Papers from the 1999 Institute of Environmental Communications

LUCEC

Miscellaneous Publications

Loyola University New Orleans Center for Environmental Communications

Number 1 November, 2002

Miscellaneous Publications

Loyola University New Orleans Center for Environmental Communications

Editor - ROBERT A. THOMAS, Loyola University New Orleans, Department of Communications, Center for Environmental Communications, 6363 St. Charles Avenue, New Orleans, Louisiana 70118-6195, (504) 865-2107, Fax (504) 865-3799 (rathomas@loyno.edu)

Layout Editor - LISA BOE, Loyola University New Orleans, Department of Communications, Center for Environmental Communications, 6363 St. Charles Avenue, New Orleans, Louisiana 70118-6195, (504) 865-3797, Fax (504) 865-3799 (lmboe@loyno.edu)

Copy Editors - MARY SCHMIDT, Loyola University New Orleans, Department of Communications, Center for Environmental Communications, 6363 St. Charles Avenue, New Orleans, Louisiana 70118-6195, (504) 865-2094, Fax (504) 865-3799 (trpsichori@aol.com)

MARY CHAUVIN, Loyola University New Orleans, Department of Communications, The Maroon, 6363 St. Charles Avenue, New Orleans, Louisiana 70118-6195, (504) 865-3535 (mechauvi@loyno.edu)

INSTRUCTIONS TO AUTHORS: Instructions to authors can be found by visiting the Loyola University New Orleans Center for Environmental Communications website (http://www.loyno.edu/lucec/miscpubs.html). Please monitor these instructions for updates or changes.

HOW TO CITE THIS PUBLICATION: Thomas, Robert A. (2002) Stressful lives of Louisiana environmentalists. *Miscellaneous Publications of the Center for Environmental Communications, Loyola University New Orleans* (1), 1-6.
This is presented in APA style. It may be edited for style requirements.

Miscellaneous Publications (ISSN 1-537-3541), established in 2001, is published by the Loyola University New Orleans Center for Environmental Communications, 6363 St. Charles Avenue, Box 199, New Orleans, Louisiana 70118-6195. (504) 865-3797, Fax (504) 865-3799, lucec@loyno.edu, http://www.loyno.edu/lucec. Periodicals postage paid at New Orleans, Louisiana. POSTMASTER: Send address changes to Miscellaneous Publications, Loyola University New Orleans, Center for Environmental Communications, 6363 St. Charles Avenue, Box 199, New Orleans, Louisiana, 70118-6195.
Printed by Darby Printing, Atlanta, Georgia.

Date of issue: 15 November 2002

LUCEC
Miscellaneous Publications (1), 2002

Stressful Lives of Louisiana Environmentalists

Robert A. Thomas
Center for Environmental Communications
Department of Communications
Loyola University
New Orleans, Louisiana 70118-6195
rathomas@loyno.edu

THE QUESTION

A few years ago, I and several other environmentally concerned citizens were contacted by two major national foundations and asked to discuss why we thought Louisiana environmentalists seemed to have difficulty getting along with one another. It was apparent that these foundations have concerns about their support of groups involved in such shenanigans. They believed that environmentalists in other regions show more collegiality than do local environmentalists and sensed that the local situation was diluting their grants' effectiveness in Louisiana.

As I tried to think through the issues, my thoughts ran the gamut from "There is no problem" to "Because we're all jerks." No, neither worked. I focused my attention on Louisiana's most prominent environmental issues, mentally listed the challenges confronting our citizens, and a plausible explanation emerged. It is a story about a relatively small population (1.4% of the United States) that is relatively poor (49th of 50 states, U. S. Census Bureau, 2001a) and relatively poorly educated (often reported in the press as 49th or 50th out of 50 states) having to live with all the effects of the highest concentration of environmental dilemmas in the nation.

UNIQUE CHALLENGES

A cursory review of Louisiana's major environmental challenges gives a context within which we can frame an analysis of Louisiana's environmental situation.

1. THE MISSISSIPPI RIVER. At once a blessing and a curse, the Mississippi River is the most influential and defining element of coastal Louisiana. Its large size and deep channels (which need to be dredged for deep draft ships) allow Louisiana to be among America's shipping elite. Depending on the year, New Orleans is usually first or second in ship visits and/or tonnage of products handled. Most residents along the Mississippi obtain their drinking water from the river and use the river to flush their waste. The river creates an environment that provides a template for Louisiana's rich cultural heritage that is the basis for one of the nation's largest tourist meccas. And there is that special feeling one gets from sitting on Old Man River's banks and just feeling his presence.

The Mississippi River drains 41% of the continental United States and portions of two Canadian provinces. A blessing resulting from this fact is that over the past 3000-6000 years, Louisiana's coastal system has been formed from the richest topsoil that the heartland of America has to offer. This richness has resulted in the Lower 48's most productive fishery and the basis for being called the "Sportsman's Paradise." Virtually everyone in Louisiana has a direct or indirect connection to the coastal zone whether economic and/or cultural.

On the other hand, this huge American drainage system brings to Louisiana the bulk of our country's runoff products (nutrients, pesticides, herbicides), sewage (most cities, like New Orleans, use the river to dispose of their treated secondary waste) and other elements of urban drainage, and industry effluents.

The present concern over "dead (hypoxic) zones" off the Louisiana coast (Rabalais and Turner, 2001) is a direct result of the nutrients flowing from the mid-U.S. into the Gulf of Mexico. Each year, from mid-summer to mid-fall, an area of Gulf of Mexico water as large as 8000 square miles becomes depleted of life-giving oxygen. Dr. Nancy Rabalais and other scientists at the

Louisiana Universities Marine Consortium in Cocodrie, LA, have discerned that the cause of the hypoxic zones is connected to the nation's agricultural market. Each summer, throughout the heartland of America, farmers fertilize their fields. Any nutrients not quickly absorbed by the target soil are likely to find their way to local creeks, irrigation and drainage canals, rivers, and the like. These nutrient-rich waters eventually make their way to the Mississippi, then the Gulf of Mexico. During summer and early fall, the Gulf of Mexico tends to be rather calm, and the low water flow of that period causes less dense freshwater to sheet across the more dense Gulf marine water, thus carrying the nutrients to the natural Gulf currents that the Coriolis Effect[1] sends flowing to the west. The increased availability of nutrients (especially nitrates) in the warm water causes huge algal blooms. As the algae live and die, they consume huge quantities of oxygen (much more than they produce in life), and the water soon becomes hypoxic (oxygen deficient). Species that can move quickly (speckled trout, redfish, tuna, etc.) avoid the zone, but those that can't (bottom dwelling species, plankton, etc.), die. Scientists are still studying the impact of hypoxia on the Gulf, but it seems probable that a lack of oxygen in a zone the size of New Jersey is not good for the environment or the economy.

Most other impacts from river-borne waste lack scientific evaluation, giving every New Orleanian a lingering fear of the effects of chronic exposure.

Key consideration: Most of the hypoxia problem is caused by runoff from 41% of the Lower 48 states, and 100% of the direct impact is experienced by Louisianians.

2. THE PETROCHEMICAL CORRIDOR. Due to the presence of a highly navigable river (for shipping products) with a massive flow rate (for dilution of waste water), cheap energy, proximity to interstate and rail transit, abundance of natural resources (hydrocarbons, salt, etc.), rural land, proximity to other chemical manufacturers (for needed by-products[2] produced by their neighbors and sale of many of their own by-products), long-term tax incentives, and historically little local resistance, southern Louisiana has long been popular for siting elements of the nation's petrochemical industry.

Louisiana is always in the top three states in the nation when it comes to levels of production of chemicals and pollution. For all the reasons listed in the paragraph above, Louisiana will presumably always be one of the nation's top three producers of chemical products, with pollution rankings following closely.[3]

Louisianians have a love-hate relationship with the petrochemical industry. We love the jobs, eventual tax money, and economic spin-offs, but we are deeply concerned about the 10 year tax exemptions, potential for disasters, and the untested/unproven long-term health effects of exposure to a wide variety of chemicals that are released into the air and water, as well as those stored on the surface, buried, and deep-well injected into the ground. There is constant debate among those who say there is no health exposure, those who say we are all doomed to have cancer, and those who simply don't know who or what to believe.

This type of concern can be overbearing.

Key consideration: Of the total membership of the Louisiana Chemical Association, only one small company is headquartered in Louisiana. The rest answer to out-of-town folks for their environmental/safety/health directions and decisions.

3. OILAND GAS PRODUCTION. Louisiana has historically been one of the nation's leaders in the production of oil and gas, being rivaled only by Texas. In Louisiana, new technologies are allowing for locating and making accessible more sites for extraction. Around the nation, there is a tendency for states to avoid exploration and extraction (e.g., in Florida, California, and North Carolina coastal waters). Each time a state is successful in preventing extraction for hydrocarbons, Louisiana must take up the slack. In 1992, when then President Bush proclaimed that there would be no offshore oil extraction in Florida and California, environmentalists around the nation cheered. Louisiana environmentalists groaned, knowing that this proclamation meant that more pressure

[1] The Coriolis Effect, named after the French scholar Gaspar Gustave de Coriolis who calculated the math, helps us understand the relationship between our spinning earth and the fluid on its surface. Suffice to say that as the earth spins toward the east (at a speed of about 25,000 mph at the equator), the water tends to flow to the west as the terra firma moves out from under it toward the east. Thus, water flowing from the mouth of the Mississippi River flows toward the west. For an excellent discussion of how currents develop in the world's oceans, read Brylske (2001).

[2] By-product is what industry calls unused materials that result from their manufacturing process. They often build new facilities that use by-product from another portion of the plant to produce yet another product to sell; production of the new product produces a new suite of by-products. They are constantly searching for other uses for by-products, since it costs them significantly to dispose of them within the regulatory demand. Often the plan involves using certain by-products that leave by-products that are less harmful. Citizens, especially environmental activists, consider and call industry's "by-product" "pollution" – because many of the by-product chemicals are known or feared to be harmful to the environment and/or human health.

[3] Being in the top three polluters today means that our citizens are exposed to massive amounts of air and water borne pollutants – 149,834,312 pounds according to the state's 1999 Toxic Release Inventory numbers (and this is a 20% decrease over 1998 levels) (Louisiana Department of Environmental Quality, 2001). For this reason, we associate being in the top three as being very bad. If industry works diligently (encouraged by public pressure and an appropriate level of regulatory command) and improves efficiency within its plants, we may see the day when we are still in the top three, but the tonnage of pollutants is 10% or less what it is today.

would be placed on Louisiana in order for those states and the rest of the country to continue receiving large quantities of artificially cheap gas and oil. Louisianians also know that when the price of oil moves from, say, the present $29 per barrel, to $60 or above, those states may well reconsider their prohibition (and no one will send Louisiana money to recover from the devastation of years and years of supplying the nation with cheap oil and gas).

Key consideration: America's lifestyle and economy are heavily dependent upon hydrocarbons, and Louisiana represents only 1.4% of the U.S. population while carrying a much larger percentage of the production of oil and gas. Though present-day oil and gas extraction technology is less environmentally intrusive, historical methods have left coastal Louisiana irreparably scarred.

4. COASTAL EROSION. Louisiana has 40% of the coastal wetlands of the continental United States, and is experiencing 80% of the loss in the same zone. Between 1956 and 1978 Louisiana lost an average of 41.83 square miles of coastal wetlands each year; recent studies indicate that the rate dropped to 25.34 square miles between 1983 and 1990 (Dunbar et al., 1992). The loss rate is often quoted as an area the size of a football field every 15 minutes (this is correct for the loss of 25 square miles per year).

So, what does that mean? Louisiana's entire culture revolves around wetlands. One of the wonderful elements of south Louisiana, the key to its success in tourism, is the melding of what is locally called our "gumbo culture." That is, a heterogeneous culture based on mixing many different homogeneous cultures. Of the many groups that settled our wetlands, most did so to continue the activities of their heritage. Croatians are the oystermen; Isleños (from the Canary Islands) are fishers; Phillipinos once dried and "danced the shrimp"[4] on platforms at "Manila Village;" Cajuns (Acadians) hunt, trap, and fish; and so on. Over time, each culture (including those settling in Louisiana from Europe, Africa, and Asia) contributed to the existing gumbo.

Steve Cheramie, an elder of the Houma Nation, says that when their land erodes into the Gulf of Mexico, the Houma will cease to exist as a people. Like the Houma, if we lose our wetlands, we lose our culture.

Key consideration: I repeat, Louisiana has 40% of the Lower 48's coastal wetlands, and is experiencing 80% of the loss. Add to that the fact that 80% of coastal Louisiana is owned and controlled by interests outside the state, and one can understand the citizen's feelings of encroaching, uncontrollable doom.

5. POTENTIAL FOR FISHERIES DECLINE. Louisiana supplies our nation with about 40% of the fisheries arising from the Lower 48 states. For the years 1995-99, National Marine Fisheries Service (2001) data for the top ten ports reveal that Louisiana ports delivered more tonnage of fisheries landings than did any other state (Louisiana is first with at total of 5.432 billion pounds; Alaska is second with 4.819 billion pounds; Seattle, WA, and Reedville, VA, each had just over one billion pounds). Louisiana's rich wetlands, with their marshes and estuaries, are the crucial nurseries for the enormous food web that exists in the fertile Gulf of Mexico. It is obvious that the food web is important to the health of the Gulf, but there is also a very important economic web associated with the wetlands. Take for example the menhaden (pogie) fishery. Menhaden are relatively small fish that swim in schools of hundreds of thousands of individual fish. They feed on plankton, tiny floating organisms. Plankton feed directly or indirectly on organic material, originating from coastal marsh plants, that enters the Gulf of Mexico via estuaries. There is a direct link between coastal marsh and the livelihood of pogie schools.

An economic web begins with the pogie fishers. They spend lots of money to pursue their quarry. They buy boats, insurance, equipment, ice, food, gasoline, nets, and engines. They pay boat painters and mechanics, and rent or own dock space. In the course of their lives, they have families, own or rent homes, buy insurance, shoes, clothes, food, cars, furniture, etc.

The web doesn't end with them. They take their product to rendering (pogie) plants, and we see another section of the economic web. Owners, employees, and suppliers are integral components of Louisiana's economic web. The same can be said for their direct clients and those not so direct: trucking companies, poultry and catfish farmers, and so on and so forth. In one way or another, every Louisiana citizen is linked to a healthy fishery, thus to a healthy coastal wetlands ecosystem.

At a time when other fisheries, such as Chesapeake and Stellwagen Banks (off Massachusetts), are collapsing, Louisiana's fisheries have filled the gap and prospered. But there is fear that the hayride may teeter and fall.

There are more fishers, better fishing technology, no comprehensive management plans, constant turmoil and no consensus over by-catch and TEDs, no agreement on how soon coastal erosion and sea level rise will adversely impact fisheries, battles between commercial and recreational fishers – all occurring while our coastal wetlands (fishery incubators) continue to erode at a rate of 25 square miles annually.

[4] After drying shrimp in the sun on raised platforms built especially for that purpose, Chinese, Filipinos, and friends walked over the shrimp, thus causing the shells to separate from the meat. They walked, talked, and otherwise interacted with their friends, and the process became known as "dancing the shrimp" (Davis, 1992). One can imagine that out of boredom, they probably talked with friends, pranced around, and at least occasionally enjoyed the activity.

Metaphorically thinking, imagine being locked inside a large grocery store. In the beginning, there is plenty of food. And there is plenty of food for a long, long time. For months, even years, you live well and take the Scarlet O'Hara perspective ("I'll think about that tomorrow"). But at some point, the food runs out and you face death. Louisiana environmentalists fear that we are being misled, that coastal fisheries are doing well today principally due to the enormous influx of organic material into the Gulf of Mexico.

Key considerations: Might our fisheries be benefitting from as yet unidentified aspects of hypoxia and the fact that our rapidly eroding coastline is feeding it with abnormally and non-sustainable quantities of organic material? What will happen when erosion reaches the point when there is little organic contribution to the estuaries and Gulf of Mexico?

6. ENVIRONMENTAL JUSTICE. If one wants to identify an issue that is among the most difficult to resolve, find one that involves social concerns, emotion, environment, politics, economic development, multinational companies, and allegations of racism. Have it birthed by a Presidential Executive Order (number 1298) so that it is communicated with lightning speed to all federal agencies, resulting in an expanding bureauracy whose job it is to ferret out alledged violations. Voila! You have "environmental justice ."

Environmental justice is a subset of Social Justice[6], the notion of equity among all peoples. The concept is that all humans should have equal access to information, resources, and opportunities.

Some would argue that environmental justice either doesn't exist, or is very rare. They think that what most call environmental injustice is in fact social injustice. Specifically, that the miseries of people living along industry fence lines are caused not by environmental factors, but by the social plight the people experience daily – poverty, lack of education, not employable, living outside the information stream, poor access to social services, ignored by community leadership, and otherwise marginalized.

Call it what you want, but anyone who refutes the need for justice in these communities is, in my opinion, just wrong. Every thinking person should realize that none of us will prosper while some of us are mired in poverty and all that that entails.

But how does environmental injustice (sensu stricto) arise? Many believe it occurs when sinister corporations choose to locate in minority neighborhoods, due to their inhabitants'inability or will to keep the corporations out. Industry and their supporters contend that siting decisions are based on the availability of specific resources (such as variety and proximity of transportation, raw materials, adequate land, reasonable energy costs, and the like).

Historically, there have undoubtedly been instances of the former being a portion of the decision, but it is doubtful that modern companies are foolish enough to think that they can succeed with this antediluvian approach. Any that do are doomed to failure (or a tardy reform in their attitudes).

Nonetheless, Louisiana has one of the densest chemical industry corridors in the nation, and the corridor has developed along the Mississippi River, which was also one of the main gateways to plantations in the Old South. This situation has resulted in an inordinate number of African-Americans living along fence lines, and makes Louisiana a prime candidate as the poster child of the environmental justice debate. With all that Louisiana environmentalists have to contend, the advent of environmental justice issues has placed even more pressure on our shoulders.

Key considerations: How do we help the business community understand the value in embracing the concept of social justice in their neighborhoods? Will national environmental groups go beyond confrontational activism and work with economic interests for the good of the communities of concern? Are we capable of putting racism in our past, or are there just too many people and groups who harbor racist feelings or whose interests are served by maintaining the conflict?

CLOSURE

If each of the above six topics is viewed as a transparent environmental overlay (with each affecting the "view" of the others), then the following must also be considered as important overlays:

- Louisiana has a relatively small population (4.5 million). Between 1990 and 2000, it grew the least among southern states, expanding by only 5.9% while others ranged from 10.1-26.4% (U. S. Census Bureau, 2001b).
- Louisiana has a chronic challenge with education.
- Louisiana's economy is still declining. It headquarters only one Fortune 500 company presently, as opposed to five in 1990. Louisiana's economy is rated 48th among the states by the Gold and Green 2000 report (Kromm et al., 2000).
- Louisiana has an over abundance of poverty (Russell, 2001).

