

PROTECTING CHILDREN IN THEIR FIRST ENVIRONMENT, THE WOMB

By Roxana Ulloa Barillas

Respect Life Sunday, on the first weekend of October, falls near the October 4 feast of St. Francis of Assisi, named the patron saint of the environment by Pope John Paul II in 1979. St. Francis taught us to respect our Creator by respecting all life, and all God's creation. He understood that human beings are completely dependent on God and on the abundance of the world God created. As he recognized even in the 13th century, people often are not grateful and respectful in their use of God's gifts. Today, St. Francis can inspire us to reflect anew on the ways our attitudes, uses, and abuses of creation affect the poor and vulnerable, especially our children both before and after birth.

PROTECTING HUMAN LIFE AND CARING FOR CREATION

As Catholics we are called to protect human life, to care for others, and to respect God's gift of creation. We strive to uphold and live within a framework of consistent moral principles. The Church's call to respect human dignity and promote the common good of the entire human family, beginning with the most vulnerable, leads it to champion unborn children's right to live.

In their 1991 statement *Renewing the Earth*, the U.S. Catholic bishops remind us that:

[W]e are charged with restoring the integrity of all creation. We must care for all God's creatures, especially the most vulnerable. How, then, can we protect endangered species and at the same time be callous to the unborn, the elderly, or disabled persons? Is not abortion also a sin against creation? If we turn our backs to our own unborn children, can we truly expect that nature will receive respectful treatment at our hands? The care of the earth will not be advanced by the destruction of human life at any stage of development. As Pope John Paul II has said, "protecting the environment is first of all the right to live and the protection of life."

--(quoting October 16, 1991 homily of Pope John Paul II at Quiaba, Mato Grosso, Brazil)

Children deserve special protection for they are the most innocent and vulnerable among us. Yet, while it is easier today than decades ago to protect children from environmental toxins, the risk of exposure to so many more untested synthetic chemicals is a

challenge for scientists and for parents who are ultimately responsible for figuring out how best to protect their children from before birth into adulthood.

AT RISK IN THE WOMB: CHILDREN ARE NOT "JUST LITTLE ADULTS"

In his Message to the World Summit on Children (September 29, 1990), Pope John Paul II reminded us: "[I]n the Christian view, our treatment of children becomes a measure of our fidelity to the Lord himself." Among the most susceptible to environmental hazards are children, born and unborn. In the womb, especially, they face a disproportionate threat to their neurological development from environmental toxins like mercury and lead.

Exposure to air pollutants and toxins is also significantly more harmful to children than to adults. Their developing organs are not as efficient as those of adults in dealing with pollutants. Compared to adults, children consume more food, drink more liquids, and breathe more air, as a percentage of body weight, so their exposure to chemicals and particles is proportionately greater. Also, because they crawl on the ground and put their hands and other objects in their mouths, small children ingest comparatively higher levels of pollutants. Many children are exposed to environmental hazards at an early age, giving them more time to develop slowly-progressing, environmentally-triggered conditions such as asthma, learning disabilities and certain cancers.

It was once assumed that children in the womb were protected from the outside environment; we now know that they are exposed to many environmental threats. We know now, for example, that the placenta does not protect umbilical cord blood and the developing baby from most chemicals and pollutants the mother encounters in the environment. And, exposure to toxins *in utero* can harm the unborn child. A recent study by the Institute of Neurotoxicology and Neurological Disorders points out: "Childhood disabilities from chemical exposure during development are often not treatable and therefore must be prevented."¹

THE DISPROPORTIONATE BURDENS OF POLLUTION

Children living in poverty, disproportionately consisting of black and Hispanic children, face multiple obstacles to their development, including rates of lead poisoning and asthma-related hospitalizations and deaths higher than those of the general population. Farm workers and their families who harvest the food for our dinner tables are often directly exposed to pesticides which threaten their health. Outdoor air pollution, unsafe and crowded housing, contaminated water and soil, and industrial waste are just a few of the environmental hazards that are disproportionately concentrated in low-income, minority communities.

