

## **Bioethics, Health, and the Environment: Some ethical concerns in the Caribbean**

### *Abstract*

The scope of bioethical debate regarding justice in health and care for persons has been expanded by some persons to include issues such as air pollution, water quality, occupational hazards, safe housing, food and drug safety, pest control, disaster preparedness, literacy, and other environmental factors that affect or can cause differences in health. However, not all societies have sufficient resources to address all of these environmental factors simultaneously, and so each society must set priorities in regard to policy formation in these varied areas.

In the Caribbean, atmospheric pollution from burning sugarcane for harvesting and from cement plants, deforestation, soil erosion, inadequate protection of streams and rivers from squatters, and asbestos exposure in squatter communities, are some of the specific environmental issues that our countries face. In addition, in recent years, there has been a rapid increase in the construction of “mega-hotels” along the coast-line of some of our islands. The thousands of trees destroyed to facilitate these construction sites cannot be re-planted, and the land used cannot be re-claimed in the foreseeable future.

This paper will analyze some of the ethical challenges that some of these issues present for sustainable development for the Caribbean populace.

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### **Introduction:**

The biologist Van Rensselaer Potter proposed the term “bioethics” in 1970, to encompass a field that lay at the intersection of ethics and the biological sciences in general (Potter, 1999: 38-40). He was one of the earliest proponents of a generous understanding of bioethics to reflect on the character of the field and the questions with which it would grapple. Potter further described the concept of “bridge bioethics” – where the “two cultures” of science and the humanities, of biological knowledge and “ethics”, are bridged by the discipline of Bioethics.

Since then, the scope of bioethical debate regarding justice in health and care for persons has been expanded in some quarters to include issues such as occupational hazards, safe housing, air pollution, water quality, food and drug safety, pest control, childhood nutrition, disaster preparedness, literacy, and other environmental factors that affect or can cause differences in health (Resnik, Roman, 2007: 230-41.) However, not all societies have sufficient resources to address all of these environmental factors simultaneously, and so each society must set priorities in regard to policy formation in these varied areas.

Concerns about global warming as well as other geo-political factors have been fuelling the search for and the production of so-called renewable energy worldwide for the past few years (Martinelli, Filoso, 2008: 885-898). This shift carries a great potential benefit for those countries in the Caribbean that grow sugarcane, as sugarcane ethanol has a positive energetic balance and can be used as bio fuel. How the sugarcane is harvested and processed however is crucial, as atmospheric pollution from the burning of sugarcane at harvesting, the subsequent degradation of the soil and aquatic systems, soil erosion, pollution of nearby rivers and streams, as well as any exploitation of the sugar cane workers may all pose ethical problems. Further, we should avoid any excessive replacement of natural ecosystems such as forests, wetlands, and pastures to secure bio energy crops or other similar investments. We therefore need to adopt an ecosystemic vision of health, in which the life conditions of the environment are part of the understanding of health itself (Junges, Selli, 2008: 105-119).

In this article therefore, I will examine some of the environmental challenges existing in the three largest English-speaking countries of the Caribbean, and point to some of the needed ethical pathways to overcome some of these challenges.

### **The Jamaican environment:**

In the Caribbean country of Jamaica, atmospheric pollution from the burning of sugarcane for harvesting, deforestation, soil erosion, and inadequate protection of streams and rivers from squatters – their washing, bathing, and excrement are among the many environmental issues that the country faces (Aarons, 2009: 4). Further, over the last four years, there has been a rapid increase in construction of “mega-hotels” along the north coast of the island. The thousands of trees destroyed to facilitate these construction sites cannot be re-planted, and the land used cannot be re-claimed in the foreseeable future.

Natural beach-fronts have also been destroyed by the large hotels built, as have the nests of turtles and the natural habitats for birds to nest and reproduce. Natural mangroves and wet-lands have been destroyed and the areas converted for hotel building and expansion. The issue thus begs the question – how much should a community or society surrender in order to obtain so-called “development”?

In an effort to develop tourism in western Jamaica with its white sand beaches, during the 1950s the Negril “morass” wetlands and canals were drained, and dynamite used to blast rocks up to 15 feet deep (Aarons: 4). Prior to this happening, the beaches in Negril were 50 – 100 metres wide. Subsequently, beach erosion began. Coral stones started turning white, and the size of the reefs began diminishing and now is almost totally gone. With this, the fish lost their natural breeding places, driven from the reefs over the past 20-30 years, and fishermen are not now able to catch much fish in that environment.