[5] This topic is thoroughly discussed in the present publication (Kuehn, 2001: taxonomy; East, 2001: media coverage; Hollander, 2001: moral command and industry's responsibility; and Brehm, 2001: personal experience). Taylor (2000) presents a historical perspective, and defines the field in terms of a new paradigm.

[6] Kuehn (2000:10698-702) presents a thorough discussion of social justice, though he begins his discussion by implying that social justice is a goal of environmental justice rather than considering environmental justice to be a subset of social justice.

• Louisiana has a population that does not adequately access existing health care.
• Most final business decisions are being called by people outside Louisiana who have no personal stake in protecting the state's quality of life. (As mentioned above, only one member of the Louisiana Chemical Association is headquartered in Louisiana. Additionally, 80% of Louisiana's coastal wetlands are owned by out-of-state entities). In essence, Louisiana operates as a third-world economy hosting globalized (from other states) industry.
• Because so many Louisianians' livelihoods are dependent on fisheries, oil and gas, the petrochemical industry, the river, and the like, there is little resistance to those who control them.
• Extraction companies enjoy a favorable political climate in Louisiana.
• Citizens are fearful of the environmental living conditions. Louisiana is rated 50th among the states when using environmental indicators selected by the Gold and Green 2000 report (Kromm et al., 2000).
• A recent study shows Louisiana 49th in the well-being of its children (Mullener, 2001).
• The rest of the U.S. is showing little to no concern for the environmental stress its consumers'needs place on Louisiana's environment.
• National environmental groups refuse to give coastal Louisiana's needs and concerns the same visibility and sustained attention that they so eagerly give to the Everglades, endangered species, Alaska National Wildlife Refuge, California's coasts, etc.
• Louisiana's laissez faire, joie de vivre, and laissez le bon temps roulez cultural attitudes have allowed the festering and tolerance of an easily manipulated political climate.
• And I'm sure the heat and humidity figure into the equation some way!

So, a relatively small, under-educated, rather poor, hard working, tolerant population labors, with little outside attention, to support the needs of a hydrocarbon-petrochemical-fish-hungry nation. They do so in a region that is rapidly eroding into the sea at the opening of a huge plumbing system that drains almost half the country.

Is there another place in the United States where dedicated, intelligent, generally well-meaning people who care about the future of their environment must labor against such overwhelming odds of national importance? Can you name just one other place?

I often think how easy it would be to live in a place where landfill issues reign supreme (we have those issues, too), or where I would fight to clean a beautiful river that drains one or two states. Or what about beautiful areas that are threatened by increasing urbanization (us, too)?

I don't mean to belittle the environmental concerns of the citizens of other places. I have lived and worked elsewhere and have many friends who are dedicated to restoring the earth in communities throughout the United States. I simply have come to believe that a large part of my precious state's environmental dilemma is a product of geography, history, politics, and yes, culture.

A couple of large foundations have recently focused their environmental support elsewhere. I hope they don't think Louisiana's problems are solely of her own making, or that they are passé, or that Louisiana is beyond hope. Louisiana serves the nation, and she deserves the nation's support!

LITERATURE CITED

Brehm, Loretta. (2002). Environmental justice. *Miscellaneous Publications of the Center for Environmental Communications, Loyola University New Orleans* (1), 29-30.

Brylske, Alex. (2001). Physical oceanography: The motion of the ocean. *Dive Training*, 11(4), 62-74.

Dunbar, J. B., Britsch, L. D., and Kemp, E. B., III. (1992). Land loss rates. Report 3. Louisiana Coastal Plain. *U.S. Army Corps of Engineers, Geotechnical Laboratory, Technical Report GL-90-2*, 1-28 + A1-A17 and B1-B17.

East, Rebecca R. (2002). Environmental justice: From racism to equity. *Miscellaneous Publications of the Center for Environmental Communications, Loyola University New Orleans* (1), 24-28.

Hollander, Eileen E. (2002). Sustainable development, environmental justice, and ISO 14001: A Catholic perspective. *Miscellaneous Publications of the Center for Environmental Communications, Loyola University New Orleans* (1), 31-33.

Jeffress, Williams S. Shea Penland, and Asbury H. Sallenger, Jr. [eds.].Louisiana Barrier Island Erosion Study: Atlas of shoreline changes in Louisiana from 1853 to 1989. U. S. Geol. Surv., Misc. Invest. Ser. I-2150-A. Donald W. Davis. (1992). A pictorial and historical review of Louisiana's barrier islands, pp. 8-23.

Kromm, Chris, Ernst, Keith, and Battica, Jaffer. (2000). Gold and Green 2000. Retrieved May 12, 2001, from the World Wide Web: http://www.southernstudies.org/goldgreen2000.html.

Kuehn, Robert. (2000). A taxonomy of environmental justice. *Environmental Law Reporter News & Analysis*, 30, 10681-10703.

Kuehn, Robert. (2002). The "justice" in environmental justice. *Miscellaneous Publications of the Center for Environmental Communications, Loyola University New Orleans* (1), 15-23.

Louisiana Department of Environmental Quality. (2001). DEQ reveals drastic reductions in Louisiana's Toxic Release Inventory for 1999. Retrieved May 13, 2001, from the World Wide Web: http://www.deq.state.la.us/news/2001/n041201.pdf.

Mullener, Elizabeth. (2001, May 22). Despite strides, La. ranks 49th in study on children's well-being. *The Times-Picayune, 165th year* (119), A 2.

National Marine Fisheries Service. (2001). Total commercial fishery landings at major U. S. ports summarized by year and ranked by poundage. Retrieved May 13, 2001, from the World Wide Web: http://www.st.nmfs.gov/webplcomm/plsql/webst1.MF_LPORT_YEARP.RESULTS.

Rabalais, Nancy R., and Turner, R. Eugene (Eds.). (2001). *Coastal Hypoxia: Consequences of Living Resources and Ecosystems.* Washington, DC: American Geophysical Union.

Russell, Gordon. (2001, August). Louisiana is setting a poor example. State leads United States in those living in poverty. *The Times-Picayune, 165th year* (197), A1, A6.

Taylor, Dorceta E. (2000). The Rise of the environmental justice paradigm. Injustice framing and the social construction of environmental discourses. *American Behavioral Scientist, 43(4)*, 508-850.

U. S. Census Bureau. (2001a). Table 21. Number of poor and poverty rate, by state: 1980 to 1999 (numbers in thousands). Retrieved from the World Wide Web, May 13, 2001: http://www.census.gov/hhes/poverty/histpov/hstpov21.html.

U.S. Census Bureau. (2001b). State and country quick facts. Retrieved from the World Wide Web June 26, 2001:http://quickfacts.census.gov/qfd/states/13000.html.

Miscellaneous Publications (1), 2002

Facilitating Sustainable Redevelopment In Economically Distressed Rural Communities[1]

[*]Charles C. Reithand [**]E. Griff Blakewood
Full Circle, LLC
500 Southlawn Drive
Lafayette, Louisiana 70503
[*]charles@fullcirclellc.com, [**]griff@louisiana.edu

The Honorable Mayor Ruby Hawkins[2]
Mayor, Cheneyville, Louisiana
cheneyvillemayor@aol.com

ABSTRACT

Rural communities in industrializing or industrialized nations may experience economic hardship when jobs associated with farming are lost to mechanized agriculture. Rural residents who ascribe their self-worth principally to their farm skills are suddenly unemployed, and they consider themselves unqualified for other meaningful livelihoods. The resultant sense of despair may precipitate economic and social decline throughout the affected community. A number of small, minority-led towns in central Louisiana have recently suffered this fate, with residents feeling "left behind" during a time of supposedly widespread prosperity in America. Residents and political leaders in seven of these communities recently combined forces to explore collaborative solutions to economically distressed conditions in their communities. The mission of their organization, which is incorporated as Communities Collaborating for Economic Development, Inc. (CCED), has been to stimulate environmentally sustainable economic redevelopment. While seeking grants and investors, CCED has sought to avoid developmental scenarios that are short term, heavily reliant on non-renewable resources, or damaging to health and environment. An attractive target for economic redevelopment has been the notion of "agro-industrial ecology," an economic paradigm that generates wealth and opportunity through a diversified network of local industries and material exchanges that take advantage of the region's character and renewable resources.

A number of approaches for promoting economic redevelopment were evaluated, and the Kretzmann and McKnight model (1993) was selected as an appropriate starting point. Volunteers were trained and deployed into Cheneyville, one of the seven CCED communities, as a pilot program to identify the opportunities and resources for economic redevelopment. This manuscript provides background on CCED and chronicles our progress with the Kretzmann and McKnight model. Throughout this process, effective communication has been central to assure that all concerned citizens are heard and to engage all parties in a collaborative program of sustainable economic redevelopment.

[1] This article has been refereed.
[2] Mayor Hawkins'co-authorship of this manuscript is reflective of the support and participation of community leaders and civic activists from all seven communities mentioned herein, as well as the membership of the Board of Directors of Communities Collaborating for Economic Development (CCED).

INTRODUCTION

A certain degree of industrialization is important for sustainable development because it provides the basic infrastructure for sanitation, health care, communication, transportation, and education. As industrialization continues, technology becomes available that greatly increases individual productivity and reduces the amount of boring, physically demanding labor that is necessary to grow crops and manufacture goods. In the agricultural sector, mechanized equipment has enormously increased the productivity of the modern farmer and eliminated dozens of seemingly undesirable, labor-intensive jobs on each farm. A single versatile piece of farm equipment may supplant the efforts of numerous planters, weeders, fertilizer/pesticide appliers, and harvesters.

However, industrialization of agriculture — while benefiting large-acreage landowners, equipment manufacturers, and banks — may create hardship for rural communities and their residents. Poet and farmer Wendell Berry saw this situation coming. For decades, he has decried the impact of exploitative economics on the land and people who once thrived upon it. In his 1977 essay "The Unsettling of America," he wrote:

> American citizens are now ready to believe without question that it is entirely good — a grand accomplishment — that each American farmer now feeds himself and 56 others. They are willing to hear that 96 percent of America's manpower is freed from food production ... without asking what it may have been freed for, or how many as a consequence have been freed from employment of any kind.

It should be noted that the elimination of farm labor has continued since Berry first made his argument. At the present between 98 and 99 percent of Americans have been "freed" from farm employment. In Louisiana, the number of farms has fallen from a high of 175,000 in the early 1900s to about 20,000 in 2000. And the farms that remain employ fewer and fewer laborers; their productivity is instead dependent on large machinery, financial risk-taking, and economies of scale.

Berry (1977) was one of the first people to point out the fact that many rural Americans have suffered economic hardship during our nation's unsustainable economic growth. He likens the modern exploitation of the environment and rural communities to the colonialism that occurred in the seventeenth and eighteenth centuries. In both cases, he sugges:

> We see the abstract values of an industrial economy preying upon the native productivity of land and people. What we have called agricultural progress has, in fact, involved the forcible displacement of millions of people.

Because both employment opportunity and environmental quality in rural America have suffered as a result of exploitative economic priorities, it is desirable to simultaneously address both problems by facilitating *sustainable economic redevelopment*. Further, because many rural communities have missed out on (or spared from, depending on your viewpoint) the short-term gratifications of today's consumer society, their residents seem relatively predisposed toward adopting practical and sustainable lifestyle changes. This predisposition provides an opportunity to offer *quality of life* and *long-term economic well being*, rather than gratuitous consumption, as the target for successful redevelopment.

As the benefits of economic redevelopment are promoted, it is important to identify and avoid developmental scenarios that leave a community vulnerable to the same type of economic misfortune that caused problems in the first place. For regional redevelopment to be truly sustainable — consistent with the international precepts of sustainable development — it must simultaneously address the issues of economic opportunity, environmental quality, and equity. When we look at the problems that have caused hardship and inequality in some of rural America's small communities, we believe that redevelopment should proceed in a way that continually reduces reliance on the following potential sources of risk and liability:

- Large-scale mechanized activities (e.g., production farming) that tie up large tracts of land without providing a large number of jobs and local salaries
- Excessive dependence, either as the resource base (e.g., oil production) or as a requisite element of production (chemical intensive/fossil-powered farming), upon non-renewable resources
- Overly specialized or single-purposed manufacturing that requires extensive importation of capital, raw material, and technical expertise that cannot be found locally.
- Dependence on an export market that may only be satisfied by depleting local resources and accepting environmental damage (externalized environmental costs) by the local community.

We looked toward the notion of *industrial ecology* as a target for sustainable economic redevelopment. This concept, originally framed by Robert Frosch (1992, 1995) promotes the view that our industrializing society should be viewed as a *fabric of opportunity*, an interwoven system in which energy is used very effi-

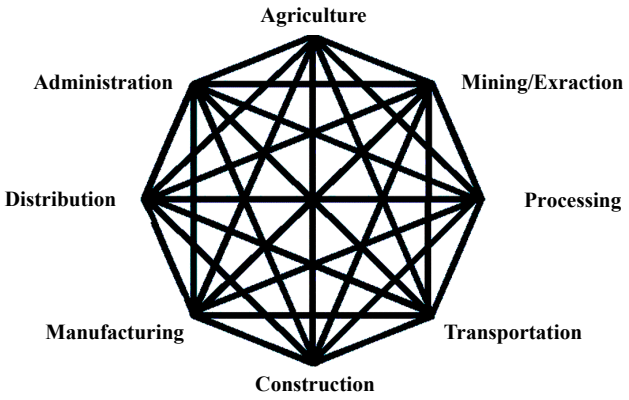


Figure 1: The agro-industrial fabric in which energy is shared and goods and services are exchanged among the different sectors of society, creating maximum economic oportunity (adapted from BCSD-GM, 1997).

ciently, and resources are exchanged, transformed, and recycled among all sectors (Figure 1). A well-functioning industrial ecosystem provides for maximum participation, i.e. creation of wealth, with minimum resource consumption and pollution. In rural areas there are opportunities to strive for *agro*-industrial ecology, which simply means that agricultural services and resources play a critical role in the socio-economic system of exchanges.

Contemporary American agriculture can well use this evolution toward a higher state of efficiency and connectivity. Many American farms are large and single-purposed, consuming expensive quantities of remotely produced fossil and chemical resources, producing large yields of monocrops, and generating waste and pollution that may cause local environmental problems. While acknowledging that production agriculture in America has produced food reliably, prolifically, and inexpensively (from the consumer perspective), we believe such this type of agriculture is unsustainable for the long term, in both resource consumption and accumulated environmental damage.

The resource consumption and environmental damage associated with production farming are created by farming's current inefficiency. This inefficiency occurs because the fossil energy (diesel) and chemicals (fertilizers and pesticides) may often be purchased below their "true cost," which is the price that would include measures to protect the environment during the production and delivery of these resources. Having access to these "under-priced" resources provides little incentive for farmers to conserve and optimize resource use. Fully costed resources would cause farmers, and producers in all sectors of society, to increase their enterprises' *eco-efficiency*, as advocated by the World Business Council for Sustainable Development (DeSimone and Popoff, 1997). Eco-efficiency is defined as "the efficiency with which resources are converted into product or *value*;" eco-efficient enterprises are less polluting because acquired resources are efficiently converted into product rather than emitted to the environment as noxious byproducts.

Another potentially problematic element of large-scale, production agriculture results from the fact that farmers, to be mechanized, spend more on equipment, biotechnology, and supplies provided from outside their region. They borrow and service debt, often to banks outside their region, and they export crops to customers outside their region. As previously mentioned, they employ fewer people from their local community. These factors cause large-scale farms to be less connected to their local community and increasingly dependent on circumstances far afield.

For these reasons, sustainable rural redevelopment must help increase the efficiency of resource usage by local farms, and must help farmers re-connect to their encompassing heartland. Increased use of local labor and financing will create a "multiplier effect," cascading additional benefits into the community that transcend the simple employment of local farm hands or payment of debt service to the neighborhood bank.

A further goal in promoting agro-industrial ecology is to increase the wealth associated with "service and flow," as articulated in the forward-looking book *Natural Capitalism* (Hawken, Lovins, and Lovins, 1999). Community residents need to increase their ability to provide services and participate in transactions that will create value and attract wealth. We envision a rural economy in which large-scale production farming is at least partially replaced by:

- Specialty cropping, providing smaller yields of foods with high local value (e.g., grapes for wine, or "organic" foods for the farmer 's market).
- Energy production from, for instance, biofuels, biogas, wind, and solar.
- Poly-cropping of vegetables, fruit, grain, dairy, meat, and/or seafood on the same acreage.
- Waste-utilization, for instance, making fertilizers from

manure or creating building materials from crop residue.

• Eco-tourism, creating income through historical tour-guiding, bed-and-breakfast lodging, and "guest-ranch" experiences on local farms.

These changes in a community's agricultural character would necessarily create "service and flow" opportunities in the form of local craft industries, energy-systems service specialists, tourist accommodations, and so forth. The more pervasive are these opportunities, the more it will be possible for residents to bring wealth into the local community without excessively depleting resources or polluting the environment.

The gap in rural America between today's production-dominated agricultural system and a more diversified agro-industrial landscape remains large. But agro-industrial ecology is a worthy target toward which sustainable redevelopment must proceed, albeit in small steps if necessary. Most importantly in the context of environmental communications, this target serves as a well-defined and appealing *vision of the future* that is highly motivational to rural residents who may be discouraged with their current situation. Such a vision — of a vigorous and diversified local economy, full of interesting and profitable jobs — helps to enlist the participation of citizens without whom redevelopment cannot be expected to succeed.

COMMUNITIES COLLABORATING FOR ECONOMIC DEVELOPMENT

An excellent case study of rural communities seeking redevelopment can be found in central Louisiana, where seven minority-led communities are working together to address the problems described thus far in this manuscript. Political leaders and civic activists in these communities have banded together in a coordinated redevelopment campaign. The resultant organization is called Communities Collaborating for Economic Development or CCED. This corporate organization, which is headquartered in Cheneyville, Louisiana, was founded in 1997 in recognition of the fact that:

> The CCED communities are tied together by challenging needs and [by] the common determination, will, and commitment to meet the challenges to improve the quality of life for all citizens in the collaborative. The CCED Group is compatible with the need for a trained workforce, [with common problems being] high unemployment rates, a lack of rural health services, deficient or nonexistent recreation facilities and/or parks, inadequate housing, a lack of public transportation, and inadequate facilities and activities for the elderly.
>
> The commitment for all members in the collaborative is to meet these challenges to improve the quality of life for all our citizens.
>
> Communities Collaborating for Economic Development is embarking on a comprehensive set of strategies to effect change wherever needed, in harmony with the environment, to enhance the overall economy and quality of life. We seek to accomplish this by:
>
> • Providing support for economic development through cooperation by collaborative communities, with each community setting its own priorities, by using public and private resources.
>
> • Assuring the accessibility of adequate housing, community services, [including] cultural, social, and educational opportunities.
>
> • Guiding physical development in an efficient, attractive and environmentally compatible manner, through TOTAL community participation.
>
> -CCED 1997

CCED has expanded these worthy objectives by seeking development in four general areas: civic and cultural infrastructure, business development and job creation, physical infrastructure, and human capacity and quality of life. Since its founding, CCED has convened regular meetings to enlist maximum citizen participation, submitted numerous successful grant proposals, developed a comprehensive strategic plan, and has begun to characterize its needs — for instance, by performing housing assessments for the participating communities.