SOME FINDINGS ON MERCURY POLLUTION

Addressing environmental health issues is challenging. Often the science is not clear or conclusive, and the results are likely to be contested by some sectors of industry or society. Such is the case with mercury, a known toxin that can interfere with the nervous system and the development of the human brain from early in pregnancy.

Mercury occurs naturally but becomes more hazardous to people and wildlife as it descends from polluted air into water, then works its way up the food chain as methylmercury, the most toxic form of mercury.² Mercury concentration in fish has prompted at least 45 states and territories to issue fish consumption advisories. According to a consumer advisory jointly issued by the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA), women of childbearing age, pregnant women, nursing mothers and children under five are especially at risk from unsafe levels of mercury.

Researchers find that an infant's rapidly developing brain and central nervous system are extremely susceptible to damage because the placenta allows the passage of methylmercury. Prenatal mercury exposure has been associated with toxic effects on the developing brain, including adverse effects on fine motor skills, memory, and learning ability. According to recent EPA analyses of federal research on exposure of humans to methylmercury, it is estimated that of the 4 million births per year, more than 300,000 newborns may have increased risk of learning disabilities because of exposure to methylmercury in their mothers' wombs.³

ADDRESSING MERCURY POLLUTION

Power plants are the primary man-made source of mercury. Over 1,100 coal-fired power plants, the nation's largest source of airborne mercury pollution, send an estimated 48 tons of mercury into the atmosphere annually.

Regulatory decisions concerning allowable levels of emissions are made using a cost-benefit analysis. The goal is to determine whether preventing the public health impacts (i.e., the neurotoxic effects of mercury on the developing child), merits the higher economic cost of more stringent regulation of mercury emissions. But public health experts assert that the neurological damage caused by mercury exposure *in utero* is irreversible. In light of this, why would we allow the full developmental potential of children who live in proximity to power plants or whose diet is more likely to depend on fish to be impeded? Should we not protect children from mercury toxicity, and spread the cost of emissions reduction throughout the public?

A GROWING CHALLENGE

The environmental challenge is not just a matter of keeping methylmercury under control. Currently there are more than 80,000 synthetic chemicals. Most of these chemicals have been invented and dispersed into the environment in only the past twenty to thirty years, so most of them remain untested. While we now understand that chemicals are toxic to young children at lower levels than we used to think were safe, the U.S. law regulating these chemicals, the Toxic Substances Control Act (TSCA), remains essentially unchanged since its enactment in 1976. So while many new chemicals have been introduced into our environment, the standards for testing them have not been updated.

While chemicals play a major role in improving the quality of life for all Americans, many peer-reviewed studies suggest that some may pose serious long-term health risks, including cancer and childhood developmental disabilities. Large quantities of neurotoxic chemicals are released into the environment each year. Among the top 20 toxic chemicals emitted by industry, as reported in the Toxics Release Inventory in 1997, 14 are known or suspected neurotoxins.⁴ The National Academy of Sciences (NAS) estimates that 25 percent of the developmental and neurological deficits in children are due to the interplay between chemicals and genetic factors, while 3 percent are caused by exposure to chemicals alone.

THE PRECAUTIONARY PRINCIPLE

Today's parents and future parents will have to determine what information about risks is credible, then decide what precautions may be needed to protect their families from harm. As stated in the *Compendium of the Social Doctrine* of the Church:

The authorities called to make decisions concerning health and environmental risks sometimes find themselves facing a situation in which available scientific data are contradictory or quantitatively scarce. It may then be appropriate to base evaluations on the "precautionary principle," which does not mean applying rules but certain guidelines aimed at managing the situation of uncertainty. ... This precautionary approach is connected with the need to encourage every effort for acquiring more thorough knowledge, in the full awareness that science is not able to come to quick conclusions about the absence of risk (no. 469; emphasis in original).

