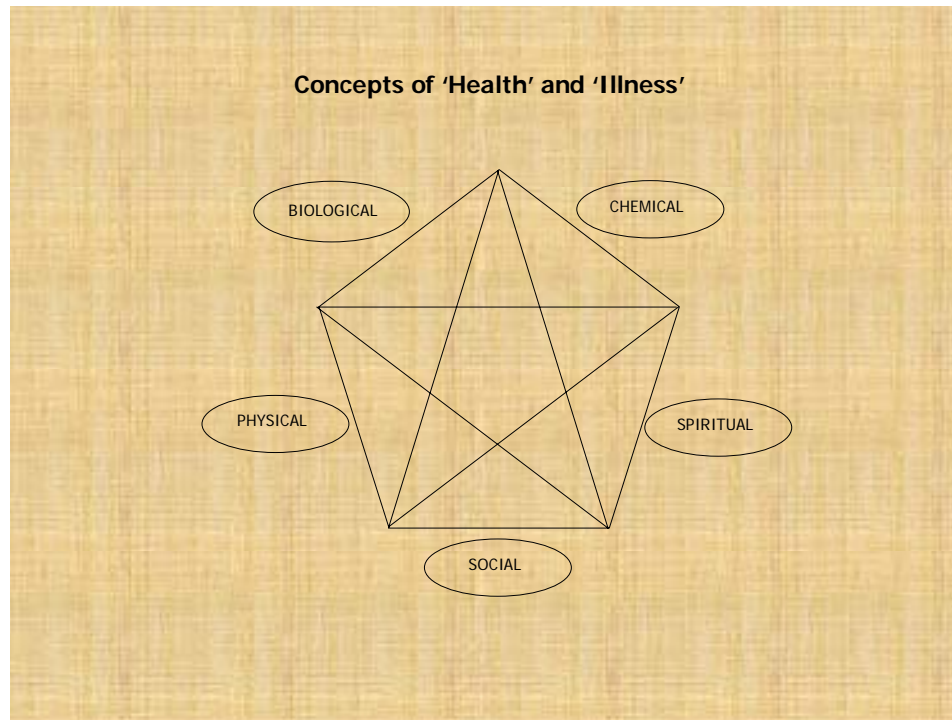


# Health and The Environment: The Intimate Connection

*Romeo F. Quijano, M.D.*  
Professor

Department of Pharmacology and Toxicology  
College of Medicine, Univ. of the Phils. Manila



## **Environmental problems are also health problems.**

This fact has been tragically demonstrated repeatedly in the recent past – Love Canal, Chernobyl, Minamata, Bhopal, among others. The earth is a living organism and it has a continuity with the human being through various processes (physical, chemical, biological, social and spiritual) that maintain life. The human being is an integral part of the living earth, our living environment. Nature, the dynamic expression of earth's life, is not just a passive entity external to humans waiting to be explored and exploited for material benefits. Nature is an extremely intricate and immensely complex active web of various entities, habitats and processes; ecosystems that provide the conditions for life and its sustainability. It is also a social construct, with economic, political and cultural dimensions. Peasant communities, for example, struggling for survival against the aggression of corporate agriculture and “economic development” are also struggling to protect nature and their social integrity. The integrity of the human being, therefore, is largely determined by the integrity of the environment. Good health is the state of harmony between the individual and the environment.

Illness is the result of disruption of the harmony between the individual and the environment. Disruption comes in several forms:

## 1. Disruption by Toxic Chemicals

Over the past fifty years, the chemical industry of the Northern countries has poured billions of tons of toxic chemicals into the world's ecosystems, aggressively promoting their use in practically every facet of everyday life. Global sales for pesticides, for example, continue to rise, reaching up to US\$31 billion in 1998. Many of the pesticides sold by giant agrochemical corporations in the South are banned, unregistered, or restricted in their home countries. This has been documented by the Foundation for Advancements in Science and Education which estimated that the U.S. has been exporting pesticides forbidden in the U.S. at the rate of 14 metric tons per day. This has resulted in widespread environmental pollution and extensive poisoning of wildlife and human populations. The Third World, inevitably, is the most vulnerable. Every year, an estimated 25 million people suffer from pesticide poisoning and countries of the South account for 99% of pesticide related deaths even though it uses only 20% of the pesticides produced globally.

Industrial chemicals and toxic chemical by-products of various industrial activities, most of which can be replaced by relatively safer technologies, significantly contribute to the toxic burden on the environment. Dioxins, furans, ozone depleting chemicals, and other highly toxic, persistent organic pollutants are seriously threatening the survival of all living organisms on earth. Like the pesticides, they have caused cancer, immune system dysfunction, endocrine disruption, reproductive abnormalities, developmental anomalies, degenerative diseases and various other illnesses in both wildlife and humans.