The “mangroves” were cut down to build a highway, but a lot of the marl laid down for its foundations was washed out to sea, causing many fish to die. A lot of the algae were killed by the silt and chemicals washed into the sea from the hotel construction sites, resulting in the fish losing their natural source of food. No conscious effort was made to prevent the debris from construction flowing into the sea with every rainfall, and the importance of protecting the marine environment and coral reefs was not emphasized.

Pollution of the area still exists, with oil spills from motorized water sports activities along the hotels’ coastline, and a lot of waste, boxes, and “drinks” bottles wash up on the shore line (Aarons: 4). Further, horseback riding along the beaches have resulted in the squashing of baby turtles. In Negril, therefore, it is obvious that economic success has come at the expense of the environment. Human needs received the priority over environmental needs and concerns.

The development of Negril also neglected its human resources and there was no sign of planning for its social development – there were no areas earmarked for the housing of the hotel workers, no planned schools or nurseries for their children, and so on. Plans were only made for Negril’s economic development.

Fishermen from the Negril area were displaced by the effects of hotel construction on the source of their livelihood, and currently have to go much further afield up the coastline to fish. Despite this, with time, they have found that the constructions of hotels are “following” them along the coastline. Further, the expansion of the hotel chain along much of the north coast and their fencing of their properties has resulted in a loss of access to the beaches by the local population, a social injustice.

The tourism expansion has now reached the quaint Elizabethan town of Falmouth, which is being prepared to host the world’s largest cruise ship which was recently commissioned (Aarons: 4). Drenching of the town’s harbour is being done, as well as the re-location of the fishermen from the beaches they currently occupy. Four “multi-hotels” are currently planned for the bay area. Not surprisingly therefore, over 50% of Jamaica’s foreign exchange comes for tourism, yet despite all the investment and sacrifices made for the sake of tourism, it is ironic that over 50% of the US dollars earned from tourism are not retained in Jamaica but are sent to or kept overseas for the overseas investors.

Another environmental challenge facing Jamaica is squatting, particularly in or close to some sites for tourism (Aarons: 4). Squatter settlements have no direct source of running water, and so poor sanitation and pollution of nearby streams and rivers are among some the environmental consequences. The disorganization of squatter communities with no recognized roads into the area or around the houses makes effective policing by the security forces virtually impossible. The latter presents a major security problem for persons living in nearby residential areas and communities.

Pollution of the environment also occurs where garbage is dumped into some gullies from where it is washed to pollute the sea (Aarons: 4). Oil also seeps from the docking areas for boats and ships, and the coast line is sometimes stripped bare of flora and fauna. There is also a significant environmental risk of asbestos exposure in the damp asbestos contaminated “squatter settlement” community of Succabba, St. Catherine in Jamaica (Kahwa, Clarke, Campbell, 2009: 5). The adverse health effects of occupational and environmental exposure to asbestos has been well documented in countries of the North, but very limited attention has been paid to that existing in countries of the South (Joshi, Gupta, 2005: 239-247; World Health Organization Disease Control Priorities Project). As a consequence, persons in these environments live under the threat of developing asbestos-related diseases (respiratory and other). Ethical issues of equity and the

protection of these vulnerable populations arise in this predicament. However, through funding from the Environmental Foundation of Jamaica (EFJ), mobilization of the squatters in Succabba to clean up the pollution and regularize their land tenure has begun in this particular community (Kahwa, Clarke, Campbell: 5).

Poor enforcement of environment regulations, corruption in the approval process for construction, and deviation from the approved building plan without consultation with the requisite authorities, are all matters that can result in environmental injustice in Jamaica. Further, citizens residing in the areas marked for mega-hotel construction have no “say”, and are often not consulted. These are the ethical issues that must be addressed for the sustainable development of the Jamaican environment.

### **Some environmental issues in Trinidad & Tobago:**

In the twin island states of Trinidad & Tobago in the southern Caribbean, inadequate rodent control presents a significant public health problem (Mohan, Chadee, 2009: 10). Insufficient human resources to address the problem, insufficient allocation of finances to purchase the required rodent poisons, inadequate laws to provide effective rodent control, inadequate application of the existing laws, and insufficient educational programs for the general public regarding the need for effective rodent control – all present ethical quandaries in that country.

Dengue fever and dengue haemorrhagic fever are also a primary cause of hospitalization in children in Trinidad & Tobago, where the seroprevalence rate for the infection among the inhabitants of the country is 92% (Sharma, Chadee, 2009: 10). Current mosquito control methods and the surveillance system used by the Ministry of Health in Trinidad & Tobago did not prevent the 2002, 2003, and 2008 outbreaks of dengue fever in the country, which suggests that the surveillance system used is not sensitive to the risk of the illness, given the high seroprevalence rate for the dengue virus among the inhabitants of the country. The matter thus presents an ethical quandary in what should be done to prevent high morbidity and mortality rates among the infant populations in Trinidad & Tobago.