The faculty authors originally became involved with CCED in 1999 as part of the housing assessment. As we increasingly understood CCED's founding principles and its intended plan-of-action, we applauded the organization's commitment to environmental stewardship, and we advocated that *sustainability* be included as an overarching objective in CCED's developmental strategy. CCED's Board was receptive to our advocacy of sustainable economic redevelopment, but understandably asked for specifics in terms of the target and the method for its achievement. Both in presentations and personal communications, we gave specific examples of progress toward sustainability and revitalization of communities, citing success stories as diverse as *Sustainable Seattle* (AtKisson, 1996), Curitiba, Brazil (Hawken et al., 1999), and Green Planning in New Zealand and the Netherlands (Johnson, 1995). An important lesson in environmental communications is that credibility must be established with citizens and leaders; to achieve this, it is important to have specific examples, even if they are not precisely applicable to

the situation at hand. Seemingly impossible turnarounds in communities, such as witnessed at Chattanooga, Tennessee, (RRI, 1998) are especially inspirational in convincing citizens who feel so mired in economic distress that revitalization seems like an impossible dream. The examples provided were highly motivational to CCED leaders, who began to believe in our ability to provide guidance and support. In February 2000, the CCED leadership combined forces with the faculty authors of this paper to develop a grant proposal to the *Rapides Foundation* to fund a summer pilot project to implement and test the effectiveness of a method to rebuild Cheneyville, Louisiana from the *inside out*.

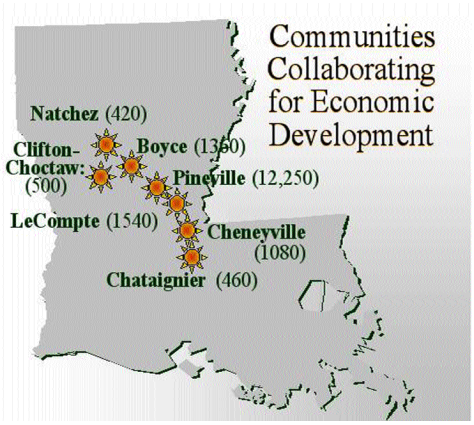


Figure 2: Locations and populations of participating communities

ANALYSIS AND SELECTION OF METHODS

Important considerations in the selection of a method to promote sustainable economic development were:

- **Scale**: What is the size of the community and affected population?
- **History**: What experiences have created the current situation and what developmental strategies have been tried unsuccessfully?
- **Organizations**: What political and social groups exist in the community?
- **Communications channels**: How is information exchanged among community members?
- **Education and skills**: What predispositions and capabilities exist within the community?

Our initial strategy was to work with citizens to formulate and deploy community indicators. This strategy was based on recent experience in New Orleans by the lead author and in the *Sustainable Seattle* program (AtKisson, 1996; 1997). This method calls for concerned citizens to develop, in a consensus process, *measures* that reflect where the community is today and the direction in which it would like to progress. These measures are compiled in easy-to-interpret chronological graphs, which are then publicized so that citizens become increasingly informed about the status of their community and about trends that represent progress or decline. Ideally, the publicized measures will address the issue of sustainability — from an environmental, social, and economic perspective — and will serve both to enlighten and to motivate citizens on how their community might be ushered toward a sustainable future.

We solicited Alan AtKisson for his advice on this project's use of community indicators in a public Q&A session after AtKisson's keynote speech at the Louisiana Law Science and Environment Conference (Tulane Center for Environmental Law, 2000). AtKisson's view was that the CCED communities are too small, and the communication opportunities (especially through the media) are too limited, for this method to succeed. Further, we concluded that the percentage of citizens with sufficient mathematical aptitude to interpret and respond to graphic displays might be too small to generate the desired ground swell of concern and activism. Thus, the use of community indicators was set aside as a positive tool for future use.

Instead, focus has been on the education and skills element listed above: *What predispositions and capabilities exist within the community*? Our premise is that the resources for sustainable economic redevelopment are in fact latent within the community, and that our role as facilitators of this process is to discover and harness this hidden wellspring. We approached Allen Smart, Program Director at the Rapides Foundation in Alexandria, Louisiana, with the notion of performing an *analysis of hidden assets*. Mr. Smart suggested a review of Kretzmann and McKnight's (1993) book, *Building Communities from the Inside Out*, which provided excellent guidance to use in the planning and implementation of the Cheneyville pilot project.

The asset-based model of Kretzmann and McKnight was developed through an interactive process with citizens of impoverished urban communities in the Chicago area. By focusing on a community's inherent capacities, the *Inside Out* model attempts to transcend the traditional approach of meeting symptomatic needs through external relief. Such traditional approaches cause a community to focus on solving its problems through an appeal for outside aid. Thus, by viewing itself as incapable of solving its own problems, these approaches ultimately foster an intractable culture of dependence. As an alternative, Kretzmann and McKnight advocate *Capacity-Focused Development* (CFD) that inspires and reconnects community members in a way that builds self-esteem, self-reliance, and an empowered sense of commitment toward enhancing their own quality of life.

Because the CFD model was designed to meet human/community needs rather than environmental

needs, it nowhere mentions "sustainability;" even so, its authors are concerned with the long-term *health* and economic self-sufficiency of the community. The lack of emphasis on *sustainable resource use* in the CFD model is likely due to the fact that most inner-city communities have little access to natural spaces; first-hand interactions with most kinds of natural resources are few and far between. Kretzmann and McKnight assert that parks and community gardens are important to the revitalization of urban communities, suggesting to us that they endorse the notion of reconnecting humans to the land from which we derive our sustenance.

We have strongly emphasized this ideal, that modern American society must rekindle in itself a sense of where we live and what we depend on, in our planning for sustainable redevelopment of the CCED communities. In applying the Kretzmann and McKnight CFD model, we are strongly incorporating David Orr's thinking on this issue. Orr (1992) writes:

> There is good evidence that the planetary crisis is a direct result of the process whereby the countryside, small towns, and neighborhoods, here and elsewhere were drained of wealth, natural resources, people, and power with these being recrystallized in corporations and governments.

Berry, Orr, and others, including economist David Korten, have proposed that the development of a more sustainable society depends on the restoration of functional, largely self-sufficient rural communities. In *When Corporations Rule the World*, Korten (1995) writes:

> Solutions [to the crisis] require local action – household by household and community by community. These actions can be taken only when local resources are in local hands.

Orr (1994) goes further with this thinking, asserting:

> I propose that we create a nationwide effort to build sustainable rural communities and forge a national consensus to carry it out.

If Orr's prescription is valid, perhaps the most important goal in building sustainable rural communities is *to rebuild those that once existed*; it is this result that we have sought to initiate by positively communicating the promise of economic redevelopment, as self-actualized through Kretzmann and McKnight's *Inside Out* CFD model.

PLANNING AND IMPLEMENTATION

Successful implementation of a CFD strategy involves communication *and asset inventory* at three levels of organization in the community, followed by the establishment of a community-wide dialog to connect and integrate those levels in the interest of economic revitalization. The three levels of asset inventory outlined by Kretzmann and McKnight are 1) Individual Citizens, 2) Local Associations and Organizations, and 3) Local Institutions. Without question, the greatest investment of time and energy is required for the survey of individual capacities, which involves a lengthy personal interview with all of the community's citizens. To facilitate personal interaction with approximately 1000 people, we have solicited the help of students throughout University of Louisiana at Lafayette's environmental community, and from the Lafayette and Alexandria *AmeriCorps* chapters. Students and AmeriCorps volunteers are being recruited through invitations to presentations on community sustainability, on Kretzmann and McKnight's approach to community revitalization, and on the specific opportunity at Cheneyville. Those attendees who express a continued interest in community redevelopment are being trained to use the prescribed interview techniques. Interviews will typically be conducted on weekends and evenings so as to meet people in their homes, when they will be less focused on their work and more focused on their community and aspirations for its improvement.

Our intent is to discover and document an array of potentially effective local associations through interviews and follow-up interactions with Cheneyville citizens. It will be especially important to establish productive relationships with existing institutions such as local churches because they are well-organized, charitably inclined, but not necessarily dedicated toward community redevelopment or environmental stewardship. These relationships will be sought through an obvious first step: consulting the local phone book.

Significant to communicating with each of these groups will be the use of language, which often tends to start with a preoccupation about what is wrong (i.e., needs), but which must progress quickly to an emphasis on *capacities* and *strengths*. Kretzmann and McKnight (1993) emphatically state that:

> Significant community development takes place only when local community people are committed to investing themselves and their resources in the effort.

All communication must therefore encourage individu-

als, associations, and institutions to envision how they might work together to collectively improve their quality of life. In the beginning of this project, the authors developed a needs map similar to the *neighborhood needs map* described by Kretzmann and McKnight (1993). The purpose of this exercise was not to dwell on the negative, but to develop a training tool for the volunteers – to graphically communicate the *types* of problems and attitudes that interviewers might encounter.

Even as this tool continues to be used, volunteers are warned against becoming predisposed toward certain conclusions about the problems at hand. To the contrary, interviewers are encouraged to begin with a few tentative assumptions about the situation, but to probe aggressively to discover and define the hidden assets that reflect the community's capacity for redevelopment. The *community asset map*, advocated by Kretzmann and McKnight, has emerged as the most important training tool, graphically depicting the types of assets that interviewers must help ferret out in the community.

These highly simplified maps (Figure 3) will serve as a framework for collecting and compiling information about Cheneyville. The final report to the Rapides Foundation, and follow-up manuscript for next year's compendium of *Miscellaneous Publications from the Loyola Center for Environmental Communications*, is expected to use a similarly constructed, but considerably more detailed graphic, to communicate Cheneyville's many assets that may be leveraged toward sustainable redevelopment.

SUMMARY

The work described herein will proceed throughout the summer and fall of 2000, with the final report scheduled for year's end. The report to the Rapides

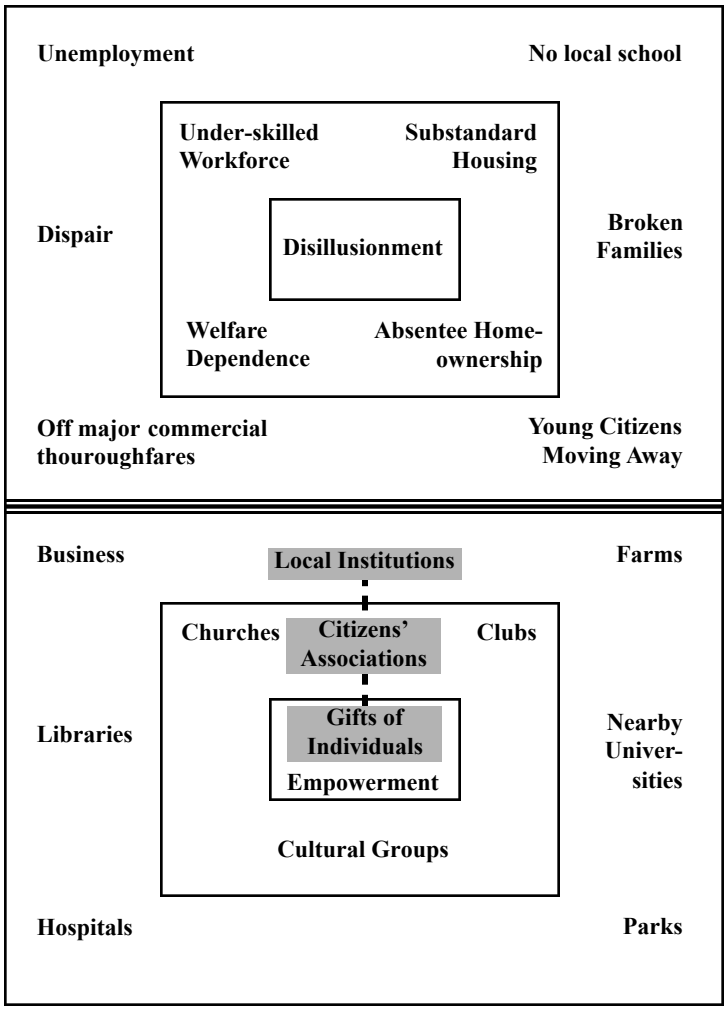


Figure 3: Needs map (top) and asset map, as adapted from Kretzmann and McKnight (1993)

Foundation will not only present the results of Cheneyville's assets analysis, but also critique the effectiveness of the pilot study methodology. The authors anticipate submitting one or more proposals to solicit funding to apply this method, as refined by this pilot experience, across the remaining CCED communities. At that point, it will be important to work both at the *individual community* level and at the *cross-community, integrated* level.

Many of the concepts in *agro-industrial ecology* will probably be most effectively realized only at the larger, regional scale. Working together, the communities should be able to discover potential synergies that will provide fertile economic opportunities "*service and flow"* opportunities (Hawken et al., 1999), all in the context of sustainable economic redevelopment.

As we proceed, we will hold forth the vision of a sustainable future as a beacon for CCED's leadership, for the leaders of the participating communities, and for the citizens at large. We will continue to cite examples of other communities that have begun the transition toward sustainability. And we will remind all parties involved that CCED represents a very special case…a genuine opportunity to usher in sustainability across a cooperating network of rural communities in the American southland.

ACKNOWLEDGEMENTS

The authors express sincere gratitude to the leadership of Communities Collaborating for Economic Development, Inc., for their confidence and support. We also thank the citizens of the CCED communities, especially Cheneyville, for supporting our efforts, and UL Lafayette student and AmeriCorps volunteers, among others, who attended training and performed the interviews. Special appreciation is extended to the *Rapides Foundation* and Alan Smart for guidance and funding. And warm thanks to our reviewers, including Bob Thomas, Ernie Edmunson, Paul Templet, and Cecily Raiborne, whose comments and contributions significantly upgraded the quality of this manuscript and the efforts that it documents.

REFERENCES CITED

AtKisson, A. (1996). Developing Indicators of Sustainable Community: Lessons from Sustainable Seattle. *Environmental Impact Assessment Review* 16 (4-6).

AtKisson, A. (ed.). (1997), The Community Indicators Handbook, Redefining Progress, San Francisco, CA.

BCSD-GM. (1997), Byproduct Synergy: A Strategy for Sustainable Development; Business Council for Sustainable Development-Gulf of Mexico, Austin, Texas, 26 pages, (available at www.wbcsd.ch).

Berry, Wendell. (1977). The Unsettling of America. Sierra Club Books. San Francisco.

Communities Collaborating for Economic Development. (1997). Partnership Communities Implementation; A Proposal to the Foundation for the Mid South. CCED Headquarters, LeCompte, LA.

DeSimone, L.D., and F. Popoff. (1997). Eco-efficiency: Business Link to Sustainable Development, Massachusetts Institute of Technology, Cambridge. 280 pages.

Frosch, R.A. (1992). Industrial Ecology, A Philosophical Introduction, IN Proceedings of the National Academy of Science, National Academy of Science, Washington, DC.

Frosch, R.A. (1995). The Industrial Ecology of the 21st Century, pp 178-181, Scientific American, September.

Hawken, P., A Lovins and LH. Lovins. (1999). Natural Capitalism: Creating the Next Industrial Revolution. Little, Brown, and Company, New York, 395 pgs.

Johnson, H. (1995). Green Plans: Greenprint for Sustainability. University of Nebraska Press, Lincoln.

Kinsley, Michael J. (1997). The Economic Renewal Guide: A Collaborative Process for Sustainable Community Development. Rocky Mountain Institute, Snowmass, CO.

Korten. (1995). When Corporations Rule the World. Kumarian Press, West Hartford, CT.

Kretzmann, John P., and John L. McKnight. (1993). Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets. ACTA Publications, Chicago.

Orr, David. (1992). Ecological Literacy: Education and the Transition to a Postmodern World. SUNY, Albany, NY.

Orr, David. (1994). Earth in Mind: On Education, Environment, and the Huma Prospect. Island Press, Covelo, CA.

RRI (Resource Renewal Institute). (1998). Green Planning Conference in San Francisco, California, with presentations on successes in difference communities. (www.rri.org.)

Tulane Center for Environmental LA., (2000). Louisiana Law Science and The Environmental Annual Conference, Jerry Speir, Director, Tulane University, New Orleans.

LUCEC
Miscellaneous Publications (1), 2002

The "Justice" in Environmental Justice[1]

Robert R. Kuehn[2]
Professor of Law and Director of Clinical Programs
University of Alabama
School of Law
rkuehn@law.ua.edu

Environmental justice means many things to many people. To local communities, feeling overburdened by environmental hazards and left out of the decisionmaking process, it captures their sense of the unfairness of the development, implementation, and enforcement of environmental laws and policies. To regulated entities facing allegations that they have created or contributed to injustices, environmental justice is an amorphous term that wrongly suggests racial or class-based animus or, at the very least, indifference to the public health and welfare problems of distressed communities. The company may believe it did not create, or at most only plays a small role in causing, or solving, the community's problems. To government officials, often the target of environmental justice activists'ire, the term may imply that they are executing their responsibilities in a biased or callous manner. Caught in the middle between local residents and industry, the call for environmental justice may pressure agency officials to move from a well-established, technocratic decision-making approach to a largely undefined, populist approach that encompasses issues beyond the comfortable domain of the agency.

Over the past decade, during which communities, academics, regulated firms, and government officials have struggled with issues of the relationship of environmental quality to race and class, the quest to explain the essence of the problems underlying environmental justice disputes has been manifested in the varying terminology and definitions used to refer to such disputes. To capture the essence and breadth of the different types of environmental justice concerns, this article proposes a four-part categorization of environmental justice issues: 1) distributive justice, 2) procedural justice, 3) corrective justice, and 4) social justice. This taxonomic approach offers a method of collapsing the seemingly broad scope of environmental justice and identifying common causes of and solutions to environmental injustice. At its heart this taxonomy seeks to identify the "justice" embodied in the concept of environmental justice.