Other chemicals consumed inappropriately such as tobacco, alcohol, illegal drugs, and inessential pharmaceuticals are also major sources of disruption of our environment. Tobacco, by itself, is naturally occurring and when used appropriately within a cultural setting essential for social harmony (such as in peace rituals), is essentially innocuous. However, when aggressively promoted and sold for profit and used with no meaningful social purpose by self-indulgent and pleasure seeking individuals, tobacco becomes a disruptive substance. Similarly, alcohol, when used in a profit-seeking and self-indulgent manner outside an appropriate cultural practice, becomes disruptive of the individual's internal chemical balance and disturbs the integrity of the immediate physical and social environment.

Inessential pharmaceuticals and similar medicinal products are also of significant concern. It is important to deal with the issue of irrational and hazardous pharmaceuticals since they flood the market and figure in the prescription of most medical practitioners. The adverse effects of commonly used pharmaceutical products, which are often more serious or more likely to be fatal than the symptoms or diseases they are supposed to cure, are becoming more and more frequently encountered problems in most medical facilities and even in the general population. Rather than relying mainly on our natural capacity of healing, we rely on the "magic bullet" promises of pharmaceutical monopoly corporations that are more interested in profit than in responding to the real medical needs of the people. Instead of trying to understand the relationship of symptoms and diseases to our being's intricate balance with its environment and despite the signals that our body is attempting to convey to our consciousness, we are mesmerized and misled by the false and misleading advertisements and promotions that repeatedly bombard our unenlightened "self". We are made to believe that "sound science" and modern technology are behind the products we buy and consume rather than the obvious profit motive.

## **2. Disruption of The Biological Environment**

Probably the greatest threat now to our biological environment is the threat posed by genetically modified organisms (GMOs). Never before has the internal ecology of life, meticulously and systematically laid down by nature through eons of evolution, been subjected to such an invasive technology as that of genetic engineering, particularly as it is applied in agriculture. Genetic engineering is not just simply a natural progression from traditional or existing technologies of growing crops, breeding animals, brewing beer, or making yogurt. It is a radically new and invasive technology- altering traits of living organisms by adding genetic material that has been manipulated outside of cells. Forced and haphazard insertion of exotic new genes into the genome of completely unrelated species is creating an unprecedented spectrum of environmental and health hazards. Mutant organisms, potentially infectious virus vectors, antibiotic resistance genes, exotic toxic chemicals, potentially allergenic novel proteins, many of which are yet unidentified and uncharacterized, threaten to swamp the biosphere and disrupt further the already fragile balance of our biological environment. Genetically engineered herbicide tolerant crops which constitute 70% of all cultivated GMOs today have already resulted in the increase of herbicide use and consequently, increased crop residues of herbicides that are associated with endocrine dysfunction, immunotoxic effects, and cancer. Additionally, genetically modified crops have been shown to affect monarch butterflies, lacewings, essential soil bacteria and other organisms critical to the maintenance of a balanced ecology. And the impact of gene pollution through horizontal gene transfer is just beginning to be recognized.

Genetic engineering is being promoted as the solution to world hunger mainly by the same agrochemical corporations that sell pesticides and other toxic chemicals. This was the same argument used more than 30 years earlier when they were promoting the so-called "Green Revolution" which introduced the monoculture system of hybrid crops dependent on toxic chemical inputs that they themselves sold and which shifted the balance of control in food production from the small, largely self-sufficient farmers in favor of big and corporate farmers. Today, the agrochemical giants want to consolidate further their monopoly control through the genetic engineering technology, the latest phase of corporate-driven strategy of restructuring national economies, global trade and finance primarily for the benefit of big business. The aggressive promotion and imposition of genetic engineering technology, primarily by the U.S., plays a central role in the WTO strategy of opening up markets and ensuring the continued flow of profits to global corporations. As such, genetic engineering disrupts not only the biological environment but to a large extent, the social environment as well.

## **3. Disruption of the Social Environment**

This is probably the greatest factor that contributes to ill health in the majority of populations all over the world. The economic, political and cultural disruption brought about by colonization, development aggression, debt crisis, structural adjustment programs, and corporate globalization has led to the deprivation of adequate and appropriate nutrition, safe and adequate drinking water, safe and adequate food, pure air, and other basic physical and biological needs which serve as the foundation of a healthy society. This has led also to the deprivation of fundamental socio-economic, cultural and political rights such as the right to self-determination, adequate health care, education, employment, safe working and living conditions, and the right to live in human dignity, free from exploitation and oppression. The resulting social disruption has often led to the establishment of dictatorial governments, militarization and internal armed conflicts fueled and abetted by vested interests of global powers. Vast powers and means of control have been

monopolized by a few, primarily the global transnational corporations, and are further being entrenched through the imposition of global instruments and institutions such as the GATT-WTO, IMF and World Bank. Backed-up by the economic, political and military might of the rich countries of the North, primarily the U.S., the global TNCs and multilateral institutions push a development model that aggravate debt and dependency and increase the widening gap between the few rich and the immensely numerous poor. As liberal market forces are let loose and as disparities and inequities worsen, more disruption of the social environment will inevitably occur and will eventually exert its impact on people's health. No amount of modern technological fixes, including esoteric medical procedures, devices or drugs, can compensate for the resulting ill-health that would ensue.

