

# DECISION MAKING FOR ENVIRONMENTAL JUSTICE: A HUMAN ECOLOGICAL PERSPECTIVE

By: Robert J. Griffore and Lillian A. Phenice  
Michigan State University

*Human ecology is the science that provides a conceptual framework and a methodology for research and decision making concerning the relationships of populations to environmental resources. Ecological decision making is the basis for fostering social and environmental justice. Individual decision making can be understood and examined in terms of human ecological components. These ecological components can be benchmarks for decision-making concerning use of resources, access to resources, and exposure to resources. Examples of ecological decision making concerning hazardous waste in the environment are given.*

## Introduction

From a human ecological perspective, human development is the adaptive outcome of a series of complex interactions between humans and their natural, built, and social environments. It is impossible to separate human life and human development from environmental resources. Inadequate resources result in harm or loss of life and unrealized human developmental potentials. Inadequacy of resources to sustain quality of life can be attributed to two circumstances: (1) human judgment and making decisions not to avail oneself of accessible resources, and (2) lack of access to resources. Both circumstances can be explained and clarified by a human ecological perspective.

Everyone knows what a decision is, and each of us makes decisions every day. Most of us have a sense of how the term decision is used in everyday life. By making a decision, action is taken with the intention of producing favorable outcomes. All decisions share a common outcome; they are conscious and voluntary, and they bring about outcomes the decision-maker prefers to other outcomes (Yates, 1990).

There are some who fail to make good decisions to use available needed resources due to lack of information or lack of motivation. These shortcomings usually can be corrected by explicit and implicit suggestions through an educative process that investigates potential gains or losses. The science of human ecology provides the necessary framework for obtaining information within which to correct these shortcomings. Applied human ecology, through its several professional areas can assist people in making decisions about accessing and using resources. While educative processes can shape more effective individual decision-making concerning use of human resources, it is evident that use of resources also is limited by lack of access to resources. Some hold the view that lack of access to resources can be attributed to social injustice.

From its early scientific foundations, human ecology has been a science of human resources and decision-making relative to using resources. This was evident in the work of Amos Hawley (1944; 1950) involving community organization, populations and environments. It was also evident in the Homer Hoyt's (1969) work on patterns of land use. Many of the questions and issues of social theory and social and behavioral sciences also can be understood as human ecological questions, specifically concerned with decisions about distribution of environmental conditions and resources. For example Durkheim's (1933) concept of anomie in sociology refers to normlessness. Tonnies (1940) concepts of *Gemeinschaft* and *Gesellschaft* refer to degrees of isolation, cohesiveness, and solidarity in social relationships. They are normally thought of as structural conditions - perhaps out of the realm of individual control. In human ecology they are regarded as consequences of decision making. Individuals make decisions to live in places and in cultures characterized by normlessness and isolation. Some decisions result in moving to these places and cultures. Other decisions result in lack information, lack of social controls, and lack of governing regulators.

Research in environmental psychology has focused on conditions of crowding, personal space, and privacy (Altman, 1975). These conditions can be considered as characteristics of human environments. However, they are to some extent results of individual decision making. The environmental circumstances that one experiences are the consequences of making decisions. In the aggregate, the sum of these decisions becomes one's environment.

Some environments have been described as "socially toxic" (Garbarino, 1995). Such environments contain elements that can adversely alter the course of human development. To some extent socially toxic elements of culture are commercial constructions distributed by mass media. However, individuals can make decisions concerning the degree to which they participate in socially toxic environments. In this regard, children are often the victims of poor decisions made by adults.

Socially toxic elements in the environment are not the only threats to human development. Children and adults are exposed continuously to toxic chemicals in the environment. Concentrations of hazardous waste can be located and mapped using the U.S. Environmental Protection Agency Enviromapper. This tool allows one to locate sources of various types of environmental hazards including Superfund sites and toxic releases. The Enviromapper also allows one to superimpose on maps of toxic sites various demographic information and to examine the proximity of hazardous waste to demographic characteristics of the population (EPA, 2004).

A fundamental concern of human ecology is that large numbers of individuals are disproportionately and negatively impacted by social injustice. Environmental justice is based on the principle that no one should have disproportionate exposure to dangerous substances in the environment. Phenice and Griffore (1999) studied populations surrounding Superfund sites. They found that the concentration of young children was higher surrounding these Superfund sites than for the surrounding metropolitan areas. From an ecological perspective, the unjust and disproportionate exposure of young children to Superfund sites is the result of decision making. Distancing young children from these sites also can result from decision making. To a degree, exposure to harmful pollutants in the environment may be beyond one's control. Locations of harmful pollutants in major urban and metropolitan areas are results of industrial decision-making. At the same time, individuals also make decisions for themselves and for their children relative to their proximity to harmful pollution.