Further, persons living in the Claxton Bay area where the Trinidad cement plant is located experience pollution of the air by large quantities of gas emissions and dust (Persad, Chadee, 2009: 7). The emissions from the stacks of the plant include carbon dioxide, sulphur dioxide,

nitrous oxide, synthetic compounds, and particulate matter. The oxides of nitrogen and sulphur are known to have negative effects on respiratory health, particularly in persons with such susceptibility.

Studies conducted on chronic exposure to cement dust reveal an increase in the prevalence of respiratory symptoms and a reduction in ventilatory capacity (Persad, Chadee: 7). Bronchitis or occupational asthma may occur after long-term exposure to dust. A number of ethical questions can be derived from this issue. Should the administrators of the cement plant be liable for the impact of the pollutants on the surrounding environment? Do they have any responsibility for the respiratory health of persons affected in the surrounding communities? Have they instituted any measures to reduce the emissions from the plant, and what measures would be sufficient? What role should the governmental body for environmental management play in this process?

Like Jamaica, strict enforcement of existing environmental regulations, an expansion of the regulations to address new ethical challenges, and the re-ordering of the priorities for public health is necessary in the twin island states of Trinidad & Tobago, and should be as a part of their plans for sustainable development.

#### **Guyana: Environmental pollution following severe flooding:**

Most people in Guyana live along the country's northern coastline bordering the Atlantic Ocean where much of the land is below sea level. This presents a significant risk of flooding, particularly in the capital city of Georgetown where the majority of Guyana's inhabitants live. The heavy and prolonged rainfall during January 2005 is one example of severe flooding with marked health and environmental consequences. This resulted from the overflowing of the banks of the huge Demerara River with severe flooding particularly along the east bank of the river. Much of the capital city remained under water for more than 4 weeks. Particular challenges existed in regards to mosquito infestation and dengue fever, sanitation and access to clean "potable" water.

Mobilization of persons within the various Guyanese communities for effective and thorough clean-up of their living environment, as well as the re-building of community spirit through participation was imperative. In all the efforts, respect for the rights and dignity of all persons affected by the severe flooding had to be also maintained. Effective ways of disseminating all

the required information, including the nature of the hazards to health, the types and quantities of materials needed for effective clean-up, the provision of these materials to families unable to afford to purchase the items for themselves, and the help needed for the “shut-ins” and other persons unable to clean their own environments all became ethical issues (Mendonca, 2009: 5). The cleaning up of all the “public spaces” to be used by the inhabitants also had to be prioritized.

This experience underscored the need for guiding principles necessary at the time of severe flooding or similar severe environmental challenges. High standards for sanitation and garbage collection, access to safe drinking water and physical safety for vulnerable persons in times of environmental disasters are priorities in countries like Guyana.

### **Discussion:**

The field of environmental ethics has contributed much in recent times to the understanding of our general duties and values to nature, animals and plants, populations, and ecosystems (Minteer, Collins, 2008: 483-501). However, our duties to public welfare, animals, plants and ecosystems may sometimes be at odds with one another, and can raise difficult and varied ethical questions. Further, an environmental injustice may occur when an environmental burden is placed on a marginalized group or groups within society that represents a risk to their life and health (Junges, Selli, 2008: 105-119).

Some persons perceive our current environmental crisis as a failure of economic activity to proceed on an ethical basis (Potter: 38). Environmental problems have occurred because there simply is no environmental ethic in many societies. Environmental ethics in some societies developed only when some persons were able to expand on the relationship between individuals (e.g. doctor-patient relationships) to the reciprocal relationship between the individual and the society, and then made the intellectual leap to develop an ethic dealing with man’s relation to the land and the animals and plants which grow upon it (Potter: 38).

Land, however, is “property” owned by someone, and the relationship between man and “land” is still unfortunately an economic issue involving privileges but not “obligations” (Potter: 38). An ethic to supplement and guide any relationship to land therefore requires a mode of guidance for uniting ecological situations existing within a democracy with considerations beyond those of any individual. In this milieu, care for the earth, care for the farm, and care for people are equally

important. Unfortunately, however, social ethics continues to be dominated by the economic interests of so-called “overprivileged” persons that generally override underprivileged persons in matters of care for the earth, care for farms, and care for people. This is due to the former being unable to get beyond their immediate self-interest to envision the plight of the current ecological situation and its implications for our continued collective existence on the planet.

