident Cao Jiangang is convinced that factories there are to blame for his 47-year-old mother’s liver cancer. But so far no stakeholder is going to take responsibility for his family’s tragedy. China has captured chunks of the global economy, creating jobs for millions. But doing things cheaply has come at a cost, with health and environmental issues on the rise along with economic growth. The mass demonstrations due to pollution and relevant economic activity are increasing in many Chinese cities. The most recent one is taking place in Ningbo, China. For a week there have been protests by thousands of citizens over pollution fears caused by a petrochemical factory. Under the pressure of social demonstration especially at a time point when the People’s Congress is going to launch in countable days, local Chinese government relented on Sunday and agreed that the factory would not be expanded, only to see the protesters refuse to halt their demonstration. The case of Ningbo, one of the riches cities in Southern China showcases the universality of economic-related pollution problems and reveals the imperativeness to find new political wisdom to tackle crisis like this.

China’s next leaders are inheriting a toxic legacy. They have plans for cleaner growth, but that will be slower and more expensive. Conventional ways of curbing and repressing people can no longer address the problems when demand for information transparency and government accountability rises in parallel with economic growth.


IPEN Intervention on Basel Convention

Dioxin Working Group actively contributes with technical matters that deal with strategies for reducing transboundary movements of hazardous waste between nations, and especially to prevent disposals of waste from developed to less developed countries. It is crucial to ensure that practices such as these deemed as “Toxic Colonialism” do not lead to an environmentally unsound management of toxic wastes.

One of the main agendas of Dioxin Working Group was to push for establishing an effective persistent organic pollutants (POPs) content level in hazardous waste. In addition to discussions related to technical guidelines of POP levels, other concerns included proposed amendments of the listing of dioxins and DDT in Annex VIII of the Basel Convention.

The consequence of not setting “Low POPs” limits is that weak POP limits have significant adverse effects on human health and the environment because of inadequate regulation to destroy or transform waste. Therefore, the International POPs Elimination Network (IPEN) has intervened asking to set more protective limits by the Open Ended Working Group of the Basel Convention, and to establish a new appendix to the Technical guidelines on transboundary movements of electronic and electrical waste.

IPEN’s contribution to the elimination of POPs and destruction technologies that were being promoted by the Basel Convention emphasized optimism that the current situation lacking representation from NGOs on the POPs disposal project steering group can be changed if appropriate resources are in place.

Locate the Basel Convention’s website for progress updates about this initiative where POPs and chemicals of equal concern will no longer be polluting our environments or contaminating our food and bodies.

Sources: ipen.org, basel.int
**More Marine Protected Areas**

8.3 million square km, 2.3% of the world’s ocean area, is now protected, according to a UN report to a UN meeting on biodiversity in Hyderabad. While this number seems small, it is more than 10 times larger than the land protected a decade ago. Headlining the report was Australia, which added a further 2.7 million km of protected land to the Great Barrier Reef marine park. These numbers suggest that the Convention on Biological Diversity of 2004’s goal of 10% protected ocean area by 2020 can be met. This data is even more reassuring when considering how helpless the situation was. (Less than 1% of the world’s oceans were protected in 2009)


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**Talisman Energy withdraws from Peruvian Amazon – Achuar people celebrate a major victory for indigenous rights**

Talisman Energy (TLM) announced its decision to cease oil exploration activities in the Peruvian Amazon and to exit the country upon completion of ongoing commercial transactions.

Peas Peas Ayui, President of the National Achuar Federation of Peru (FENAP) said that “now that Talisman is leaving we can focus on achieving our own vision for development and leave a healthy territory for future generations.”

Talismen is the fifth oil company to withdraw from controversial Block 64, located in the heart of indigenous Achuar territory in a remote and biodiverse region of the Amazon rainforest. Talisman has been exploring in Peru since 2004 and has come under increased pressure by human rights groups and shareholders for operating without Achuar consent.

“Talismen’s exit sends a clear message to the oil industry that trampling indigenous rights in the rush to exploit marginal oil reserves in the Amazon rainforest is not an option” according to Gregor MacLennan, Peru Program Coordinator at Amazon Watch.

Block 64 is just one of several new efforts to extract oil from the headwaters of the Amazon in Northern Peru and Southern Ecuador, among the most biodiverse places on earth. Anglo-French company Perenco was recently awarded a production license to operate in Block 67 in Peru despite a legal case against them for drilling in isolated peoples’ territory. ConocoPhillips has faced mass protests in Iquitos, Peru over plans to drill wells in a protected area in the Nanay river basin east of Block 64. In Ecuador, the government plans to auction new oil blocks on the Peruvian border despite strong indigenous opposition. The Kichwa community of Sarayaku recently won a case in the Inter-American Court of Human Rights against the Ecuadorian government for signing an oil contract without their consent or consultation.