DEFINITIONS OF ENVIRONMENTAL JUSTICE

In 1994, President Clinton issued Executive Order 12,898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," and adopted the phrase "environmental justice" to refer to "disproportionately high and adverse human health or environmental effects . . . on minority populations and low-income populations."[3] Rather than explicitly defining the phrase, the order elaborated on its meaning by requiring each federal agency to develop strategies to achieve environmental justice by, at a minimum: 1) identifying and addressing disproportionately high and adverse human health or environmental effects of agency programs, policies, and activities on minority populations and low-income populations 2) promoting enforcement of all health and environmental

[1] This article is abridged from "A Taxonomy of Environmental Justice," 30 Environmental Law Reporter 10, 681 (Sept. 2000).
[2] From 1989 to 1999, Professor Kuehn was the director of the Tulane Environmental Law Clinic.
[3] Exec. Order No. 12898, 3 C.F.R. 389 (1994), reprinted in 42 U.S.C. § 4321 (1994), Admin. Mat. 45075. A "low-income population" is identified using the annual statistical poverty thresholds from the Bureau of Census. Working Group on Environmental Justice, Guidance for Federal Agencies on Key Terms in Executive 12, 898 (1995). "Minority" is any person who is American Indian or Alaskan Native, Asian or Pacific Islander, Black, or Hispanic. "Minority populations" are where either the minority population of the area exceeds 50% or the minority percentage is meaningfully greater than the minority population in the general population or other appropriate unit of geographic analysis.

statutes in areas with minority or low-income populations; 3) ensuring greater public participation; 4) improving research and data collection relating to the health and environment of minority and low-income populations; and 5) identifying differential patterns of consumption of natural resources among minority and low-income populations.

In 1998, the US Environment Protection Agency's (EPA) Office of Environmental Justice set forth the Agency's "standard definition" of environmental justice:

> The fair treatment of people of all races, cultures, incomes, and educational levels with respect to the development and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no population should be forced to shoulder a disproportionate share of exposure to the negative effects of pollution due to lack of political or economic strength.[4]

Going beyond the issues of disproportionate exposures and participation in the development and enforcement of laws and policies, the EPA further elaborated that environmental justice "is based on the premise that: 1) it is a basic right of all Americans to live and work in 'safe, healthful, productive, and aesthetically and culturally pleasing surroundings' 2) it is not only an environmental issue but a public health issue 3) it is forward-looking and goal-oriented and 4) it is also inclusive since it is based on the concept of fundamental fairness, which includes the concept of economic prejudices as well as racial prejudices."[5]

Though these definitions are essential to understanding the environmental justice phenomenon, they fail to fully inform the audience of the similarity of concerns that arise in environmental justice disputes. The classification method set forth in this article seeks to overcome this shortcoming and to advance the understanding of environmental justice by disassembling the term into the four traditional notions of "justice" that are implicated by allegations of environmental injustice.

ENVIRONMENTAL JUSTICE AS DISTRIBUTIVE JUSTICE

Of the four aspects of justice implicated by the use of the term environmental justice, distributive justice concerns have received the most attention from government officials, scholars, and communities.

Distributive justice has been defined as "the right to equal treatment, that is, to the same distribution of goods and opportunities as anyone else has or is given."[6] Aristotle is often credited with the first articulation of the concept and explained it as involving "the distribution of honour, wealth, and the other divisible assets of the community, which may be allotted among its members."[7] The focus of this aspect of justice is on fairly distributed outcomes, rather than on the process for arriving at such outcomes.

In an environmental context, distributive justice involves the equitable distribution of the burdens resulting from environmentally threatening activities or of the benefits of environmental protection programs. More specifically, in an environmental justice context, distributive justice most commonly involves addressing the disproportionate public health and environmental risks borne by people of color and lower incomes.

The executive order on environmental justice focuses predominantly on distributive justice concerns by directing agencies to develop strategies for identifying and addressing disproportionately high and adverse human health and environmental effects on minority and lower-income populations. Distributive justice concerns are also reflected in complaints under Title VI of the Civil Rights Act of 1964, alleging that a recipient of federal financial assistance has unlawfully created, through an environmental program or decision, a "disproportionate burden" or "disparate impact" on a racial class.[8]

Distributive justice in an environmental justice context does not mean redistributing pollution or risk. Instead, environmental justice advocates argue that it means equal protection for all and the elimination of environmental hazards and the need to place hazardous activities in any community.[9] In other words, distributive justice is achieved through a lowering of risks, not

---

4 Memorandum from Barry E. Hill, Director, Office of Environmental Justice, EPA, to Deputy Regional Administrators, EPA, et al. (Dec. 16, 1998). To be classified as an "environmental justice community," "residents must be a minority and/or low income group; excluded from the environmental policy setting and/or decision-making process; subject to a disproportionate impact from one or more environmental hazards; and experience a disparate implementation of environmental regulations, requirements, practices and activities in their communities." EPA, What is Environmental Justice? (visited Mar. 9, 2000) http://es.epa.gov/oeca/main/ej/fac.html.

5 Memorandum from Barry E. Hill, supra note 4.

6 Ronald Dworkin, Taking Rights Seriously 273 (1977).

7 Aristotle: The Nichomachean Ethics, Book V 267 (H. Rackham trans., Cambridge 1982).

8 42 U.S.C. § 2000d (1994). This focus on disproportionate impacts or effects, rather than intent, is not unique to environmental justice and is also present in government actions addressing childhood health risks. See Protection of Children from Environmental Health Risks and Safety Risks, Exec. Order No. 13045, § 1-101.

9 Robert Bullard, Overcoming Racism in Environmental Decisionmaking, 36 Env't 11, 43 (1994); Deeohn Ferris, A Challenge to EPA: An Environmental Justice Office is Needed, 18 EPA J., Mar./Apr. 1992, at 28.

a shifting or equalizing of existing risks.

With such a strong focus on the inequitable distribution of environmental hazards, often overlooked is that distributive justice also involves the distribution of the benefits of environmental programs and policies, such as parks and beaches, public transportation, safe drinking water, and sewerage and drainage.[10]

Allegations of Distributive Injustice in Louisiana

Some of the best known environmental justice disputes in Louisiana have involved dramatic evidence of distributive inequities. In 1996, Shintech proposed to build a new polyvinyl chloride (PVC) plant in the lower-income, 84% African-American community of Convent, LA. An analysis of toxic air emissions from the 10 existing petrochemical plants in the Convent area revealed that residents were already exposed to 251,179 pounds of toxic air pollution per square mile per year, and Shintech proposed to emit an additional 3 million pounds of air pollution per year, over 600,000 pounds of which would be toxic.[11] This existing cumulative impact on the 84% Convent-area residents is 67 times greater than the toxic air pollution burden for the rest of St. James Parish (the third most polluted parish in the state and 43.5% African-American), 93 times greater than the average toxic air pollution exposure per square mile for the heavily polluted Louisiana Mississippi River industrial corridor (36.8% African American), 129 times greater than Louisiana's average exposure per square mile (the second most polluted state in the nation and 30.8% African-American), and 658 times higher than the average toxic air pollution exposure per square mile in the United States (12% African-American). The EPA's disparate impact analysis, using its "relative emissions burden ratio" method, found that, were Shintech permitted to operate, African Americans in St. James Parish would experience a 71% to 242% greater toxic air pollution burden than non-African Americans in the parish.[12]

The proposal to develop a uranium enrichment facility in the poor, 97% African-American communities of Center Springs and Forest Grove in Claiborne Parish, LA, also triggered allegations that low-income and minority communities were being asked to assume disproportionate environmental risks. In testimony before the Nuclear Regulatory Commission, an expert witness demonstrated that at each progressively more selective stage in the uranium company's site selection process, the level of poverty and percentage of African Americans in a one-mile radius around possible sites rose dramatically – from 28% African American during the initial review of 78 sites, to 37% African-American when the sites were narrowed to 37, to 65% when the focus was narrowed to 6 sites in Claiborne Parish, until finally settling on the proposed site with a 97% African-American population.[13] This testimony also revealed how institutionalized racism and the subconscious biases of those involved in the site selection process result in the selection and application of siting criterion that create the disproportionate siting of environmentally risky operations in lower-income and African-American communities.[14]

ENVIRONMENTAL JUSTICE AS PROCEDURALJUSTICE

Claims of procedural injustice also are common in environmental justice disputes, and it is not usual for people of color and low-income communities to complain about both the distributive and procedural aspects of an environmental policy, program, or decision. In many situations, a community's judgement about whether or not an outcome was distributively just will be significantly determined by the perceived fairness of the procedures leading to the outcome.[15]

Procedural justice has been defined as "the right to treatment as an equal. That is the right, not to an equal distribution of some good or opportunity, but to equal concern and respect in the political decision about how these goods and opportunities are to be distributed."[16] Aristotle referred to this as a status in which individuals have an "equal share in ruling and being ruled."[17] It involves justice as a function of the manner in which a

---

10 Michael Gelobter, The Meaning of Urban Environmental Justice, 21 Urb. L.J. 841, 844, 852-53 (1994).

11 Analysis based on 1995 U.S. EPA Toxics Release Inventory data for the 50-square mile area displayed in map, Convent Area School and Toxic Release Inventory Sites with 1995 Total Air Emissions (1998), prepared by Charles A. Flanagan. See Plantations to Plants: Report of the Emergency National Commission on Environmental and Economic Justice in St. James Parish, Louisiana 7, 9 (1998) (includes Flanagan map); Public Notice, Louisiana Dept. of Environmental Quality, Air Quality Division, Request for Public Comment and Notification of a Public Hearing on a Proposed Air Pollution Source, St. James Chemical Production Complex, Shintech Inc. and Its Affiliates, Convent, St. James Parish, Louisiana, *The Advocate* (Baton Rouge, LA), Nov. 7, 1996, at 10C.

12 U.S. EPA, Title VI Administrative Complaint Re: Louisiana Department of Environmental Quality Permit for Proposed Shintech Facility: Summary Documentation of Draft Revised Demographic Analysis, Table C5 (Apr. 1998).

13 In re Louisiana Energy Services, L.P. (Claiborne Enrichment Center), 45 N.R.C. 367, 386 (Atomic Safety and Licensing Board May 1, 1997), aff'd in part and rev'd in part, 47 N.R.C. 77 (Nuclear Regulatory Commission Apr. 3, 1998).

14 In re Louisiana Energy Services, 45 N.R.C. at 385-89.

15 Jeffrey Rachlinski, Perceptions of Fairness in Environmental Regulation, in Strategies for Environmental Enforcement 339, 347 (Barton H. Thompson Jr. ed., 1995).

16 Dworkin, supra note 6, at 273.

17 Steven J. Heyman, Aristotle on Political Justice, 77 Iowa l. Rev. 851, 863 (1992).

decision is made, and it requires a focus on the fairness of the decisionmaking process, rather than on its outcome.

The executive order on environmental justice has a strong focus on procedural justice, directing agencies to ensure greater public participation and access to information for minority and low-income populations.

One way to judge procedural justice is to determine if those to be affected by the decision agree in advance on the process for making the decision. Thus, procedural justice requires looking not just to participation in a process but to whether the process is designed in a way to lead to a fair outcome.[18] In this respect, environmental decisionmaking processes have been roundly criticized by commentators who have examined issues of environmental justice and public participation. One common observation is that the predominant expertise-oriented, interest-group model of environmental decisionmaking favors those with resources and political power over people of color and low-income communities.[19] In general, to achieve procedural justice, observers advocate developing more deliberative models of decisionmaking, providing disadvantaged groups with greater legal and technical resources, and ensuring equal access to decisionmakers and the decision-making process.[20]

Allegations of Procedural Injustice in Louisiana

The Shintech case again dramatically illustrates the extent of procedural justice issues. As is common in environmental justice disputes, local residents opposing the petrochemical plant complained about the lack of sufficient public notice, inconvenient times and places for public hearings, exclusion from agency meetings, and inaccessibility of important documents.[21] Additional procedural justice problems arose from the governor of Louisiana's position that equal treatment of all persons was not the goal of the Shintech air permitting process: "The [Louisiana Department of Environmental Quality's] job is to go out and make it as easy as they can [for Shintech] within the law."[22] These efforts by the state involved not only approving a 34-page, single-spaced analysis, with 28 technical appendices, of the likely environmental and social impacts of the huge project within a day of its submission and instructing state employees to "be sure we do everything we can to prevent them [Shintech opponents] from tying up the permit application process,"[23] but also the surreptitious use of an employee in the office of the secretary of the Louisiana Department of Environmental Quality (DEQ) to organize a local group to support Shintech and the use of taxpayer funds and state employees to investigate and compile dossiers on plant opponents.[24] The governor derided community environmental justice leaders, mostly women, as "a bunch of housewives" who should not be making public policy.[25]

One judge noted, after reviewing allegations of over 40 instances of bias by the state in the permitting process, that the DEQ official in charge of issuing the air permits had specifically instructed his staff to treat the local residents as adversaries of the state agency.[26] The local parish government, during the time it was considering a request by Shintech for a coastal use permit, used taxpayer funds to mail an anonymous flyer to local residents urging them to support Shintech.[27] The parish president also secretly compiled dossiers for Shintech detailing the race, sex, and attitudes of 18

---

[18] John Rawls, A Theory of Justice 85-86 (1971).

[19] See, e.g., Denis J. Brion, An Essay on LULU, NIMBY, and the Problem of Distributive Justice, 15 B.C. Envtl. Aff. L. Rev. 437, 441-47 (1988); Sheila Foster, Justice from the Ground Up: Distributive Inequities, Grassroots Resistance, and the Transformative Politics of the Environmental Justice Movement, 86 Cal. L. Rev. 775, 801-02, 832-33 (1998); Eileen Gauna, The Environmental Justice Misfit: Public Participation and the Paradigm Paradox, 17 Stan. Envtl. L.J. 3, 31-47 (1998).

[20] See, e.g., Nicholas A. Ashford & Kathleen M. Rest, Public Participation in Contaminated Communities VII-5 to 19 (1999); National Environmental Environmental Justice Advisory Council, U.S. EPA, The Model Plan for Public Participation 2-5 (Nov. 1996); John Applegate, Beyond the Usual Suspects: The Use of Citizen Advisory Boards in Environmental Decisionmaking, 73 Ind. L.J. 903, 952-56 (1998); Foster, supra note 19, at 833-37; Gauna, supra note 19, at 51-71.

[21] Amended Complaint Under Title VI of the Civil Rights Act, Re: Louisiana Department of Environmental Quality/Permit for Proposed Shintech Facility, No. 04R-97-R6 (July 16, 1997); Motion to Recuse DEQ Officials, In re Shintech, Inc. and Its Affiliates (DEQ March 6, 1998).

[22] Lolis Eric Elie, "ACall From the Governor," *The Times-Picayune* (New Orleans, La.), Sept. 4, 1998 at B-1. The governor also characterized environmental regulation as a form of harassment against honest businesses and called the EPA "our only enemy" when it questioned the state's behavior during the permitting process. Ed Anderson, "Foster Likes Casino Deal's Chances in Special Session," *The Times-Picayune*, Mar. 1, 1998, at A-10; A Welcome Focus on Environment, The Advocate, Oct. 28, 1997, at 18B.

[23] Motion to Recuse DEQ Officials, supra note 21; Ed Anderson & Chris Gray, Foster Endorses Probes of Shintech Adversaries, Times-Picayune, Nov. 7, 1997, at A-3; Vicki Ferstel, "Shintech's Opponents Tracked," *The Advocate*, Nov. 5, 1997 at 1A; Memorandum from Kevin P. Reilly Sr., La. Dep't of Economic Development, to Harold Price, La. Dep't of Economic Development (Nov. 15, 1996).

[24] Motion to Recuse DEQ Officials, supra note 21; Vicki Ferstel, "Groups Want DEQ Officials Off Shintech Case," The Advocate, Dec. 9, 1997, at 1A; Chris Gray, "State Favors Shintech Plant, Opponents Say," *The Times-Picayune*, Dec. 9, 1997, at B-3.

[25] John McQuaid, Burdens on the Horizon, *The Times-Picayune*, May 21, 2000, at J-5. Governor Foster: "This [actions by female environmental justice activists] is a great way to stop development, but that is not good public policy. If you want a bunch of housewives making public policy, that's a good approach." Id.

[26] Written Reasons for Judgment, St. James Citizens for Jobs & the Env't v. Louisiana Dep't of Envtl. Quality, No. 448928 (19th La. Dist Ct. Aug. 31, 1998).

[27] Ron Nixon, Toxic Gumbo, South. Exposure, Summer/Fall 1998, at 11, 14.

parish officials whose approval was needed in order to build the plant; the dossiers were destroyed when plant opponents sought to obtain a copy.[28]

Efforts to limit the ability of Shintech opponents to participate in the decisionmaking process even included threats by the governor to cut off, Tulane University's tax-exempt status and efforts to get business interests to boycott the university, all because the school's environmental law clinic was providing free legal assistance to local residents.[29] Frustrated with Tulane's refusal to back down, the governor and business interests later were successful in pressing a majority of the elected justices of the Louisiana Supreme Court to impose new restrictions on the state's law clinics that would prevent them from providing free legal assistance to communities raising claims of environmental injustice.[30] Although local residents complained to the the EPA that Louisiana's widespread actions to discourage local residents and their attorneys from raising environmental justice claims violated the agency's regulation prohibiting any person from intimidating, threatening, coercing, or discriminating against any individual or group because they have participated in any way in a Title VI investigation, the EPA has failed to act on the complaint.[31] A similar, but also unaddressed, complaint of intimidation and discrimination against Louisiana residents raising environmental justice claims was filed with the EPA over the actions of a DEQ employee who showed up uninvited at a community meeting in Alsen, disrupted the meeting, and was abusive and insulting toward local residents.[32]

In addition to the procedural justice issues arising from the manner in which the state handled the permitting process, the Shintech case illustrates the systemic inequities that people of color and lower-income communities confront. Under the state permitting process, the permit applicant has an automatic right, if requested, to an adjudicatory hearing, yet local residents have no such right.[33] In the view of the DEQ, the permit applicant may also, upon a minimal showing that the proceeding lacks the appearance of complete fairness, force the recusal of an agency decisionmaker and have a neutral, third-party appointed to decide the merits of the permit application; again, local residents have no such right.[34] The DEQ even argues that local residents who submit written comments on a proposed permit are not entitled to notice of the agency's final permit decision, except for any notice which is printed in the legal classified advertising section of the official state newspaper, and that the period for any appeal by local residents of a DEQ decision begins to run when the permit applicant, not the affected residents, receives notice of the decision by certified mail.[35] Thus, the process is designed to accord more procedural rights to a permit applicant, even where the applicant is not a state resident, property owner, or taxpayer and employs no person in the state, than it does to citizens who have lived in the affected area all their lives, own homes in the area, send their children to schools in the area, and work in the area.

The procedural barriers often encountered by ethnic communities is illustrated by attempts to reopen the Marine Shale hazardous waste incinerator near Morgan City. Despite the repeated, strong interest expressed by Vietnamese-speaking residents of the area to participate in the DEQ's process to re-permit the facility, permit application documents, meeting notices, and public hearing testimony were never provided in Vietnamese. When these translation concerns were raised by Vietnamese-speaking residents, the DEQ responded that it would take care of the inability of the Vietnamese community to participate in the public hearing process after the permit was issued.[36]

---

[28] Leah Bankston, Economic Development or Environmental Racism, Gris Gris (Baton Rouge, La.), Jan. 1998, at 17; Vicki Ferstel, "Shintech Plans Draw Environmentalist Suit," The Advocate, June 14, 1997, at 1B.