### **Ecological Components**

Human ecology is the science that provides a conceptual framework and a methodology for research concerning the relationships of populations and their environments. The theoretical basis of human ecology is found in its foundational emphasis on decision-making (Hook & Paolucci, 1970; Bubolz & Sontag, 1993), especially as related to access to, and utilization of, environmental resources. Individuals, families, and other groups all play some role in making decisions regarding their use of resources. The adequacy of these decisions is based on how effectively they are able to participate in this process and on several ecological components. For example, structural components refer to substance and configuration. Dynamic components provide energy and motivating forces. Governing components regulate actions in human ecosystems. Information processing components refer to the quality and consistency of information. Interrelationship components are patterns of interactions within the human ecosystem. Disruptive components are events that interfere with regular patterned processes. Life process components are actions taken to make adaptations and to improve quality of life (Griffore & Phenice, 2001). These components are the basis for actions that can achieve environmental justice.

### **Environmental Justice**

Environmental justice is fostered when all have equal access to vital resources in natural environments, built environments, and social environments. Justice is based, as well, on equal participation in making the decisions that create the processes that govern access to resources. Justice is also based on having equal protection from what is undesirable and unhealthy and on participating in the decisions that allow one to avoid disproportional

tionate exposure to that which is undesirable and dangerous.

Human ecological components can be benchmarks for decision-making concerning use of resources, access to resources, and exposure to resources. Following are a few examples concerning toxic pollution in the environment of the use of ecological components in decision making.

**Structural Components.** Sources of hazardous waste in the environment should be removed or quarantined from public use. Superfund sites must be cleaned up and restored so they are no longer sources danger. In the future, disruptions that are associated with new sources of pollution should be avoided. We should restructure our institutions specifically to achieve these goals. With specific reference to environmental justice, President Clinton (1994) in Executive Order 12898 of 1994 directed that .... " each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations...". This is a good beginning, however it is not enough. Structural changes in all our institutions can be useful in fostering environmental justice. In some academic units this is in process. For example, the "Leadership for Environmental Justice Program" at North Carolina State University is taking leadership in this regard. Supported by the Ford Foundation, the goals of this program include empowering people in low-income, minority and underserved communities in ways that enable them to participate more effectively in policy decision-making (North Carolina Cooperative Extension, 2004).

**Governing Components.** Production industries will continue to create toxic substances. If history is an indication, industries will not effectively self-regulate the production and distribution of toxic pollutants unless the cost of releasing pollutants in the environments is prohibitive. Therefore it will be necessary to create more effective regulatory (governing) systems for dealing with these substances. These regulatory systems should be based on laws and rules that eliminate or reduce exposure of people to harmful substances. With specific reference to environmental justice, these laws and rules should create and maintain the contingencies that eliminate disproportionate exposure of some individuals and groups to pollutants. To achieve these goals it will be necessary to work with local regulatory and power structures to change societal values by placing people first and to put in place equitable policies.

**Information Processing Components.** It is necessary to enhance the quantity and quality of information that is available to all concerning locations of hazardous waste and about the potential dangers of living and working near toxic sites. It will be necessary to improve residential patterns of interaction and create mechanisms to increase communication concerning monitoring of toxic substances. This will contribute to an enhanced sense of community well-being. At the same time, it will be necessary to properly inform everyone in the most equitable way concerning the potential dangers of living in close proximity to sources of toxic pollution. All people should be accorded the dignity that comes with making quality of life decisions based on accurate information. All should be empowered with adequate information to make decisions about where they live, where they work, and where they send their children to day care or to school.

These are some examples of ways in which ecological components can provide a framework for research and action concerning hazardous waste in our environments. Because human ecosystems are unique, each human ecosystem requires unique analysis and action if desirable goals regarding minimizing effects of toxic substances are to be achieved. There is a prevailing view with regard to social programs that one size fits all. That is, the same actions can be taken regardless of context. This is inconsistent with ecological thinking and incompatible with advancing social justice. It must be remembered that the application of a uniform treatment across a variety of contexts will likely result in adverse and counterproductive outcomes in some of those contexts. Human ecology is the science that can effectively work against such a counterproductive approach.

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