“We are the owners and the original people of this land,” said Peas Ayui. “No outside person or company may enter our territory by force, without consultation and without asking us. We have been fighting against oil development on our land for 17 years and we maintain the same vision to protect our territory and resources for future generations. Let this be a clear message to all oil, mining and logging companies: we will never offer up our natural wealth so that they can extract our resources and contaminate our land.”

**Sources:** Gregor MacLennan, +1 415.494.7378, gregor@amazonwatch.org; Caroline Bennett, +1 415.487.9600, caroline@amazonwatch.org. Calgary, Canada, September 18, 2012

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**Toshiba Launches Household Fuel Cell That Operates Independently Even During Blackouts**

Major Japanese electronics manufacturer Toshiba Corp. and Toshiba Fuel Cell Power Systems Corp. announced on June 25, 2012, the development of a new type of Ene-Farm, a household fuel cell, which operates even during blackouts by employing a self-sustained operation function. Shipping of the product to city gas companies and liquefied petroleum gas distributing companies is now underway.


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**Source:** [http://ecosalon.com](http://ecosalon.com)
World Information Transfer, Inc.

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December 3, 2012

ECOSOC Chambre

United Nations Headquarters, New York City

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CREATING SUSTAINABILITY

MONDAY 10AM — 1 PM: CREATING SUSTAINABILITY

Opening Remarks: Dr. Christine K. Durbak, Conference Chair and Founder, WIT
H.E. Yuriy Sergeyev, Permanent Representative of Ukraine to the UN

Sustainable Nuclear Energy

Speakers: H.E. Mr. Frantisek Ruzicka, Permanent Representative of the Slovak Republic to the UN
H.E. Mr. Li Baodong, Permanent Representative of China to the UN
H.E. Mr. Gérard Araud, Permanent Representative of France
H.E. Mrs. Edita Hrdá, Permanent Representative of the Czech Republic to the UN
H.E. Mr. Ryszard Stanislaw Sarkowicz, Permanent Representative of Poland to the UN

Sustainable Development

Speakers: Sonaar Luthra, Founder and President, Water Canary, Inc.
Nikki Henderson, President/Founder “Peoples Grocery, Inc.”
Student Conservation Corps of West Chester, PA.
Brandi Veil, CEO/Founder, “The Event Division, Inc.”

Communicating Sustainability

Speakers: H.E. Mr. Abulkalam Abdul Momen, Permanent Representative of Bangladesh to the UN,
Professor Olexander Motyl, Professor of Political Science, Rutgers University
“Language Communicating Sustainability”

Food Security: Commemorating Holodomor

Speakers: H.E. Mr. William Pope, US Mission to the UN
H.E. Mr. Guillermo Rishchynski, Permanent Representative of Canada to the UN
H.E. Mr. Margus Kolga, Permanent Representative of Estonia to the UN
H.E. Mr. Alexander Lomaia, Permanent Representative of Georgia to the UN
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H.E. Mr. Dalius Ėkuolis, Permanent Representative of Lithuania to the UN
Vocal Ensemble Commemoration

Closing Remarks: H.E. Yuriy Sergeyev, Permanent Representative of Ukraine to the UN

Faculty Luncheon: By invitation only
UN - CIVIL SOCIETY DIALOGUE ON POST 2015 PROCESSES HELD WITH HIGH-LEVEL PANEL

On 24 September, a dialogue was held between civil society, UN officials and members of the Secretary-General’s High-level Panel of Eminent Persons on the Post-2015 Development Agenda. More than 200 civil society participants were in attendance. The event featured lively discussion between the UN panelists, members of the High-level Panel, and interventions from the audience as well as those engaging in the dialogue online.

Social Good Summit

The Social Good Summit took place in New York City in September, beginning a global conversation on how technology and new media can help bring about innovative solutions to solve the world’s most troubling issues. The conference did not only take place in New York but also in more than 200 meetups across the world in countries such as China, Somalia, Bhutan, Bangladesh, etc, in addition to worldwide conversation on Twitter. The three-day conference, presented by a number of organizations including the United Nations Development Programme and the Bill and Melinda Gates Foundation, invited influential thinkers, pioneering technologists and passionate activists to share their ideas and some of the challenges they faced in reaching a common goal, to make the world a better place to live.