[29] Marcia Coyle, Governor v. Students in $700M Plant Case, Nat'l L.J. Sept. 8, 1997, at 1; Susan Hansen, Backlash on the Bayou, Am. Law., Jan./Feb. 1998, at 50; Marsha Shuler, "Foster: Threat Against Tulane Is Appropriate," *The Advocate*, July 24, 1997, at 1A.

[30] For an extended discussion of the ethical and social issues implicated in the attack on Tulane, see Robert R. Kuehn, Denying Access to Legal Representation: The Attack on the Tulane Environmental Law Clinic, 4 Wash. U.J.L& Pol'y 33 (2000). See also Frontline: Justice for Sale (PBS television broadcast, Nov. 23, 1999); Chris Gray, "Court Reins in Student Lawyers," *The Times-Picayune*, June 18, 1998, at A-1; Mark Schleifstein, Foster, "Clinics Face Off on Rules," *The Times-Picayune*, Aug. 2, 1998, at A-1; Peter Joy, Political Interference With Clinical Legal Education, 74 Tulane L. Rev. 235 (1999); 60 Minutes II: Buying Judges? (CBS television broadcast, Mar. 27, 2000).

[31] Letter from Lisa W. Lavie & Robert R. Kuehn, Tulane Environmental Law Clinic, to Michael Mattheisen, et al., EPA (Dec. 9, 1997); Letter from Elizabeth Teel, Tulane Environmental Law Clinic, to Ann E. Goode, Director, Office of Civil Rights, EPA (August 10, 1999); see also 40 CFR § 7.100 (EPA's Title VI anti-interference regulation).

[32] North Baton Rouge Environmental Association et al., Complaint Under Title VI of the Civil Rights Act, No. 10R-97-R9 (June 8, 1998); Mike Dunne, "Group Claims DEQ Staff Disrupted Meeting," *The Advocate*, May 26, 1998, at B-1.

[33] La. Rev. Stat. Ann. § 30:2024 (West 2000); In re Carline Tank Services, Inc., 626 So.2d 358, 261 (La. App. Ct. 1993).

[34] In re Rollins Environmental Services, Inc., 481 So.2d 113, 119 (La. 1985); In re Shintech and Its Affiliates, 734 So.2d 772 (La. App. Ct.), writ denied, 746 So.2d 601 (La. 1999).

[35] In re Natural Resources Recovery, Inc., 752 So.2d 369, 373-75 (La. App. Ct. 2000).

[36] Petition – Thinh Cau, Oct. 10, 1991 (petition to DEQ from members of local Vietnamese community complaining that they have been prevented from participating in the permit proceedings); Mark Schleifstein, "DEQ Clears Waste Burner," *The Times-Picayune*, Feb. 23, 1999, at A3; Electronic mail from Julie Delaune to Robert R. Kuehn (May 9, 2000).

ENVIRONMENTAL JUSTICE AS CORRECTIVE JUSTICE

The third aspect of justice encompassed by the term environmental justice is "corrective justice," a notion of justice that is sometimes referred to by other names and may be subsumed within claims for distributive or procedural justice.

Corrective justice involves fairness in the way punishments for lawbreaking are assigned and damages inflicted on individuals and communities are addressed. Aristotle referred to this aspect of justice as "rectificatory" as "it treats the parties as equals and asks only whether one has done and the other suffered wrong, and whether one has done and the other has suffered damage." If so, it attempts to restore the victim to the condition she was in before the unjust activity occurred.[37] Corrective justice involves not only the just administration of punishment to those who break the law, but also a duty to repair the losses for which one is responsible.[38]

The executive order on environmental justice reflects notions of corrective justice by directing agencies to develop strategies to promote enforcement of health and environmental statutes in minority and low-income populations and to collect, maintain, and analyze information on the race, national origin, and income of populations surrounding facilities or sites that become the subject of a substantial federal enforcement action. The EPA's environmental justice definition encompasses corrective justice concerns in calling for "fair treatment . . . with respect to the development and enforcement of environmental laws, regulations, and policies."

Some actions that raise questions of corrective justice may also implicate distributive or procedural justice. Evidence that environmental laws are enforced less often or less stringently in certain communities could be an issue of distributive justice since an environmental program benefit, enforcement, is not equally distributed to all populations. Lax enforcement also can reflect a failure of government officials to treat all persons with equal concern and respect and a failure to ensure procedural justice.

Allegations of Corrective Injustice in Louisiana

Residents of the 130-year old African-American community of Oakville filed a Title VI complaint with the EPA alleging that the DEQ has failed to provide them with corrective justice.[39] On over 40 different occasions since 1985, agency inspectors documented violations of environmental laws at the adjacent Industrial Pipe waste facility, yet the DEQ has not issued a single penalty nor, in spite of a 1988 closure order, forced the site to shutdown.[40] The DEQ even failed to take action against the facility for submitting, as the state itself found, a forged waiver of a 200-foot buffer zone requirement allegedly signed by an adjacent landowner.[41] The forged waiver not only misspelled the landowner's name, but the man was deceased (for over three years) at the time the waiver was supposedly executed.[42]

Efforts to achieve corrective justice through relocation or buyouts are increasingly common. In New Orleans, residents living on top of the Agriculture Street Landfill allege that the federal government, through a redevelopment program designed to turn the working poor into homeowners, enticed unsuspecting African-Americans to buy homes on the old landfill.[43] Although the EPA later designated the residential area a Superfund site, the federal government has refused to buy out the homes of nearby residents, forcing them to remain in their homes during cleanup and to live thereafter in homes protected only by two feet of new soil and a permeable mesh mat from buried hazardous wastes such as lead and arsenic.[44] Reportedly, it would cost the EPA $8 million less to relocate the residents permanently than to proceed with the agency's partial removal of the contaminated soil.[45]

Petrochemical companies facing potential liability for personal injuries and property damages have bought out the African-American communities of Morrisonville, Reveilletown, Good Hope, and Sunrise, Louisiana.[46] Residents living adjacent to the

---

37 Ellen Frankel Paul, Set-Asides, Reparations and Compensatory Justice, in Nomos XXXIII: Compensatory Justice 97, 100-01 (John W. Chapman ed., 1991).

38 Jules L. Coleman, The Practice of Corrective Justice, 27 Ariz. L. Rev. 15, 30 (1995).

39 Letter from Percy Johnson, President, Oakville Community Action Group, to Dan Rondeau, Office of Civil Rights, U.S. EPA et al. (May 22, 1996) (EPA Title VI complaint no. 3R-96-R6). See also Sandra Barbier, Oakville Activist Fights Landfill; "Racial Injustice Claims Investigated by EPA," *The Times-Picayune*, July 14, 1999, at B-1.

40 Letter from M. Madeleine Boshart & Andres R. Jacques, Tulane Environmental Law Clinic, to Clarice Gaylord & Shirley Augurson, U.S. EPA (Apr. 21, 1997); Letter from Frank Trainor & Elizabeth Teel, Tulane Environmental Law Clinic, to Clarice Gaylord & Shirley Augurson, U.S. EPA (Dec. 12, 1997).

41 Amended Notice of Intent to Revoke Permit, DEQ, No. SE-O-96-0153A(Aug. 15, 1996); Letter from H.M. Strong, Assistant Secretary, DEQ, to Kennett Stewart, Industrial Pipe, Inc. (Sept. 27, 1996) (rescinding amended notice of intent to revoke permit).

42 Letter from M. Madeleine Boshart & Andres R. Jacques, supra note 40.

43 Christi Daugherty, Digging Up Dirt, Gambit Wkly. (New Orleans, La.), Nov. 3, 1998, at 20; John McQuaid, "Living a Nightmare," *The Times-Picayune*, May 23, 2000, at A-10; "Responsibility for Ag Street," *The Times-Picayune*, Sept. 6, 1998, at B-6.

44 Id.

45 Daugherty, supra note 43.

Motiva/Shell refinery in Norco have been pressuring, thus far unsuccessfully, the company to buy out their homes so that they can relocate away from the plant.[47]

Another increasingly popular approach to corrective justice is toxic tort suits. In a lawsuit for injuries allegedly suffered as a result of a tank-car explosion in New Orleans, attorneys for the plaintiffs successfully argued to the jury that punitive damages should be imposed because of the defendants'attitude toward the surrounding minority neighborhood before and after the explosion. Over objections that plaintiffs'attorneys had improperly used inflammatory racial rhetoric, the jury returned a punitive damages award of $2.5 billion against the railroad company, a verdict that was later reduced to $850 million.[48] African Americans in Bogalusa similarly alleged that race was a factor in the evaluation of residents after a gas leak at a Gaylord Chemical Corporation plant, charging that punitive damages were in order because the town's black neighborhoods were evacuated much later than the predominantly white neighborhoods.[49]

ENVIRONMENTAL JUSTICE AS SOCIALJUSTICE

The fourth and final aspect of justice implicated by the term environmental justice is "social justice," a far-reaching, and some say nebulous, goal of the environmental justice movement.

Social justice is "that branch of the virtue of justice that moves us to use our best efforts to bring about a more just ordering of society – one in which people's needs are more fully met."[50] "The demands of social justice are . . . first, that the members of every class have enough resources and enough power to live as befits human beings, and second, that the privileged classes, whoever they are, be accountable to the wider society for the way they use their advantages."[51]

Environmental justice has been described as a "marriage of the movement for social justice with environmentalism" integrating environmental concerns into a broader political agenda that emphasizes social, racial, and economic justice.[52] Dr. Robert Bullard refers to this aspect of environmental justice as "social equity: . . . an assessment of the role of sociological factors (race, ethnicity, class, culture, lifestyles, political power, and so forth) in environmental decisionmaking."[53]

Environmental justice's focus on social justice reflects reality. As one community organizer explained, oppressed people do not have compartmentalized problems – they do not separate the hazardous waste incinerator from the fact that their schools are underfunded, that they have no day care, no sidewalks or streetlights, or no jobs.[54] The reason disadvantaged communities do not separate these problems is that their quality of life as a whole is suffering and the political, economic, and racial causes are likely interrelated. As the Reverend Benjamin Chavis observed, "Sometimes we get too single-issue to see how various social justice issues are interrelated, . . . But in this movement, there is a perception at the grassroots level of how one manifestation of racial injustice is related to another."[55]

Social justice influences can work in two ways. The same underlying racial, economic, and political factors that are responsible for environmental threats to the community also likely play a significant role in why the area may suffer from other issues like inadequate housing, a lack of employment opportunities, poor schools, etc. In turn, the presence of undesirable land uses that threaten the health and well-being of local residents and provide few direct economic benefits negatively influences the quality of life, development potential, and attitudes of the community and may lead to further social and economic degradation.[56]

Government officials are often hesitant to embrace the social justice aspects of environmental justice, reflecting a reluctance to take on the broader systemic

---

46 Louisiana Advisory Committee, U.S. Commission on Civil Rights, The Battle for Environmental Justice in Louisiana . . . Government, Industry, and the People 46-52 (1993); Heather Dewar & Joe Mathews, "Residents Want Out of Industrial Ghetto," *Baltimore Sun*, Apr. 19, 1998, at 1A; Joe Mathews, "Paying Neighbors to Move", *Baltimore Sun,* Dec. 6, 1998, at 1A.

47 Anne Rochell Konigsmark, Louisianans Want Oil Giant to Buy Out Homes, *Atlanta Journal Constitution*, Nov. 5, 1999, at C-2.

48 Court Cuts Damages in Tank-Car Explosion from $2.5 Billion to $850 Million, CSX Says, Daily Env't Rep., at A-12 (Nov. 18, 1999); Pamela Coyle, Gentilly Tank Car Damages Slashed; State Judge Finds Award Excessive, Times-Picayune, Nov. 6, 1999, at A-1..

49 Glen Justice, Group: Gas Leak Response Racist, Times-Picayune, Oct. 29, 1995, at B-1.

50 Robert E. Rodes, Jr., Social Justice and Liberation, 71 Notre Dame L. Rev. 619, 620 (1996).

51 Id. at 626.

52 Dana A. Alston, Introduction, in We Speak for Ourselves: Social Justice, Race and Environment 3 (Dana Alston ed., 1990).

53 Robert D. Bullard, Unequal Environmental Protection: Incorporating Environmental Justice in Decision Making, in Worst Things First? 237, 258 (Adam M. Finkel & Dominic Golding eds., 1994).

54 A Place at the Table, Sierra, May/June 1993, at 51, 58.

55 Marcia Coyle, When Movements Coalesce, Nat'l L.J., Sept. 21, 1992, at S10 (quoting Rev. Benjamin F. Chavis, Jr., executive director of the United Church of Christ's Commission on Racial Justice).

56 Foster, supra note 19, at 786.

causes of environmental injustice or to consider issues outside the narrow technical focus of the agency.[57] Nonetheless, the president's executive order acknowledges the significance of social justice by directing each federal agency to consider the economic and social implications of an agency's environmental justice activities, and the accompanying memorandum requires analysis of the economic and social, not just environmental, effects of federal actions on minority and low-income communities. The EPA recognizes that environmental justice "is also inclusive, since it is based on the concept of fundamental fairness, which includes the concept of economic prejudices as well as racial prejudices."[58]

Allegations of Social Injustice in Louisiana

Concerns about the employment aspects of social justice figured prominently in the Shintech case. The state offered Shintech, which was already realizing an annual $750,000 per-employee after-tax profit at its comparable PVC plant in Texas,[59] a taxpayer-financed subsidy of almost $800,000 for each permanent job created.[60] In return, the state did not require Shintech, nor did the company commit, to hire any Convent, St. James Parish, or Louisiana resident, contractor, or supplier, though the company did pledge to "comply with all applicable federal and state employment laws."[61]

Moreover, because of Shintech's need for employees with computer knowledge and the low educational levels of most Convent residents, the staff director of the state agency promoting the plant admitted that "very few" of the permanent jobs created by the company would go to local residents.[62] This admission was consistent with a job survey in an adjacent community that found that only 8.7% of almost 1,900 permanent jobs at 10 local chemical plants were held by local residents, with just 1% held by African-Americans.[63] A comparison of the environmental costs with the job-creation benefits of Shintech revealed that the company would emit 3,488 pounds of toxic air pollution per year for each permanent job created, a ratio two times higher than the rest of Louisiana's chemical industry, almost four times higher than Texas' industry, and almost seven times higher than the U.S. chemical industry's average.[64]

Social justice is also implicated by taxpayer-subsidized assistance to polluting firms that locate in people of color and lower-income communities. In the Shintech case, concerns over the minimal benefits to local residents were heightened by information that approximately $27 million that Shintech would otherwise pay in property taxes over a 10-year period to fund local schools would be exempted by the subsidy.[65] These tax breaks would cost each of the parish's taxpayers over $10,000 in lost tax revenues otherwise available for public schools.[66]

Of course, company officials believe that their operations do help local employment and tax bases. Shintech countered that even though it would receive $130 million in tax breaks, it would pay over $6 million in one-time sales taxes during construction and over $2 million per year thereafter.[67]

Local residents also note the social justice issues of racism and neglect by politicians that make their communities so attractive to undesirable land uses. The 98% African-American community of Alsen, founded by freed slaves shortly after the Civil War, finds itself in the middle of an intensely polluted, heavily industrialized area that contains 15 polluting facilities, 2 Superfund sites, and at least 24 current and former landfills. In their Title VI complaint, the Alsen residents allege that one reason there are so many petrochemical and waste facilities sited in their community is because the residential area was zoned heavy industry by white politicians at a time when the residents were denied the right to vote because of their race.[68] In the Louisiana Energy Services case, Forest Grove and Center Springs

---

57 See, e.g., U.S. EPA, Reducing Risk for All Communities, Vol. I: Workgroup Report to the Administrator 10 (1992) (acknowledging that socioeconomic factors may influence the inequitable distribution of environmental risks but characterizing such issues as "beyond the scope of this report").

58 Memorandum from Barry E. Hill, supra note 4

59 Louisiana Environmental Action Network, The Myth of Shintech Jobs (Selling False Hopes to Local Residents) (1998).

60 Memorandum from Paul Adams, La. Dep't of Economic Development, to Kevin Reilly, Secretary, La. Dep't of Economic Development (Mar. 24, 1997). The total subsidy would be approximately $130 million; the plant would employ 165 permanent workers. Id.

61 Shintech Inc., Environmental Economic Development Program Agreement (undated).

62 Memorandum from Paul Adams, supra note 60.

63 East Iberville Parish & Town of St. Gabriel Employment Survey (Sept. 1995); From Plantations to Plants, supra note 11, at 22-23; Louisiana Environmental Action Network, The Myth of Shintech Jobs, supra note 59; see also Chris Gray, "Experts Say Shintech May Not Deliver Jobs," *The Times-Picayune*, Jan 25, 1998, at B-1.

64 From Plantations to Plants, supra note 11, at 23 (reprinting results of "release/job" ratios calculated by Professor Paul Templet of Louisiana State University).

65 Id. at 24.

66 Louisiana Environmental Action Network, The Myth of Shintech Jobs, supra note 59.

67 Shintech Press Release (Nov. 20, 1996).

68 North Baton Rouge Environmental Association et al., supra note 32 (citing Florence T. Robinson, Problems Along the Mississippi: A Case Study (Update, Jan. 8, 1998)); see also John McQuaid, "Too Close for Comfort," *The Times-Picayune*, May 21, 2000, at J-2.

residents noted that a history of neglect by local politicians made their community a prime target for the uranium enrichment plant. During the siting process, the company concluded that the community's absence of stores, schools, medical clinics, businesses, as well as its unpaved or poorly maintained homes, lack of public drinking water, and segregated and substandard schools, made it preferable to other areas that enjoy greater public benefits and a higher quality of life.[69]

A common result of local struggles for environmental justice, and the expanded discussion of social justice problems that such struggles stimulate, is greater subsequent political involvement by local residents on a host of other social and political issues. As a result of their involvement in the dispute over the proposed Louisiana Energy Services uranium enrichment plant, a member of the local environmental justice organization was elected to the Homer town council, another was elected to the parish school board, a third now serves on the parish police jury, and a supporter was elected the first African-American mayor of Homer.[70] Elsewhere, the Carville/St. Gabriel residents who filed the first Title VI complaint accepted by the EPA were later able to incorporate the area as a means to obtain greater control over future land uses and to ensure that more benefits flowed to the local community.[71]

CONCLUSIONS

The four-part taxonomy presented above offers a means to ensure that environmental justice concerns are appropriately integrated into environmental decision-making. While some may contend that analyzing environmental justice through its constituent notions of justice simply broadens the already ambitious scope of the problems that environmental justice encompasses, this taxonomy also suggests a path to avoid environmental injustice – government officials and private entities undertaking activities with environmental impacts on peoples of color and lower-incomes must address the distributive, procedural, corrective, and social justice aspects of their actions.

