

Effect of border-crossing pollutants on fetal health and international measures to restrict them

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Letter to Editor

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Nuclear explosions and testing are among atmosphere polluting factors, and dangerous for the environment and health. A few months after the bombing of Hiroshima-Japan, pregnant women whose uterus had been affected by nuclear particles, gave birth to highly deformed children. In Japan, facial malformation horrified all, and embryos born had severe impairments. Brain herniation, displaced heart into back of the head, disproportionate formation with only one eye, over-sized abdomen and chest, and also numerous cases of removed frontal trunk were also observed. In laboratories, chicken embryos were manipulated by simple X-ray to create deformed chicks, much like babies born of mothers affected by nuclear bomb in Hiroshima and Nagasaki [4]. Today, after nearly 70 years of the bombing, its damaging effects are still visible among new generations in these regions, including high incidence of thyroid cancer in children, which is due to contamination of the atmosphere and the environment in these countries that can also affect atmosphere of the rest of the planet. The International Atomic Energy Agency (IAEA) was established in 1957 in response to deep concerns over discovery of nuclear energy. Establishment of the agency is closely associated with "Atoms for Peace" project. Generally, the agency's goals are based on two main axes: first, peaceful use of nuclear energy, and its development for peace, health,

prosperity, and well-being around the world, and second, to ensure that nuclear energy is not utilized for military purposes [5].

Radioactive isotopes form part of our environment. On the one hand, they have applications in medicine and industry, and on the other, they are extremely dangerous. Thus, these materials should always be avoided, and appropriate and effective means of prevention should be in place against their radiation. When radiations from a radioactive substance hit a living cell, it will be damaged in the absence of self-repair and reaction and the damage involves destructive genetic effects. These radiations adversely affect various body tissues and cause impairments in them. Some of these tissues include bone marrow, gonads, respiratory system, children's growing tissues,

and embryos in pregnant mothers, causing irreversible damages and impairments to fetal growth and development [6].

Radioactive materials are dangerously increasing, and we witness birth of deformed and malformed children almost everywhere on the earth. Maternity hospitals in the five continents have announced fetal births with profound genetic problems. This is directly attributed to discovery of radioactivity and its use. Transmission of radioactive materials through the air or sea may leave extremely negative effects on the genes [4].

Hazardous wastes created by human in various sectors of industry, agriculture, service and commerce have been discharged into the ground or waters, with no regards for engineering and environmental principles, or buried into the

ground with utmost negligence, and because of the disregard for scientific, health, and environmental principles, have contaminated water, soil, and air, and endangered human health [7]. Children born in environmentally and climatically polluted cities are more irritated, and fight each other more, and on the whole, are more prone to and psychological damages as compared to their peers. Childbirth in these areas is highly risky because fetus may contract pulmonary diseases at birth, and this is a fast growing problem worldwide [2]. People's lives on earth are linked; burning of forests, polluting seas and lands, and creating heaps of waste, all indicate that activities in any part of the world affect other parts. People of the world pollute the environment, climate, and soil by factories, fires, and sources of smoke, and thus, endanger their own and future generations' health [8]. Every year, about one million tons of hydrocarbons are discharged into the seas for oil exploration. Currently, environmental pollution knows no borders, be it of the sea or air, or ... pollution has surpassed national limits and turned into an international issue [4]. If human had not exploited and destroyed the environment for such a long time, the issue of pollution would have never reached the present critical stage. It should be noted that, since environmental pollution does not recognize borders, creating any pollution is in fact abuse of other people's rights. Every single person has the duty to let go of his/her selfish and greedy actions, so that life and health can take their natural course. However, the problem of pollution has gotten to a stage that requires international cooperation.

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