The moral test of government is how that government treats those who are in the dawn of life, the children; those who are in the twilight of life, the elderly; and those who are in the shadows of life - the sick, the needy and the handicapped.

Hubert Horatio Humphrey, US Vice President (1911-1978)

Technology can be a tool of empowerment when it is used for the benefit of the public. U.S. Chief Technology Officer Todd Park explained that by using technology to allow access to governmental data, it shifts the role of the government into a platform for open innovation. As he put it, data is only useful when it is applied “to create an actual public benefit.” Social media tools, such as Twitter, allow individuals access to a wealth of resources, creating virtual circles online and offline. Victoria Esser, Deputy Assistant Secretary for the digital division of the U.S. State Department, believes that social media is an important way to reduce time, distance and diplomatic barriers, essentially redefining diplomacy itself in the 21st century.

The digital age has given society powerful tools in environmental conservation as well. Google Earth presented how they use technology to monitor deforestation and work together with the Surui people of the Amazon in using Android phones to monitor carbon stocks in their forests. Fabien Cousteau, founder of Plant-a-Fish, shared that the digital age is giving the world a connection to why the ocean is so important to people, giving us the opportunity to broadcast issues and make a real difference. As he put it, “social media connects us but the air and oceans connects us all even more deeply.”

On the second day of the conference, Nobel Peace Prize winner and Founder of Grameen Bank Muhammad Yunus, discussed social entrepreneurship. He believed that the conceptual framework for employment should be redesigned and focused on changing the system because human capacity should not be wasted. He believed that when we combine the power of technology and the creative power of young people, we can find solutions to a number of challenges.
Technology can also be used to foster peace, a topic of discussion which was held by actor Forest Whitaker, special advisor to the UN Secretary General Jeffrey Sachs, and Ericsson CEO and President Hans Vestberg. Jeffrey Sachs said that the U.S. spends $700 billion on the military and only $30 billion is spent on development, but peace can be achieved if society focuses on cutting-edge technology. Ericsson announced at the summit that it will join forces with Forest Whitaker’s PeaceEarth Foundation, working together to provide Internet access via mobile broadband, computers, and ICT training to youths in conflict zones. The aim is to build peacekeepers in communities of conflict and foster connectivity.

The last day of the summit provided discussions that revolved around ideas such as using social gaming for good and the power of crowdsourcing on the Internet. New York Times columnist and author of Half The Sky, Nicholas Kristof, shared a new initiative that uses games to educate women in the developing world about their health and teaches individuals about the importance of empowering women. Jimmy Wales, founder of Wikipedia, discussed how the Internet is changing the way people interact with each other around the world, allowing individuals a chance to get to know people and build empathy.

The digital age and the Internet have given our society a powerful tool for engagement, allowing people access to a world of information. Social media provides us with a vital platform for dialogue, transcending barriers and borders and empowering citizens to learn and be driven into action for positive social change. At the summit, Peter Gabriel expressed it best when he conveyed that the Internet cannot be controlled which is why it’s so powerful. Technology can give society the ability to change the world, by enhancing the rights of women and girls, ending malaria and polio, promoting peace instead of war, or giving a voice to the voiceless. When it comes to social change, the opportunities given by the Internet, technology and new media are limitless.

Source: Nadia Mughal, attendee.

Point of View, continuing from page 20

Parity can have grave consequences, especially to children who must start their lives at a disadvantage. Although parity is only 60 years old in the U.S., it is still far from parity. Although we are all formed by our culture, our globalized world demands that we are not enslaved by it. Rather, we must use our endowed creativity to reach beyond the cultural and traditional control of practices that doom humankind to repeat its past mistakes, learn from those mistakes and move in new directions.

It is in the interest of all governments to provide basic needs to citizens as a means of protecting the health of all. The question is how to accomplish meeting the basic needs of millions especially in nations with weak economies. One approach is to recognize the primacy of children’s needs in so far as healthy children are a nation’s future.

We can start by implementing laws that would provide a responsible family for every child that is born. A family that is aware of the needs of every child, not as a slave to its own existence binding that child to traditions that negate health, but as an individual with rights of its own. The cooperation of government officials, business leaders, the medical establishment, educators, religious leaders, NGOs, and families in need, is required to maintain a full support network to help secure for each child its right to food, housing, medical care and education. This should be the primary goal of all governments.