As the allegations of injustice set forth in this article demonstrate, the proponents of the facilities that have triggered many of the most highly publicized environmental justice disputes in Louisiana have not sought to ensure that their proposals did justice to the impacted communities, with the predictable result that the project failed to win the support of local residents. Compliance with the law, while perhaps sufficient to gain necessary government approvals or avoid the imposition of legal liability, is no longer sufficient if one wishes to achieve environmental justice. This taxonomy offers the opportunity for greater awareness of what justice means to impacted people of color and lower-income communities and to help them attain the liveable communities and improved environmental conditions that are the shared goals of all residents of Louisiana.

---

[69] In re Louisiana Energy Services, L.P. (Claiborne Enrichment Center), 45 N.R.C. 367, 386-88 (Atomic Safety and Licensing Board May 1, 1997).

[70] Electronic mail from Nathalie Walker, EarthJustice, to Robert R. Kuehn (May 9, 2000).

[71] Luke W. Cole, Civil Rights, Environmental Justice and the EPA: The Brief History of Administrative Complaints Under Title VI of the Civil Rights Act of 1964, 9 J. Envtl. L. & Litig. 309, 329-30 (1994).

LUCEC
Miscellaneous Publications (1), 2002

Environmental Justice: From Racism to Equity

Rebecca R. East[1]
Department of Environmental Studies
Louisiana State University
Baton Rouge, Louisiana 70808
reast@lsu.edu

In the late 1960s, Lady Bird Johnson, wife of President Lyndon B. Johnson, began promoting the Keep America Beautiful campaign, drawing attention to the nation's unsightly highways pocked with abandoned junk cars and litter. It was a time of mercury-polluted oceans, burning rivers and lakes, grey smog-filed skies, and toxic waste dumps. "Environment" was the newest buzzword. Lady Bird's influential position helped focus our attention on cleaning up our surroundings.

Books about environmental consequences were drawing the public's attention to the alarming decline of nature and human health. Among them was Rachael Carson's *Silent Spring* in 1962, which alerted the public to the dangers of pesticides in the water system. In Wisconsin, *The Picture Journal*, a Sunday magazine of *The Milwaukee Journal*, won the 1966 Pulitzer Prize for meritorious public service with a three-part series documenting water pollution in that state. The series led to the Wisconsin state legislature passing what was defined as "the finest piece of legislation in the national fight to preserve clean water." (Lockwood).

While individual states were dealing with environmental issues, Congress recognized that pollution did not respect state boundaries. What happens to the environment in one state is frequently caused by actions in another state. The National Environmental Policy Act of 1969 (NEPA) established a national policy requiring federal agencies to address the impact of their decisions on the human environment. NEPA provided guidelines and legal standing, or enforcement, for maintaining a balance with nature, human citizens, and development. Grassroots groups were formed to protect various environments and creatures and to protest environmental assaults. But few organizations had the resources to fully impact industrial expansion. At the same time, some activists observed that minorities were taking the brunt of pollution. Claims of racism prompted the federal government to strictly enforce Title VI of the Civil Rights Act of 1964 for environmental cases. Under Title VI, federal agencies are prohibited from providing funds to state or local agencies that discriminate against one of the minority groups, including disparate impacts against minority groups in permit grants. (Mank, 1999). However, it was 1994 before the first case to evoke the power of Title VI law was filed. Tulane University's Environmental Law Clinic filed suit on behalf of six African-American groups opposed to a hazardous waste facility siting in Iberville Parish. The complaint against the permitting process of Louisiana's Department of Environmental Quality (LDEQ) forced the governor to cancel the permit. The case did not go to court. (Fisher,1995).

In 1996 Louisiana was back in the news. This time a $700 million polyvinyl chloride (PVC) plastics plant, Shintech, proposed by the Japanese-owned Shin-Etsu Corporation, became the catalyst for a new tool empowering citizens against pollution and unchecked manufacturing development. That tool: redress under Executive Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* President Clinton called on all agencies to enforce laws already in effect "to ensure that all communities and persons across this Nation live in a safe and healthful environment." This executive order affects previous law such as Title VI of the Civil Rights Act of 1964, the National Environmental Policy Act of 1969 (NEPA), the Clean Air Act, the Freedom of Information Act, the Sunshine Act, and the Emergency-Planning and Community Right-to-Know Act. (Memorandum, 1994). President Clinton issued

[1] Fellow, Institute of Environmental Communications, 1999

the order to address the vague definition of "disparate impact" and to require federal agencies to enforce Title VI of the 1964 Civil Rights Act by establishing strategies to deal with justice issues.

The proposed Shintech plant site, in Convent, Louisiana, along the Mississippi River half way between New Orleans and Baton Rouge, raised the question of environmental justice to national awareness as protestors charged "environmental racism" against the permitting agency. This paper will attempt to define the different terms used in the environmental justice movement and briefly trace the history of the movement through Louisiana.

DEFINING THE CONCEPT

By its very nature, environmental law is confrontational. Environmental laws are made and enforced by citizen action. Citizen uprisings may result in policy – or lawmakers restrictions on businesses or government actions. Likewise, citizen complaints or protests impact public hearings, decisions, and investigations. The public has standing for its own sake in action that impacts their environment, health or safety. Nothing has been more controversial than the nebulous concept of "environmental justice," a difficult term to define. In fact, several terms are used interchangeably, but in examining the definitions, subtle differences have emerged as we have broadened our understanding of environmental impact on communities.

Rev. Benjamin Chavis, head of the United Church of Christ's Commission for Racial Justice, coined the term "environmental racism" in a 1993 testimony before a congressional hearing:

> Environmental Racism is defined as racial discrimination in environmental policy making and the unequal enforcement of environmental laws and regulations. It is the deliberate targeting of people of color communities for toxic waste facilities and the official sanctioning of life-threatening presence of poisons and pollutants in people of color communities. (Fisher, 1995)

Another definition developed out of studies conducted by Robert Bullard and dealt with the terms less from an intentional perspective but focused on the results of unjust business:

> Any policy, practice or directive that intentionally or unintentionally differentially impacts or disadvantages individuals, groups or communities based on race or color; (as well as the) exclusionary and restrictive practices that limit participation by people of color in decision-making boards, commissions and staffs. (Bullard, 1993)

However, by 1994, the federal government began referring to a different term, away from "racism" and toward "justice." In an overview accompanying the Executive Order, environmental justice is defined as:

> A movement promoting the fair treatment of people of all races, income and culture with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment implies that no person or group of people should shoulder a disproportionate share of the negative environmental impacts resulting from the execution of this country's domestic and foreign policy programs. (Kebodeaux, 1998.)

Executive Order 12898 mandates that federal agencies identify and address any "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low income populations." President Clinton called on all agencies to enforce laws already in effect "to ensure that all communities and persons across this Nation live in a safe and healthful environment." This executive order affects previous law and all federal actions, particularly as they impact the health or environment of minorities, which included people of low income and those already impacted by pollution.

In Louisiana, the term evolved yet again from "justice" to "equity." Environmental equity "more broadly includes the disproportionate risk burden placed on any population group, as defined by gender, age, income, location, or occupation, as well as by race." (Fisher,1995). In fact, Fisher himself positions environmental racism as a sub category of environmental justice issues that fall under Title VI of the Civil Rights Act. Environmental racism, or justice, or equity, or inequity as has been used, is an ambiguous term. One might wonder how we came to such a state of ambiguity. A brief look at the history of the environmental justice movement gives an indication of why this language came about.

EARLY HISTORY OF ENVIRONMENTAL JUSTICE MOVEMENT

As noted earlier, NEPA recognized the impact that industrial development has on the health of humans, animals and physical environment. And with that recognition, protests gained power. Some of the early protests that grew out of concern for nuclear waste or conservation went on to become lobbying activities. However, most were fragmented causes that soon lost

their ability to fight the well-financed public relations firms that sought to incorporate them into their good will campaigns. (Stauber and Rampton, 1995).

The incident at Love Canal, a community in upstate New York, however, contributed to the success of grassroots movements – the organization of local citizens most affected by practices or policies. Love Canal homeowners who had complained for years about health problems, discovered that their homes were built on top of a toxic waste landfill. In 1980, with the aid of Superfund, (the Hazardous Substance Superfund established by the federal government to provide funding to aid in cleaning up toxic dump sites) created under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Carter administration agreed to purchase the homes and relocate the residents of Love Canal. More than a toxic waste dumpsite, Love Canal became a rallying point and a warning for citizens everywhere.

Just as Americans everywhere were awakening to the need for protection from pollution, an ever-increasing conglomerate of widespread community-based organizations supported the environmental justice movement. The 1982 protest in Warren County, North Carolina, highlighted the plight of minorities, especially the Black community. Approximately 500 protestors, including the District of Colombia's delegate to the U.S. Congress, Walter Fauntroy, were arrested for protesting the location of a PCB plant in a predominately black community. The protest lead to two critical studies: 1) a 1983 General Accounting Office (GAO) analysis of communities near landfills and 2) a 1987 Commission for Racial Justice (CRJ) national study analyzing the demographics of communities that hosted hazardous waste facilities using the U.S. Environmental Protection Agency (EPA) database and census data. Both reports indicated that all of the communities were disproportionately poor, with below-poverty line populations, and predominately black. (Bullard, 1993).

The two studies revealed:

• Race was the most significant variable associated with the location of hazardous waste sites.

• The greatest numbers of commercial hazardous facilities were located in communities with the highest composition of racial and ethnic minorities.

• Although socioeconomic status was also an important variable in the location of these sites, race was the most significant even after controlling for urban and regional differences.

• Three out of every five Black and Hispanic Americans lived in communities with one or more toxic waste sites.

• While admitting that those communities suffer a disproportionate share of the burden, in 1992, the EPA had little data on the health effects of pollutants in those communities.

According to Bullard, many of the at-risk communities are victims of land-use decision making that mirrors the power arrangements of the dominant society. Historically, exclusionary zoning has been a subtle form of using government authority and power to foster and perpetuate discriminatory practices (USGAO Report). These studies led to the growing evidence that environmental racism was real; whether intentional or not, people of color and people in poverty were more likely to deal with higher doses of pollution.

IN LOUISIANA

Meanwhile, all was not well in Louisiana.

Business impacted minority and poor populations in communities like Reveilletown, a 100-year-old community near the Mississippi River. In the late 1960s, Georgia-Pacific Corporation purchased a 950-acre tract of land beside Reveilletown and along the banks of the Mississippi to build a chemical plant. For a while, the company was a good neighbor, sponsoring picnics and employing a few residents. However, the company's disregard for environmental safety turned the public's opinion. From 1981 to 1984, the plant paid fines in excess of $1 million for exceeding emission limits of vinyl chloride and dumping phenol into the Mississippi River. In 1987, the community of 106 filed a $1billion suit against the new owner, Georgia Gulf, for alleged health problems and property damages. In July of 1988, the case was settled out of court, keeping all details of the buy-out secret. Georgia Gulf relocated all the residents and bulldozed every building, including the church (Bowermaster, 1993; Leibman, 1992).

By then, however, another town, Norco, had been rocked by an explosion at a Shell Oil refinery costing the company $43 million in damages to nearby residents. And in Sunrise, LA, citizens sued the Placid Refining Company resulting in the entire community being bought out. Entire communities, cultural and family centers for generations, disappeared because a chemical plant located next to them.

When the Plaquemine Dow Chemical Plant discovered that the chemical waste it had routinely been burying on-site since 1958 was polluting the Plaquemine Aquifer, it bought out and moved the entire town of Morrisonville. The theory and practice, as presented by other plants along the river, was to buy them out before any liability was incurred. But the disruption destroyed more than the simple houses. Freed slaves founded Morrisonville in 1870. The culture, history, and community were lost forever (Bowermaster, 1993).

In years past, minority and poor rural communities, like the Alsen community in north Baton Rouge, had no clout to fight the plants locating near them. Biology Professor Florence Robinson points out, "when

you don't even get to go to school, or vote, how are you supposed to fight locating a plant that will provide jobs to a few?" According to Dr. Robinson, Alsen is now disproportionately surrounded by toxic waste, polluters and contaminated water. Professor Robinson is one who believes that the environmental movement is one of economic justice, because poor whites are also impacted (Business Report, 1993).

Louisiana's environmental policy began to emerge as events involving toxic waste received public attention. For example, in 1976, a teenager was overcome by fumes, collapsed and died while emptying a truckload of sludge into an open pit on his family's property. And Devil's Swamp, north of Baton Rouge, a once pristine swamp, teaming with wildlife, became a deadly toxic pit (now on the Superfund list) (Montague, 1988). Citizens began to realize that Louisiana was no longer "Sportsman's Paradise." But the most pivotal situation came not from an environmental incident but from a labor dispute and lockout at the BASF plant in Geismer, Louisiana. In 1988, the Oil Chemical and Atomic Workers International Union (OCAW) Local 4-620 erected a billboard on Interstate 10 asking "Is BASF Chemicals the Gateway to Cancer Alley? Residents and locked-out workers demand industrial accountability" (Schwab, 1994). The phrase "Cancer Alley" was picked up by national press and now describes the Mississippi River corridor from Baton Rouge to New Orleans that is dotted with more than 140 chemical and petroleum plants.

The impact of years of environmental inequality was highlighted in the Great Louisiana Toxic March in 1988. Environmentalists from around the country walked along the river from Baton Rouge to New Orleans, stopping at small communities along the way. Louisiana's larger environmental issue became associated with those small communities, mostly communities of low income.

ENVIRONMENTAL RACISM AND SHINTECH

When Shintech, Inc., announced plans to build a $700 million PVC plant in St. James Parish, many state and local governmental officials applauded the decision and invited them with open arms. Governor Mike Foster and St. James Parish President, Dale Hymel Jr., openly favored the plant (Foster; Hymel). Parish officials wrote a letter promoting the plant and promising high paying jobs to unemployed people in the area. (Ferstel, April 4).

Patricia Melancon, President of the St. James Citizens for Jobs and the Environment, opposed allowing another chemical plant that added to what she and others viewed as already well-documented pollution problems. Melancon, a housewife and mother of six, joined members of Louisiana Environmental Action Network (LEAN) and labor union members to protest the plant's permitting process. The EPA required Shintech to secure an Air Quality Permit from the state. When the LDEQ granted an initial air quality permit in spite of local protest, the activist groups joined forces in an appeal to the EPA requesting redress and sued in court under Title VI of the Civil Rights Act and the Executive Order 12898 (Brown, 1997). At the core of the debate was the community's dissatisfaction with the manner in which the initial permit hearing was carried out. Shintech proponents, many from out-of-state, had signed up to speak at the public hearing hours before the general public arrived. The proponents spoke without time limitations until after 11:00 p.m. When it became evident to the citizens that they were not going to be heard, they protested and disrupted the meeting. The officials relented and gave each side five minutes per person to speak, alternating between the two groups (McMahon, 1997).

The citizens against the plant felt that the permitting process had been flawed, citing the letters from parish officials inviting the plant into the community; campaign contributions from Shintech and the public relations firm to state officials, including the governor and a lack of public input (Melancon, 1997). They were granted a new hearing by appealing to the EPA, which has authority to oversee state permitting. In the meantime, the Tulane Environmental Law Clinic filed a suit against the EPA citing technical violations of Title V of the Clean Air Act and claims of environmental injustice. The plaintiffs cited the high number of minorities in the area, the already heavy load on the environment by other plants, and the low income in the area.

The implication was that if the environmental justice charges were found to be true, the plant would not be built. Under the Executive Order 12898, the EPA, as a federal agency, "shall ensure that the involved agency has fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects" (Memorandum).

EPA officials revoked the air permit on technical grounds, but left open the environmental justice claim (Brown, 1997). Shintech withdrew its proposed plant rather than continue the battle against the injustice charges and serious delays. The company announced it planned to locate a smaller facility in another town. While the plant was not rejected on environmental justice grounds, the EPA ruling had the same effect. The citizens of St. James who opposed the plant were able to use the environmental justice executive order and Title VI of the Civil Rights Law to stop the permitting process until their complaints could be heard. The effect was to stop the plant completely.

"The challenge for environmental justice advo-

cates is to move beyond laws that guarantee only procedural fairness, that contain no substantive protections other than a prohibition on intentional discrimination" (Fisher, 1995). Because the data show that inequities exist, permitting agencies must consider the impact in siting and permitting. An added impact is that activists and community organizations can now point to two victories in environmental advocacy and encourage others to continue to be on guard to protect themselves. Prior to Executive Order 12898, agencies, particularly the EPA, had not enforced the full meaning of the law, and even questioned if the Civil Rights Act applied to the EPA. The order, however, needed to be fully implemented in order to stand in court. In 1998, the EPA drafted guidelines and criteria for dealing with environmental justice. When read literally, the president's executive order leaves nothing for debate. For now, the EPA shall protect communities from a disproportionate burden of pollution exposure. While citizens are better armed now to bring suit against what they may feel is unjust siting of pollution, there has still been no verdict from the courts. Without firm guidelines or rulings the situation could easily change.

REFERENCES

Anderson, Bob, "Groups target DEQ on Shintech permits." *The Advocate*. (Baton Rouge, Louisiana), July 17, 1997.

Bowermaster, Jon. "A town called Morrisonville: in Louisiana's 'Cancer Alley' Dow Chemical and other companies are buying out neighboring communities." *Audubon*, July-August 1993, 42(10)

Brown, Carol, Letter to J. Dale Givens, Louisiana Department of Environmental Quality; September 10, 1997.

Bullard, Robert D., (1993) Anatomy of Environmental Racism and the Environmental Justice Movement, in *Confronting Environmental Racism: Voices From the Grassroots.*

Business Report (Baton Rouge, Louisiana), "Chemical Industry Continues to Expand, Baton Rouge,"March 4,1993, pB29.

Carson, Rachel. (1962) *Silent Spring*. Boston; Houghton Mifflin.

Commission for Racial Justice, 1987. Toxic Waste and Race in the United States: A National Report on the Racial and Socioeconomic Characteristics of Communities with Hazardous Waste Sites. New York, NY: Author.

Findley, Roger W., and Daniel A. Farber; (1996) Environmental Law in a Nut Shell, 4th ed. West Publishing Co., St. Paul.

Fisher, Michael. (1995) Environmental Racism Claims Brought Under Title VI of the Civil Rights Act, *Environmental Law*, vol. 24:285.

Foster, M.J., Jr., Letter to President Kanagawa. February 13, 1996.

Hymel, Dale, Jr. Letter to Shintech President Kanagawa, April 9, 1996.

Kebodeaux, Tara. (1998) Environmental Justice: Differing Shades of Grey. *Louisiana Environmental Lawyer*, Louisiana State Bar Association, Vol.4, No.2, Winter 1998

Lavelle, Marianne and Marcia Coyle. (1992). Unequal Protection: The Racial Divide in Environmental Law: A Special Investigation. *National Law Journal*, Sept.21, 1992, at S2.

Liebman, D., (1992) "Come Along on a Cancer Alley Tour." Friends of the Earth, Vol 22, No. 9.