We must protect God's gift of creation to ensure our children's "right to a healthy environment."⁵ It is not enough to demand policies and regulations that address the unintended consequences of technological development. Laws and policies should also be accompanied by

an effective change of mentality leading to the adoption of new lifestyles ... inspired by sobriety, temperance, and self-discipline at both the individual and social levels. There is a need to break with the logic of mere consumption and promote forms of agricultural and industrial production that respect the order of creation and satisfy the basic human needs of all (Compendium of the Social Doctrine of the Church, no. 486, emphasis in original).

The United States Conference of Catholic Bishops (USCCB) tracks mercury-related legislation as part of the Catholic Coalition for Children and a Safe Environment (CASE), working to reduce emissions in order to protect the environment and human health, particularly in vulnerable populations. To protect children's health and the environment, the USCCB also opposes the testing of pesticides on pregnant women and children, supports longitudinal research on environmental threats to children's health from conception to adolescence, and seeks to address the potential public health impacts of climate change on vulnerable populations, particularly children, the elderly, and those with disabilities.

CONCLUSION

As Pope John Paul II said in his 1999 Message for the World Day of Peace: "The world's present and future depend on the safeguarding of creation because of the endless interdependence between human beings and their environment." As we highlight the Respect Life program and celebrate the feast day of St. Francis, we should reflect on our personal lifestyle, and also consider how abuse of our environment threatens children's health and their ability to realize their full potential, before as well as after birth.

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END NOTES

¹ Gilbert, Steven G., "Ethical, Legal and Social Issues: Our Children's Future," *NeuroToxicology* 26, 521-530.

² Landrigan, Philip and L. Trasande, "The Hazards to the Developing Brain of Methylmercury in the Environment," Mount Sinai School of Medicine, 2004.

³ Based on 2004 EPA analyses of 1999-2000 National Health and Nutrition Examination Survey, available at <http://www.epa.gov/mercury/exposure.htm#meth>.

⁴ They include methanol, ammonia, manganese, toluene, phosphoric acid, xylene, n-hexane, chlorine, methyl ethyl ketone, carbon disulfide, lead, and glycol ethers.

⁵ Pope John Paul II, Address to the European Commission and Court of Human Rights, Strasbourg, October 8, 1988, available at http://www.coe.int/T/E/Com/Files/Cooperation/vatican/disc_Pape_HR.asp.

PROGRAM MODELS

The BioBox Project. Sixth-grade students in the Archdiocese of Denver's inner city Catholic schools created "bioBoxes" containing artifacts and information reflecting the students' environmental region. They exchanged boxes with sixth-graders from other regions. Through this process, the students learned about the uniqueness of their region, the sacredness of creation, and the value of networking to promote environmental awareness. For additional information, see www.usccb.org/sdwp/ejp/resources/education.html

Habits of Creation. The Ecological Working Group of the Diocese of Richmond, VA offers a one-day retreat and workshop as a fun, hands-on way to examine our call to ecological responsibility. The retreat facilitates learning about ecological principles, includes real life stories of poverty and the environment, examines Scriptural roots of environmental justice, and builds community. The Ecological Working Group offers a facilitator's guide. For additional information, contact Clare McBrien at 276-686-5039.

The Nature Classroom. This project of the Diocese of St. Augustine, Florida involves Catholic elementary school students in a variety of experiences designed to develop an appreciation for the interdependence of humans and the environment. The students are involved in classroom and field plant identification, plant dyeing and weaving, and creating a herbarium. They also learn about Catholic social teaching and our responsibility to protect the wonders of creation. There are easy-to-use lesson plans, a training program, and a video for instructors. For additional information, contact Patricia Bronsard at 904-262-3200, ext 124.

The Cycle of Life Project. Students at St. Mary's School in the Diocese of Knoxville, Tennessee learned the value of organic gardening by setting up a compost system for growing plants to beautify areas around the school. "Grow labs" were also set up so students could measure differences between plants fed by compost and those without compost. Vegetables from the grow labs are donated to food pantries. The children learn not only about the value of sustainable agriculture and beautifying their environment, they also learn the importance of avoiding waste, by sharing our excess with those in need. For additional information, contact Cathy Lowden at clowden@comcast.net.