Collective macro-problems – social, sanitary, and environmental – are seen in countries of the South daily, but the ethical theory of “Principlism”, which originated in the United States of America and brought international visibility to the field of Bioethics based on supposedly universal principles – is limited in dealing with these macro-problems (Garrafa, Porto, 2008: 87-102). A theory grounded in a utilitarian and consequentialistic approaches that give priority to the fields of social and sanitary justice is better able to defend the interest of the poorest and disempowered populations.

Ethics in environmental issues thus involves the preservation and restoration of the natural landscape, plants, and animals, clean air, plentiful, non-polluted water, and large areas in the wild state. In contemporary bioethics, a failure to recognize the link between ecological ethics and medical ethics is a failure to recognize the link between nature and health (Whitehouse, 1999: 41-44). As Potter conceptualized, we need to perceive bioethics as a “bridge”. It is not only a bridge between a scientific orientation and a “values” orientation, but also a bridge to the future (Pierce: 2009). We therefore need to bring values and science together, with “values” shaping the scientific enterprise in ways that are humane and sustainable.

The issue therefore speaks to sustainable medicine in a sustainable environment. The environment has been and will continue to be dramatically affected by the delivery of health care – for example – the use or misuse of antibiotics by physicians, or the use or misuse of community resources such as space and waste processing. All these may all have profound effects on the environment. And many environmental factors play an increasingly important role in human health. Whilst the human species has evolved biologically (and culturally, aided by technology) to respond flexibly to different environments, our species could be challenged by further changes in our already stressed environment (Whitehouse, 1999: 41-44).

The dominant world view of conservation ethics is concerned only with the worth of the environment in terms of its utility or usefulness to humans (Robinson, Wilson, 2009: 7). This



perspective promotes the idea that the environment should be cared for to improve man's living conditions. This idea finds root in the value systems of most religions and philosophies. However, not all conservationists and life scientists agree on all the arguments proposed. And so the main ethical arguments for preserving biological diversity include the right for each and every species to exist as they have worth as living repositories of accumulated experience as well as history of previous life forms through their continuous, evolutionary adaptation (Robinson, Wilson, 2009: 7).

It is now well established, if not fully recognized or accepted, that evolutionary mechanisms lead to increased biological diversity (Robinson, Wilson, 2009: 7). Living populations should be allowed to evolve under natural conditions. There is however no consensus by philosophers as to whether the facilitation of biological diversity or the facilitation of only those forms of life that are of use to mankind is more appropriate: philosophical and practical justifications for both exist. The role of the scientist is therefore not to attempt to resolve such problems, but rather to consider the integrity of scientific knowledge and understanding to inform an ethic that can be applied to conservation and environmental challenges (Alexander, Fairbridge: 1999).

We will therefore need to foster community dialogue among ecologically sensitized citizens, as well as empower persons to think deeply about issues of health and the environment and their interactions. Unfortunately, however, community dialogue about biology and human values requires a populace educated about science and concerned about the nature of a good life now and in the future, and so this approach may present a challenge for many communities across the Caribbean where many persons are only semi-literate. Nevertheless, the survival of communities depends on a well-educated populace, and so all societies should work to achieve this.

### **Recommendations for Caribbean communities:**

What are some recommendations for the various challenges faced across the Caribbean? Hotels should be built further inland, and guests transported to the shore line. Preservation of the environment is important, and large hotels place a heavy burden on the environment in small countries like Jamaica. Many plans for sustainable development exist in that country, but are never implemented. As mega-resorts continue to be constructed along the north coast of

Jamaica, the entire coastline is being devoted to tourism, and so the issues of “justice” for local inhabitants and environmental justice must assume even greater importance.

Full and proper implementation of existing laws related to the environment in Trinidad & Tobago is also mandatory for its sustainable development. As a country currently undergoing rapid development, great emphasis will have to be placed on all public health issues to ensure a balance with economic development. Increased empowerment of individuals and communities in the Guyanese population, as well as respecting the rights and dignities of all persons will be an important pathway forward in that country. Particularly vulnerable persons exist in all the Caribbean island-states, including the poor and disenfranchised, and their interests must also take priority in the balancing of health and environmental concerns.

Finding the balance between individual liberty and autonomy, and community needs and survival has increasingly become a focus of discussion in bioethics circles. The matter requires a shift of our focus from ourselves to our community, as well as the community of other living creatures on this earth. A new focus on our interests shared with other life on the planet is likely to lead to renewed spiritual exploration of our relationship to nature. On a global note, perhaps this one issue could unite the world’s religions into the common purpose of saving life on this planet. The matter of our own survival and that of other species may depend on this.

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