Lockwood, George. (1967). The Ugly Story of Pollution. *Quill*, July.

Mank, Bradford C., (1999) Environmental Justice and Title VI: Making Recipient Agencies Justify Their Siting Decisions. *Tulane Law Review*, 73 Tul. L. Rev787.

McMahon, Bill. "Bill ensures residents have a say." *The Advocate.* (Baton Rouge, Louisiana), April15, 1997.

Melancon, Patrica. Letter to USEPA. February 20, 1997.

Memorandum for the Heads of All Departments and Agencies, Executive Order 12898, The Whitehouse, Washington, February 13, 1994.

Montague, Peter. (1988). "ACall To Action: The Great Louisiana Toxics March." *Rachel's Hazardous Waste News*: 100, 2.

Schwab, Jim. (1994). *Deeper Shades of Green: The Rise of Blue-Collar and Minority Environmentalism in America*. San Francisco: Sierra Club Books.

Stauber, John, and Sheldon Rampton; 1995. *Toxic Sludge Is Good for You: Lies,Damn Lies and the Public Relations Industry*. LMonroe, Maine, Common Courage Press.

U.S. General Accounting Office, Siting of Hazardous Waste Landfills and their Correlation with Racial and Economic Status of Surrounding Communities (1983)

LUCEC
Miscellaneous Publications (1), 2002

Environmental Justice

Loretta Persohn Brehm[1]
250 Louisiana Street
Westwego, Louisiana 70094

Environmental justice occurs when natural resources are respected and used wisely by people that have consideration for each other (and don't get greedy).

Having lived all of my life in a community where people have lived off of the land (or water), I have seen the environment go from balanced to off balance in some areas. As a child, I saw people appreciate what they derived from nature. The Company Canal which connected the Mississippi River to the Gulf of Mexico (by way of Bayou Segnette and Lake Catouache) ran right in front of my front door. Whenever you wanted fish, you would just go out on your little wharf (just about every family had one) and drop your line. If you wanted crabs, you'd just pull up your keeper. Shrimp and oysters from the Gulf were unloaded from the commercial trawl boats and luggers. This seafood was the actual daily food on the table for many of the families in the area as a means of survival. Other fishermen brought in extra seafood which they brought through the canal to the river and on to the French Market, where they sold it for financial gain. In the early years, there was no need for governmental dates for the shrimp seasons. The fishermen themselves would go out when they thought the shrimp would be the appropriate size and make a drag. If the shrimp in the trawl were of a good size, they'd start the season; if the count was too small, they'd come back in, wait a sufficient amount of time, then go back out and begin the season when the shrimp had a chance to get bigger. The same was true with crabs. No one would ever think of catching crabs when the females were loaded with eggs. Others in the community experienced the same with hunting or fishing in the woods or on the marsh. People realized that they depended on nature. They respected it and appreciated what it provided.

As time went on, some people lost sight of how good things were. If what they had made things good, then surely more would make things better seemed to be their idea. Bigger boats, longer seasons, automated/mechanized equipment, out of area competition, and out of state exporting came about. The respect of people for each other and the appreciation of what nature provided diminished while very noticeably financial gain was realized. This newly found economic success coincided with the demise or abuse of these natural resources.

So much seafood was being brought in that at one point the Company Canal (just a little over a mile long) had nine processing plants going night and day. The waste from these processing factories was dumped right back into the canal. So much was dumped that it overloaded the canal's natural ability to cleanse itself with the water running through it. The water became really gross. No longer could kids swim in it; crabs and fish were no longer there. Much of the time (particularly in the summer months) the hot, humid air was filled with the very putrid odor of rotting seafood. Keep in mind most people cooled their homes with open windows and huge window fans. Just when most people thought things could not get any worse, they did. The state highway department announced plans to build "a new, four-lane super highway." This was later to be known as the Westbank Expressway. They deemed it too costly to cross the canal with a bridge so plans were made to purchase the land and fill it in. Since the canal was man-made, the courts allowed this to happen. No longer was there a place for boats to tie-up. All but one of the factories was forced to shut down. All of the vegetable gardens that grew in the fertile canal bank levees were pushed in to help fill the canal. The stately, scenic cypress draped with Spanish moss also fell victim to the

[1] Fellow, Institute of Environmental Communications, 1999

bulldozers of progress. Livestock that had used the canal banks as their pasture had to be either sold or butchered.

The newly filled-in canal provided a prime strip of real estate in our little city (1 square mile). The scarcity of available property, and the need of space for new buildings, business, and industry, and the strong desire of some elected officials to reap more and new taxes created problems which changed (for the worse) the lives of the people residing on either side of the canal. These life-altering changes still exist today and continue to worsen. The one lane dirt road that paralleled the canal bank became black-topped, then widened into our front yards, then dug up again and concreted into LA 18. This provided access for constant, heavy truck traffic as well as a runway for speeders. Non-existant city zoning allowed a small produce company to develop into a 24-hour, heavy industrial operation with 18-wheelers coming and going all hours of the day and night. The late night rumbling and vibrations of 18-wheeler engines, squeaking of air brakes trying to maneuver into a confined area, and the constant, heavy emissions of diesel fumes into the heavy night air have drastically diminished the quality of life for residents living in the area on both sides of the former canal banks. For the convenience of this company, a huge, unprotected, above-ground unleaded and diesel gas fuel tank was recently placed there along with a huge metal building for repairing the machinery of these big produce trucks. Neighbors can't sleep because of the noise. Every household has at least two members now suffering from respiratory problems. The residents live in constant fear of the fuel tanks rupturing or exploding. Where once stood the stately cypress, now stands an enormous cell tower.

All of this did not have to be. What was once "God's Country" is now "Man's Mess." Had people prioritized respect for one another and nature, not been so greedy, and used foresight in planning, they could still have had what they wanted without ruining things for other people. The state could have built a bridge (as later was done over Bayou Segnette on Lapalco Boulevard). The produce company could have located on property that they already owned where they used to truck farm. It is in a rural location next to Entergy's 9 Mile Point Plant and the Continental Grain Elevator where they'd have more land to expand their operations. They could drive only about 9/10 of a mile to the Fuel Man Depot to fill their trucks with the same gas (costing the same price). They could have had all they desired and even more without robbing the quality of life from others.

When the balance of nature and human respect for one another is upset, problems arise. For this to have happened right before my eyes during my life span in this one little spot on our earth makes it quite easy for me to comprehend what has been happening all over the earth to a much larger and wide-spread degree.

I respectfully submit my personal observations of this location over the past 45 years as a basis for my simplistic definition of what environmental justice means to me.

Miscellaneous Publications (1), 2002

Sustainable Development, Environmental Justice and ISO 14001: A Catholic Pespective

Eileen E. Hollander[1]
Advanced Waste Management Services, Inc.
5436 South Claiborne Avenue
New Orleans, Louisiana 70125
hollander@awm.net

Pope John Paul II, in his statement *The Ecological Crisis: A Common Responsibility,* wrote:

> Today the ecological crisis has assumed such proportions as to be the responsibility of everyone… [I]ts various aspects demonstrate the need for concerted efforts aimed at establishing the duties and obligations that belong to individuals, people, States and the international community.

The Roman Catholic Church has, as one of its primary functions, the educative role of helping believers and other people of good will form their consciences so that they can see environmental issues as having moral content. A critical aspect of this conscience development is forming and practicing the virtue of "solidarity," "a firm and preserving determination to commit oneself to the common good," that can serve as the foundation for our response to environmental issues. The conscience formation is not limited to individuals but must be developed and practiced by communities and industries, including relations between highly industrialized and developing nations.

The following reflections emphasize that sustainable development and environmental justice transcend borders, races, and cultures. The entire environmental concern should be dealt with from a global perspective within the context of "sustainable development" – the goal of fostering economic and social development for current and future generations without harming the environment.

As the U.S. bishops pointed out in their 1991 statement, *Renewing the Earth*, "[A]t its core, the environmental crisis is a moral challenge. It calls us to examine how we use and share the goods of the earth, what we pass on to future generations, and how we live in harmony with God's creation." "[O]nly with equitable sustainable development can poor nations curb continuing environmental degradation and avoid the destructive effects of the kind of overdevelopment (in the richer nations) that has used natural resources irresponsibly."

We in the industrial nations are the key to making sustainable development a reality. The consumption of resources brings benefits but is often wasteful. As U.S. citizens, we make consumer choices that influence the prospects of sustainable development throughout the world. Our lifestyle matters. There is a connection between materialistic and individualistic lifestyles and the destruction of the environment. For example, when we purchase a car, we not only consume nonrenewable resources such as crude oil and metals, but we also degrade air quality. Product-life-cycle accounting captures the full cost (including environmental costs) of our purchase decision and of production.

When we purchase recycled or recyclable goods, the market for these products increases. When we choose not to use plastic or paper bags and cups, we reduce the demand for those products and occasionally prevent the commercial logging of forests. When we purchase non-toxic cleaning products and environmentally friendly pesticides, we help ensure safer water worldwide. When we choose to reuse and recycle as an alternative to purchasing new products, we act responsibly.

In contrast to the richer nations, about half of the world's poorest people live in marginal or ecologically fragile areas where land is least productive. Over twenty-five million environmental refugees aimlessly roam the planet. The Sub-Sahara hosts approximately half of this population. For most of these people, the immedi-

[1] Fellow, Institute of Environmental Communications, 1999

ate environment is their resource base and their source of livelihood. Often, they are forced to exploit scarce natural resources or pollute the environment because they are struggling just to stay alive.

Weak land reform policies or inequitable distribution of land often push poor farmers to marginal lands, such as steep hillsides. Lacking alternatives, poor Haitian families often over-farm the hillsides until the soil is depleted and the hillside is eroded, then move on to another steep hillside. Their inability to access better land fuels the cycle of environmental degradation and increased economic insecurity.

Man-made environmental degradation and resource depletion remove the natural buffers (forests or wetlands) against catastrophic forces of nature. Environmental losses from landslides, hurricanes, subsidence and floods are amplified locally and internationally. Oil/gas production and overpopulation/urban flight contribute to wetland loss in Louisiana. Excess fertilizers applied by the United States'Midwest farmers causes the hypoxic dead zone in the Gulf of Mexico.

Sustainable development suggests that problems are best identified and addressed through the active involvement of locally affected communities. For example, about twenty years ago, the Indian village of Kesharpur was completely deforested. Springs had dried up; gullies formed where monsoon rains fell; fertile topsoil was rapidly disappearing; and the village grew increasingly short of fuel-wood, fodder and water. The village acknowledged the problem and, with the help of local non-governmental organizations, established a tree nursery, banned goats from grazing in the most degraded areas, and persuaded local authorities to stop commercial logging. Today, Kesharpur has dense trees again, the springs have returned and grazing is closely managed. The result is better preservation of these resources and improved livelihoods for the villagers.

Honduran farming communities implemented low-cost, effective agricultural practices and eliminated expensive, harmful pesticides. They gained safe working conditions, enriched land, and increased profits through high priced organically grown produce.

Questions of land tenure and the rights of indigenous peoples have often been posed as being in conflict with environmental concerns. The immense Amazon rain forest, the lungs of the entire planet, is under relentless attack. This is the dramatic battle in which Chico Mendes gave his life in 1988: the struggle to save endangered nature and protect the rights and dignity of every human being, especially the most vulnerable and needy. Chico's first concern was for social-environmental justice, but he came to see that human rights, indeed the very survival of the rubber tappers, was tied to the preservation of the rainforests.

While important, personal lifestyle changes in the richer nations and community development projects in the developing nations cannot by themselves create long-term sustainable economic development. The global economy and poverty operate at many levels, from the international marketplace to the village. International economic forces often can benefit the rich while undermining the poor through low commodity prices, crushing external debt burdens, volatile capital markets, and misallocated aid. Things that contribute to poverty at the local level include unequal rights to land and productive resources, inadequate provision of health care and education, and the inability of the poorest people to influence decisions affecting their lives. Corrupt or unaccountable governments can misuse public funds or marginalize the poor in the name of economic progress.

Despite the number of variables influencing sustainable development, local, national, and international policies that are targeted toward the poor can often make a large difference in their lives. Governments decide overall budget priorities, social welfare, tax structures, natural resource policies, and land reform, and can encourage growth in the poorest sectors. When human rights are fully respected and the poor participate in decision making for their own future, possibilities for real sustainable development and social justice arise.

Through the political process, we can support sustainable development when our elected officials vote on types and priorities of assistance. By expressing our concern for development and the environment, we can directly influence funding for development assistance, research, and greening education.

In addition to aid, governments promote intergovernmental and corporate responsibility through international treaties and legislation. While the United States has ratified the treaty guaranteeing civil and political rights, it has not extended guarantees to cover economic and social rights. Pope John Paul II has gone further and called for including a "right to a safe environment" in the United Nations Human Rights Charter. The right to a safe environment is the essence of "environmental justice."

While every nation is a distinct and separate authority with its own standards of living, pollution knows no boundaries. In protecting the environment for future generations all over the world, there needs to be a common thread for pollution control. The tie may be found in ISO 14001.

In 1996, the ISO 14000 series of standards was created by the International Organization for Standardization (ISO), a Geneva-based worldwide federation of more than 110 country members (the American National Standards Institute represents the United States' one vote). ISO 14000 is the world's first series of internationally accepted standards for environmental management. Where levels of environmental management vary greatly from country to country, ISO 14000 attempts to provide one lan-

guage for environmental management that everyone can speak and understand.

As an international standard series, ISO 14000 is playing a vital role in encouraging governments and industries to think and act strategically – beyond national borders. The standard represents a coordinated, compatible approach to pollution control – one that can be applied to any organization, from any industry, anywhere in the world.

ISO 14000 does not promote command-and-control tactics. It is a voluntary series of standards that can coexist with the laws and regulations of individual countries and that organizations can elect to adopt for its inherent benefits:

• Improved environmental regulatory compliance
• Reduction in potential liabilities
• Improved community relations
• Identified opportunities for waste reduction, disposal cost savings and continual improvement
• Heightened environmental awareness and communications among employees
• Reliable management process
• Improved competitive edge in the global marketplace

Though some governments are choosing to adopt ISO 14000 as part of their environmental regulatory schemes, the standards are largely seen as a private sector effort. Businesses are recognizing all of the advantages that can be gained from implementing an environmental management system, and it is this widespread interest among the corporate community that is causing a chain reaction in the private marketplace, driving worldwide acceptance of the environmental management system standards. Profitability can be increased through improved and integrated environmental performance. ISO 14000 links continuing economic-development, improvement and environmental stewardship.

Thousands of companies, as well as the regulatory community, are turning to ISO 14000 as a means of shifting their resources away from prescriptive compliance requirements toward more cost-effective, pollution prevention measures. ISO 14000 helps organizations achieve this desirable state by providing the framework for the companies to establish an over all sense of direction in obtaining improved environmental performance, while integrating environmental considerations into all business decisions. The end product is sustainable development a balance of economic growth with environmental protection.

Increased profits accrue through conforming to ISO 14001. Aaron Oil Company, Inc. identified a new product line and reduced insurance premiums. Niagara Mohawk (NiMo) Investment Recovery avoided waste disposal costs and made money from sales of recovered materials. Mentally and physically impaired members of NiMo's community recycle materials from the utility business. Recovered materials are sold to the public and to developing nations. Purchasers receive a high-grade product at an affordable price. Aaron Oil and NiMo increased profitability through aggressive recycling. They are optimizing profits through eco-efficiency (a business strategy that endeavors to deliver more value per unit resource) and strategic repositioning (giving more value to the customer).

Sustainable development means sustainable enterprise. It means living on the earth's income rather than on its capital. Business must operate in harmony with nature. ISO 14000 forces systemic analysis and upstream problem solving rather than linear thinking. Firms engage in sustainable development and environmental justice voluntarily as part of the new competitive reality.

When industries employ synergism and consider human and ecological effects, they maximize profits and minimize negative environmental impacts. Industrial ecology integrates human endeavors into efficient, synergistic systems. Companies that gain efficiency through synergy are vaulted into leadership positions. Excess steam from one process heats surrounding businesses. Chemical byproducts from one business are raw materials for another. Consumption of virgin materials is reduced, and the savings provide a competitive advantage to participants.

All these measures – lifestyle changes, community development, official aid, codes of conduct, treaties, ISO 14000 and industrial ecology – are practical ways we can support sustainable development and environmental justice. Our approach to business and the environment must be holistic. Systems thinking rather than linear thinking crosslinks industrial, municipal, and social fabric. It fosters free-market planning, and provides equitable transgenerational (present and future populations) opportunities.

The universal common good can serve as a foundation for a global environmental ethic. For humankind to realize its true destiny, we must overcome the development model generated by modernity, overcoming exaggerated anthropocentrism and struggle for the integrity of creation, recognizing the importance of every being. One person's misuse of nature results to the detriment of humankind.

In 1979, Pope John Paul II proclaimed St. Francis of Assisi the patron of those who promote ecology. He said that St. Francis "offers Christians an example of genuine and deep respect for the integrity of creation… May he remind us of our serious obligation to respect and watch over [creation] with care…"

REFERENCES

Let the Earth Bless the Lord: God's Creation and Our Responsibility A Catholic Approach to the Environment, 1996, United States Catholic Conference, Inc., Washington, D.C.

LUCEC
Miscellaneous Publications (1), 2002

Building Common Ground: Business, Labor, and the Environment in Louisiana

[1]Ernie Niemi and [2]Paul Templet

[1,2]People First; Developing Sustainable Communities
Department of Environmental Studies
Louisiana State University
Baton Rouge, Louisiana 70803
[1]niemi@eugene.econw.com, [2]ptemple@lsu.edu

WHAT ARE ITS MAJOR MESSAGES?

Louisiana's economy is broken, and the state's current economic policies won't fix it. For more than a decade, the state has consistently grown more slowly than the rest of the U.S. This means lower profits for most business owners, fewer job opportunities for most workers, and a deteriorating environment for everyone. The downturn in the oil and gas industry often is blamed for the state's economic woes, but a study recently published by the U.S. Deptartment of Labor shows otherwise. Between 1982 and 1995 Louisiana gained 250,000 fewer jobs than it would have if it had grown at the national pace. Only 20,000 were attributed to oil and gas. *Louisiana "lost" the other 230,000 jobs because industries other than oil and gas underperformed relative to competitors in other states.*

The main pillars of Louisiana's economic policies are to cut taxes and relieve large businesses of environmental burdens. The logic here is that, by lowering taxes and environmental costs, families and businesses will have more to spend on stimulating private sector growth. The strategy is not working. Despite having the 4th lowest per capita taxes among the states, giving more than $350 million in tax concessions to big industries per year, and producing an environmental record that is among the worst, jobs and incomes persistently lag behind states with the reverse of these policies.