#### **4. Psychological/"Spiritual" Disruption**

Health is not just the state of physical wellness but also psychological/"spiritual" well-being. The psychological/"spiritual" dimension is an integral element of the human being. The individual human being at the same time is an integral element of the social environment. The psyche and/or the "spirit" of the individual must therefore be in harmony with social reality if one is to be healthy psychologically/spiritually. Whether anchored in scientific reasoning or religious beliefs, psychological/spiritual harmony cannot be achieved if social realities are ignored and separated from the conscious appreciation of the meaning of life since the psychological/spiritual dimension inevitably extends to the social environment. Selfish and arrogant behavior, apathy and lack of social consciousness, silence in the face of social oppression, ignorance, subservience and defeatism in the midst of injustice and violations of human rights; all these are symptoms of a disrupted psychological/spiritual being. Again, this is intimately linked to the underlying causes of disruption of the social environment. The same forces that undermine the social environment are at work in undermining the psychological/"spiritual" environment. Through various forms of social control (control of mass media, educational and scientific institutions, cultural aggression, control of food systems, control of financial systems, etc.) social realities are distorted and misrepresented such that the psyche/spirit becomes externalized and the individual victim fails to recognize the ethereal dismemberment that occurs. He/she then becomes susceptible to the blandishments of pseudo-religious leaders with disempowering promises of salvation and deliverance from poverty and suffering, to the enticement of experts in behavioral conditioning through advertising and promotions, to the glittering attractions of irrelevant celebrities who create blinders to social inequities through escapist entertainment and temporary pleasures, and to the dehumanizing isolation through imposed pre-occupation into routine, robotic work. These, not lack of religiosity, are the real threats to the "soul" of the human being.

#### **5. Disruption of the Physical Environment**

Disruption of our physical environment also contributes directly and indirectly to health problems. Industrialization, urbanization and modern technology have made tremendous impact on our physical environment. Mass production of goods has put millions of workers into various kinds of occupational hazards. Building of dams to supply irrigation water to corporate farms and to provide energy to industrial zones has displaced entire communities, particularly indigenous communities. As a result, many community members die off from poverty, disease, and hunger and the survivors, if any, could hardly retain their indigenous way of life because of complete change in their habitat. Mining companies have scraped-off entire forests and mountains in the name of economic growth, in the process, devastating the ancestral domain of tribal communities and destroying irreversibly local biodiversity that is the

source of livelihood and medicines for the local indigenous people. Many more so-called development projects result similarly in the destruction or disruption of the physical environment that is vital to the maintenance of health and well being and survival of local communities. On another domain, urbanization has produced massive congestion of humans in squalid conditions in slum communities. Forced to leave the rural areas because of poverty and landlessness, the urban poor have no choice but to stay in cramped dwellings in sewage canals and garbage dumps competing with vermins and stray animals for whatever available space is left in the crowded metropolis. Hunger, illness and premature death become as common as being out of work.

### **How then, should we respond to this situation?**

Given the interconnectedness of health and the environment, it is clear that the western reductionist approach to health care is inappropriate. Neither will alternative medicine be adequate if it ignores the various disruptive factors that operate in the causality of ill health in relation to the different environmental dimensions. Necessarily, the approach should be wholistic and multidimensional rather than individualistic and tubular. Our methods should be within the context of rebuilding the connections with the multidimensional environment, including nature. We must recognize and respect the wisdom of the living earth which has developed various forms of ecosystems, including gene ecology. We must rediscover, rehabilitate, and enhance our sustainable relationship with nature and our environment, restore the homeostatic mechanisms among various living organisms, re-establish the self-reliant agricultural systems rooted in biodiversity and re-cultivate communal relationships based on equity and justice. The environment and us are one. What we do to the environment, we do to ourselves.

To be meaningful and effective, therefore, the various healing practices and modalities that attempt to alleviate human illnesses must recognize the role of environmental disruptors and address them accordingly. The affected individual must himself/herself recognize and address the same since in large measure health rehabilitation is a self-healing process. This process of healing involves: awareness raising and re-education, change in lifestyle and norms of behavior, appropriate use of alleviating remedies including drugs, medical, and alternative procedures, elimination or avoidance of toxic substances and similar environmental disruptors, rebuilding of social relations at all levels based on justice and equity, and , finally, humbly submitting ourselves to the collective wisdom of an enlightened and empowered people that comprise the majority of the society to which we belong.