Millennium Garden. This project of the Holy Family School in San Jose, California, provides young people with hands-on gardening experience to develop their understanding of our responsibility for caring for the earth. The program includes working with native plants, planting a butterfly garden, growing plants in a greenhouse, and cultivating a vegetable garden. A composting project and a weather station round out the program which serves more than 600 young people annually. For additional information, contact Gail Harrell at 408-978-1355.

Environmental Stewardship Program. Elementary and middle-school students of the Diocese of Madison, Wisconsin attend a diocesan camp facility to better understand their role as stewards of God's creation. The Diocesan Office of Justice and Peace helps provide environmental service projects through the Catholic schools. For additional information, see <http://www.straphael.com>.

The Poster Project. Covenant House and the Washington, D.C. Catholic Conference sponsored this initiative to help the Youth Congress of Covenant House carry out a joint-community clean-up of excessive advertising posters in several Washington, D.C. neighborhoods. Consider organizing a poster clean-up following November elections. For additional information, see <http://www.covenanthousedc.com>.

Safe Cleaning for a Safe and Cleaner Environment. Fourth-graders at St. Jude School in Knoxville, Tennessee examine the marketing of household cleaners, learn the dangers of disposing wastes containing environmentally unsafe materials, make earth-friendly cleaning solutions, use and share them with the local Catholic Charities, and disseminate their discoveries through a newsletter and resource materials supplied by Chattanooga's Recycling Center Program. For additional information, contact Jamie Goodhard at 423-877-6022.

Creating an Environment for Life. Sponsored by the Archdiocese of Newark, and the Dioceses of Camden, Metuchen, Paterson and Trenton, as well as the New Jersey Catholic Coalition for Environmental Justice (Oct.15, 2005). This State-wide conference is part of a larger effort to urge Catholics in New Jersey to address environmental issues. For further information, visit <http://www.rcan.org/humanconcerns/envirojust/conferences.htm>.

RESOURCES

Teaching Documents

For I Was Hungry and You Gave Me Food to Eat. Pastoral statement by the USCCB. (November 2003). Washington, D.C.: USCCB. (35 pp; \$3.95)

Global Climate Change: A Plea for Dialogue, Prudence, and the Common Good. Statement by the USCCB. (June 2001). Washington, D.C.: USCCB (28 pp; \$3.50)

Renewing the Earth. Statement by the NCCB. (November 1991). Washington, D.C.: USCCB. (20 pp; \$3.50)

Other Print Resources

Renewing the Face of the Earth. USCCB. Includes *Renewing the Earth*, suggestions for initiating parish programs, liturgical, homily, and prayer helps, and background on the connection between the environment and social justice. (80 pp; \$6.95)

St. Francis Prayer Card. USCCB. (10 cards/\$10)

Video

"Caring for Children, Caring for Creation." VHS-tape Produced by the National Religious Partnership for the Environment (NRPE). To order, contact the NRPE at nrpe@nrpe.org or call 413/253-1515. (16 mins.; \$10)

Internet

<http://www.usccb.org/sdwp/ejp> Website of the USCCB's Environmental Justice Program, including its Climate Change Justice and Health Initiative

<http://www.usccb.org/case> Website of the Catholic Coalition for Children and a Safe Environment (CASE) and its partners

<http://www.ncea.org/departments/nabccce/EnvironmentalConcerns.asp> National Catholic Educational Association's website "Ensuring a Healthy and Safe Environment"

<http://www.chausa.org/Pub/MainNav/ourcommitments/Other/toenviron/envIRON.htm> Website of Catholic Health Care Ministry Environmental Responsibility

<http://www.nrcrlc.com/Web-Life-Stewardship.html> National Rural Life Conference's Web of Life - Stewardship of Creation website