The cost would be limited if governments recognized that their primary interest lies in the future, that is, in producing children who are physically and mentally healthy and capable of becoming productive citizens. Providing family planning services to poor women would assist them in limiting the size of their families and ultimately would aid their climb out poverty. We should also remember that if our current global fertility rate remains, the United Nations estimates that we will hit a worldwide population of 8 billion people in 12 years, 9 billion by 2050 and 26 billion by 2100. This will have dire impact on our environment and our world.
World Information Transfer, Inc. (WIT) is a not-for-profit, non-governmental organization in General Consultative Status with the United Nations, promoting environmental health and literacy. In 1987, inspired by the Chornobyl (Ukrainian spelling) nuclear tragedy, in Ukraine, WIT was formed in recognition of the pressing need to provide accurate and actionable information about our deteriorating global environment and its effect on human health. WIT exercises its mandate through:

- **World Ecology Report (WER).** Published since 1989, the World Ecology Report is a quarterly digest of critical issues in health and environment, produced in four languages and distributed to thousands of citizens throughout the developing and developed world.
- **Health and environment conferences:** Since 1992, WIT has convened annual conferences, held at United Nations headquarters on the growing clinical evidence supporting the link between environmental degradation and its effect on human health. The Conferences have been co-sponsored by UN member states and its organizations and has been convened as a parallel event to the annual meetings of the Commission on Sustainable Development. The scientific papers from the Conferences are available on our website.
- **Health and Development CD-ROM Library.** This project consists of a library of CDs each of which focuses on a subject within the overall topic of Development and Health Information. The CD ROM library, developed with our partner HumanInfoNGO offers one bridge across the “digital divide” for developed and developing countries. The project is continuous with future topics being developed.
- **Health and Development CD-ROM Library for Ukraine.** WIT developed a country-specific library disk for distribution in schools and centers in Ukraine. The CD-ROM was distributed with the assistance of UNDP.
- **Humanitarian Aid.** In conjunction with the K.Kovshevych Foundation, WIT provides humanitarian aid to schools, hospitals and orphanages in areas devastated by environmental degradation.
- **Internship.** World Information Transfer (WIT) offers internships in New York City. Our goal is to encourage future leaders of health and environment issues. Our interns spend the majority of their time at the United Nations Headquarters.
- **Scholarship Program.** With the support of the K. Kovshevych Foundation, WIT offers scholarships to intellectually gifted university students in need of financial assistance to continue their studies in areas related to health and environment.
- **Centers for Health & Environment**. The aim of the Centers is to promote research, education and solutions. The first center was opened in Ukraine in 1992.

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475 Park Avenue South, 22nd Floor, New York, NY 10016
POINT OF VIEW:
Poverty vs. Abortion

The majority of the world cultures think of women as primarily mothers. As elevated as the maternal role presents itself, particularly in a religious context, women continue to be regarded as second class citizens in many parts of the world. Therefore, higher poverty rates for women demonstrate global economic disparities.

One well recognized solution to female poverty – and indeed to poverty altogether – is smaller family size. The international aid community as well as economists have known for a long time that access to family planning information significantly contributes to a woman’s ability to control the timing and number of her children. Five of the eight Millennium Development Goals, agreed on by the UN General Assembly, address poverty, gender equality and female empowerment, reducing child mortality and improving maternal health. Eradicating extreme poverty is the overriding goal of the eight MDGs.

The Global Gag Rule, also known as the Mexico City Policy, undermines the purpose of the MDGs. Specifically, the policy restricts NGO’s, who receive US funds, from obtaining non-US monies for educating about or providing services to end unwanted pregnancies. Exceptions are allowed for cases of rape, incest, and the life of the mother. Analysis of the consequences of the Rule show, however, that it does not reduce abortions, as was its stated intended goal. Lack of access to contraception only increases the number of children a woman bears, decreases the health of both mother and child and adds to the poverty rolls.

The Global Gag Rule was first implemented between 1985-93, under US Republican Presidents Reagan and Bush, rescinded by Democrat President Clinton, reinstated under Republican President George W. Bush and rescinded again by Democrat President Obama. The United Nations Population Fund (UNFPA) lost US funding under the same Republican presidents. Though the Fund supports programs in 150 countries to improve poor women’s reproductive health, reduce infant mortality, end the sexual trafficking of women and prevent the spread of H.I.V./AIDS it had been accused of supporting coerced abortions.

For millennia, women have ended unwanted pregnancies. Since the second half of the 20th century, the practice of abortion has taken on such cultural signifi-

Continuing on page 18