Louisiana's economic problems have persisted for so long that one must conclude the state's economic policies are part of the problem, not part of the solution. Reducing per capita taxes even further, from 4th lowest to the absolute lowest, will not create higher profits or more jobs, neither will giving more tax concessions to large industries, or allowing them to cause greater environmental havoc. If Louisiana continues with these policies, the state's economy will continue to lag, most businesses here will earn lower profits, and most Louisianian workers will have fewer job opportunities than their counterparts elsewhere.

Building common ground among business, labor, and the environment can begin by recognizing that there are two types of taxes. One is the familiar one: state and local governments directly take money from businesses and families through taxes on property, sales and receipts, income, and other variables. We call these *frontdoor* taxes. The other is less familiar, but no less powerful in taking money from businesses and families. We call these *backdoor* taxes. Businesses and families pay a *backdoor* tax when:

- They incur extra costs for cleaning and health care because state and local governments allow high pollution levels.
- They pay extra for energy because state officials have lowered energy prices for large industries and raised them for small businesses and families.
- They experience greater risk of catastrophe because state officials have allowed oil and gas operators to destroy coastal wetlands, decreasing the protection the wetlands afford coastal communities and infrastructure from major storms and saltwater intrusion.
- They bear the burden of lower public services when they have to pick up the tab after state officials give large direct-tax concessions to heavy industries.

For frontdoor taxes, Louisianians pay $615 less, per capita, than the U.S. average. For backdoor taxes, however, they pay at least $1,400 more than the U.S. average. *In other words, although Louisiana has earned*

its reputation for being a low-tax state, when one con - siders total taxes the situation is reversed: Louisiana is a high-tax state.

This analysis identifies the common ground for most business owners, workers, and resource conservationists in Louisiana. They have common goals: creating more jobs, generating higher incomes, and increasing environmental quality. They have a common interest in reversing the state's current economic policies, which have not accomplished these goals in the past and cannot accomplish them in the future.

By recognizing this common ground, business, labor and resource conservationists in Louisiana can move to the next steps: developing a common voice in support of alternative policies for reducing the state's extreme levels of environment-related, backdoor taxation.

WHO PREPARED IT?

This presentation was prepared by Ernie Niemi, an economist with ECONorthwest, an economic consulting firm in Eugene, Oregon, and Paul Templet, Professor of Environmental Studies at Louisiana State University. The report was prepared with support from the Ford Foundation. The authors are solely responsible for its content.

WHAT SHOULD YOU DO IF YOU WANT ADDITIONALINFORMATION?

For further information on this presentation, please contact Paul Templet, Project Coordinator. Phone: (504) 388-6428. FAX: (504) 388-4286. E-mail: ptemple@lsu.edu.

All Louisianians support the goals of having more job opportunities, higher incomes, and a healthier environment. Many Louisianians, though, believe the state must choose between a strong economy and a healthy environment; it can't have both. Because of this belief, business owners and workers often find themselves opposing the proposals of resource conservationists, and vice versa. There is no common ground.

We propose a way for Louisiana's business, labor, and resource-conservation communities to find common ground. We recap what many Louisianians already know: the state currently has neither a strong economy nor a healthy environment. We then summarize evidence showing how actions to promote a healthy environment can stimulate growth in jobs and incomes. We conclude with a set of economic and environmental policies that serve the *common* interests of business owners, workers, and resource conservationists.

Concern that resource conservation will adversely affect the economy generally comes from the perception that society faces a choice between jobs and a high-quality environment: one can have one or the other, but not both. Such characterizations are almost always incorrect. In most cases, the economic issue is jobs versus jobs, not jobs versus the environment. There will be one set of jobs, firms, and land uses, associated with a decision to conserve environmental resources, and another set without the decision. Nonetheless, the jobs-versus-environment characterization has persistent currency in the public's mind and the political dialogue regarding environmental protection.

Many Americans often believe the number of jobs lost because of environmental protection is high. Several studies, however, indicate the number is smaller — much smaller — than conventional wisdom purports:

• The number of workers losing their jobs through mass layoffs due to environmental protection is only about 0.1 percent of the total number of layoffs each year.[1]

People First; Developing Sustainable Communities is a cooperative effort of individuals and groups in Louisiana seeking to promote the joint goals of prosperous communities and a healthy environment.
For further information on People First; Developing Sustainable Communities please contact:
Paul Templet, Project Coordinator. Phone: (504) 388-6428. Fax: (504) 388-4286. Internet: ptemple@lsu.edu.

Themes

- Lack of Common Ground Hurts Almost Everyone
- A Theme that Resonates with Business and Labor: Lower Taxes
- Louisiana is a High "Tax" State
- Common Ground: Lower "Taxes" on the Environment

The Current Lack of Common Ground

Common Goals:
Jobs, Incomes, *and* Environment

but

Prevailing Wisdom:
Jobs, Incomes, *vs.* Environment

[1] Goodstein, E. 1995 "Jobs or the Environment? No Trade-Off." Challenge. Jan/Feb: 41-45.

• Comparisons of states'employment growth and environmental-protection efforts have found that states with the tightest controls on environmental degradation generally have the greatest job growth.[2]

• A recent analysis of job growth in the nonmetropolitan counties north of Texas and between the Mississippi River and the Rocky Mountains found that those with recognizable environmental amenities were growing, while those with the highest concentrations of resource-extractive industries (agriculture, mining, timber) were not.[3]

There are two primary ways in which resource-conservation efforts can lead to increases in jobs, incomes, and standards of living. One is by reducing the economic burden that environmental degradation imposes on workers, households, and firms. The other is by enhancing the local quality of life.

Historically, natural resources generated economic benefits only when they were extracted and converted into money through mining, fishing, logging, farming, and other commercial activities, or when they were developed into urban uses. In their conventional form, these activities have generated widespread pollution and disrupted the composition and function of ecosystems. These adverse environmental impacts were seen as the unavoidable consequences of economic development, for there was no other way to use natural resources to generate jobs and incomes.

But things have changed. Now, many interests are competing for natural resources and the economy can derive substantial benefits, not just from extractive and development activities that degrade the environment, but also from activities that protect and enhance the environment. It is this diversity of ways in which the economy interacts with the environment that offers the opportunity for leaders in business, labor, and resource conservation to find mutual interests.

If nothing else, those in the business, labor, and resource-conservation communities should agree on this: Louisiana's economy is in trouble, and so is its environment. For more than a decade, employment has grown less than half as fast as elsewhere in the country, and incomes are far below national levels.[4] The environmental problems are legion: Toxic emissions are among the highest in the U.S., and Louisiana is rapidly losing precious natural habitat, including its coastal

Without Common Ground

Louisianans Lose, Lose, Lose:

- **Jobs**
  - -Employment Growth 1983-95 Louisiana = 45% of U.S. Avg.
- **Incomes**
  - - Median Household Income: Louisiana ≈ 80% of US. Avg.
- **Environment**
  - -High Toxic Emissions
  - -Large Habitat Losses

LA Has Systemic Economic Problems

Employment Growth, 1983-95:

- **LA= 45% of U.S. Avg.**
- **250,000 "Missing Jobs"**
  - -20,000 = Concentration of Declining Industries (Mining)
  - -230,000 = Other Industries Underperformed Relative to Competitors in Other States

Deming (1996)

[2] Meyer, S.M. (1993). Environmentalism and Economic Prosperity: An Update. Department of Political Science, Massachusetts Institute of Technology. February. Meyer, S.M. 1992. Environmentalism and Prosperity: Testing the Environmental Impact Hypothesis. Project on Environmental Politics and Policy. Massachusetts Institute of Technology. October.

[3] Drabenstott, M. and T.R. Smith. (1996). The Changing Economy of the Rural Heartland. In: Economic Forces Shaping the Rural Heartland. Federal Reserve Bank of Kansas City. 1-11.

[4] Deming, W.G. (1996). "ADecade of Economic Change and Population Shifts in U.S. Regions." Monthly Labor Review November: 3-14. U.S. Bureau of the Census. 1997. Statistical Abstract of the United States: 1996. 465.

[5] "In 1992 (the most recent year for which data is available), Louisiana's major industries emitted over 89 million pounds of toxic chemicals into the state's air, or about 25 pounds of toxics for every man, woman, and child in the state. These figures place Louisiana in the unfortunate position of being the fourth largest emitter of toxic air pollutants in the nation, and possibly the largest when the amount of toxic air pollution emitted per person is measured." The Tulane Environmental Law Clinic. 1994. "Air Pollution in Louisiana" in Clipp, A. ed. The Louisiana Legislative Briefing Book: 1994: The Environment. June. 25-29.

[6] Scientists recently concluded that, since 1930, Louisiana has lost about 1 million acres (more than 1,500 square miles) of coastal wetlands. Much, if not most, of the loss is caused by human activities: draining wetlands, dredging them, and building canals through them account for 30-59 percent of the total wetland loss between 1955 and 1978. In addition, the withdrawal of oil and gas can induce subsidence and encourage saltwater intrusion into, and destruction of, wetlands. Boesch, D.F., M.N. Josselyn, A.J. Mehta, J.T. Morris, W.K. Nuttle, C.A. Simenstad, and D.J.P. Swift. 1994. Scientific Assessment of Coastal Wetland Loss, Restoration and Management in Louisiana. Vol. Special Issue No. 20. Journal of Coastal Research.

The Logic of LA's Current Policies

To Attract Investment and Business, Louisiana Must Give-Up Assets:

- Taxes (Public Services)
- Environmental Quality

Louisiana's Low-Tax Strategy

1997 State/Local Taxes as Percentage of Income:

Louisiana: 9.8%

U.S. Avg.: 11.8%

Tax Foundation (1997)

Louisiana's High Tax Concessions

- > $350 million per year
- Mostly to Firms in Slow-Growth Industries

Louisiana Coalition for Tax Justice (1996)

wetlands.[6]

Louisiana's approach to economic development has its roots in past decades, when the leading edge of the nation's economy was characterized by heavy manufacturing, and the state could not readily attract investment capital from New York and other capital centers without providing tax concessions and other enticements, such as lax regulations on the use of natural resources. Louisiana also places additional emphasis on minimizing overall tax levels, reasoning that low taxation leaves more money in the hands of businesses and families, whose use of the money will stimulate private-sector growth.

Overall state and local taxes per capita, estimated to be $1,685 in 1997, exceeded those of only 3 states.[7] As a percent of personal income, Louisiana's taxes are lower than all but 9 other states.

Louisiana has a long history of providing large tax exemptions and regulatory relief to firms in the heavy industries, especially the oil and gas and petrochemical industries. The prevailing rationale for these actions is that, but for these concessions, these industries would abandon the state, leaving Louisianians with few jobs and dim economic prospects.

The most visible concession is the Ten Year Industrial Property Tax Exemption program.[8] Originating with an amendment to the state constitution in the 1930s, it grants firms promising to make job-creating investments in the state an exemption from ad valorem property taxes for five years, renewable for another five years. The focus of the program is simple – job creation in the recipient firms – but there is no mechanism to ensure that the recipients come through with their end of the bargain.

The program recognizes that, but for the promise to generate jobs, each recipient firm would have an obligation to pay the taxes and each firm continues to receive public services as it would in the absence of the tax exemption. Other Louisianians pick up the tab. They have two choices: Either they pay extra in taxes to replace what otherwise would have been paid by the tax-concession recipients, or, when full replacement does not occur, they forgo the benefits of schools, roads, police, and other public services that must be curtailed to cope with the reduction in tax receipts from the tax-exempt firms.

The same is true of other programs that allow firms in the oil and gas, petrochemical, and other industries to escape their tax obligations in return for assertions that, without them, the state's economy would wither. Prominent among these is a program that gives tax rebates and credits to firms that locate in so-called enterprise zones. By one estimate, this tax break is worth about $30 million per year.[9] Another is a program created by the 1994 legislature that gives tax relief for strip wells in times of low oil prices, encourages new deep wells, horizontal well drilling, new developmental wells and the re-entry of previously abandoned wells.[10] These subsidies shelter the oil and gas industry from market fluctuations in price and artificially lower the cost of exploration.

Over the years, the ten-year exemption program has grown, and, according to Nauth (1992), it cost the

7 Tax Foundation. (1997). Facts & Figures on Government Finance: 31st Edition. Washington, D.C. 151-52.

8 Louisiana Coalition for Tax Justice. (1996). 1995 People's Report on the 10-Year Industrial Property Tax Exemption Program: A System of Checks and No Balances. Baton Rouge.

9 Nauth, Z. (1992). The Great Louisiana Tax Giveaway. Louisiana Coalition for Tax Justice.

10 Louisiana Mid Continent Oil and Gas Association. (1994). Louisiana Oil and Gas Facts. November.

citizens of Louisiana more than $3 billion total, or $300 million (1994 dollars) per year during the 1980s. The oil and gas and petrochemical industries accounted for about 44 percent of these amounts, or about $130 million per year. The study concludes that many exemptions result in the creation of *zero* permanent jobs and that the cost to citizens per permanent job in the chemical industry was more than $64,000 and the comparable cost in the oil refining industry exceeded $89,000 per job.[11] The more recent analysis by the Louisiana Coalition for Tax Justice (1996) found that the tax-exemption program has continued to grow and now deprives local governments of more than $350 million each year.

The primary burden of the tax-exemption programs falls on public schools, insofar as schools rely more heavily than other levels of government on the property tax as a source of revenues. Extensive evidence indicates that declines in schools' revenues correlate with lower student performance and even more evidence shows that groups and communities with less education and lower skills experience lower earnings.[12] About 36 percent of the exemptions directly affect education and, in 1995, directly cost school programs $169 million. Louisiana is the state that allows tax exemptions affecting school revenues (Louisiana Coalition for Tax Justice, 1996).

Heavy industries also benefit, at the expense of others, whenever they avoid the costs of cleaning up the mess associated with their hazardous wastes. By 1989, Louisiana had identified more than 500 potentially hazardous waste sites.[13] Many of these sites were created in the past, when there were fewer laws governing the use and disposal of hazardous materials, but others are more recent. The state has estimated that at least 100 sites would require remedial action to protect human health and the environment. Of the inactive and abandoned sites that potentially are hazardous, about 25 percent contain oil wastes and another 17 percent are old chemical or fertilizer plants. In 1989, the state estimated that the cost of assessing and cleaning up hazardous sites would exceed $1 billion. Funding will come from federal and state Superfund monies, from those parties that are deemed liable for the costs, and from the state itself. We have not estimated the portion of the costs that will ultimately be paid by state and taxpayers, but it is undoubtedly large.

The major recipients of the tax concessions, the oil and gas and petrochemical industries, employ 100,000 workers, or about 5 percent of total employment in the state. Except for occasional blips, neither has been a major source of *new* jobs for three decades. Employment in the oil- and gas-extraction industry, as a share of total statewide employment, stayed steady at less than 4 percent during most of the 1970s, then rose during the so-called energy crises of the 1970s before dropping sharply. The petrochemical industry's share of total statewide employment has been stagnant throughout the 1970s, 1980s, and 1990s. Thus, although they are big industries in most respects, they cannot reasonably be considered a likely source of growth in the state's economy.

When state officials use scarce public resources to promote slow-growing industries, those resources are no longer available to promote other industries with the potential to grow more rapidly. Such actions inevitably leave firms in fast-growing industries to be less productive in Louisiana than in states taking the reverse approach.

Is it possible that the state's economic and environmental problems are linked? We believe they are. In the following pages we present evidence substantiating this conclusion. If we are correct, then it will behoove business owners, workers, and resource conservationists to recognize their common ground, join hands, and work together to solve these problems.

Finding a common ground that serves the interests of most businesses, workers, and resource-conservationists throughout Louisiana requires looking beyond the old economic paradigms. A new focus is required. This focus must take a modern view of how economic growth occurs and of how state policies can influence it. We recommend that leaders from the business, labor,

Summary: Without Common Ground

- Business Owners Will See Lower Sales and Profits
- Workers Will See Fewer Jobs and Lower Inocmes
- All Louisianians Will See the Environment Deteriorate
- Louisiana Will Continue a ailing Economic Strategy

[11] According to the Louisiana Department of Economic Development, only 10 percent of corporate tax breaks have resulted in permanent job creation. Note that the average tax concession per job in these industries far exceeds the per capita income in Louisiana, which is about $22,000.

[12] Figlio, D.N. (1996). Did the 'Tax Revolt' Reduce School Performance? University of Oregon, Dept. of Economics. Working Paper. Bound, J. and G. Johnson. 1992. "Changes in the Structure of Wages in the 1980's: An Evaluation of Alternative Explanations." The American Economic Review 82 (3): 371-392.

[13] Louisiana Department of Environmental Quality. 1989. Inactive and Abandoned Hazardous Waste Sites in Louisiana.

A Common-Ground Focus (Part 1)

Maximize:

1st Paycheck
+ 2nd Paycheck
= Total Well-being

and resource-conservation communities search for common ground taking a broad view of total economic welfare. Later we extend this broader view to reexamine the role of tax policies in promoting economic-well-being.

Economists long have recognized that economic well-being is more than just monetary income. The quality of life available to a state's residents can have significant impacts on the state's economy by influencing the locational decisions of workers, households, and firms who desire a healthy, enjoyable place to live, work, and do business. The quality of life available in a community, state, or region is determined by the existence of location-specific amenities. There are many types of amenities: social, cultural, and environmental. When amenities are concentrated in one place, then the nearer people live to the site the better their access and ability to take advantage of them. The benefits consumers realize from these amenities, minus the cost (if any) of accessing them, leaves the consumers with a surplus value.

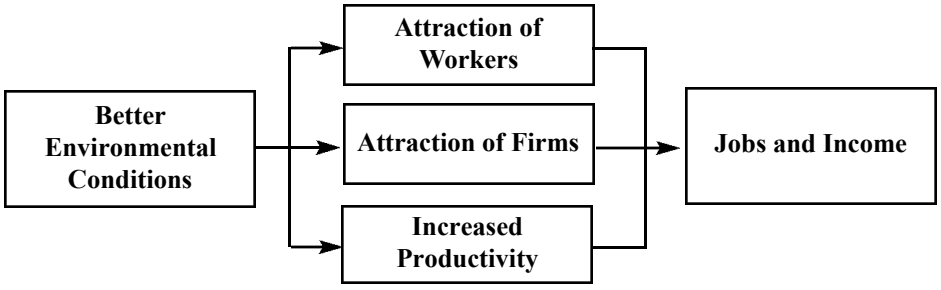
This surplus value has been likened to a "second paycheck" that residents receive from living in a place where they have easy access to amenities, so that the total economic welfare of local residents is the sum of this "second paycheck" plus the purchasing power of their money income. As people decide whether to stay in one place or move to another, they seek to maximize their total economic welfare and, hence, the existence of location-specific consumption amenities can have an important influence on the residential location decisions of workers and households.

The interaction between environmental amenities and residential location decisions has important implications for economic-development policy in Louisiana and elsewhere.[14] As both households and firms become more footloose, the natural resources of a place increasingly will contribute to the structure and growth of the local economy through their influence on household location. In relative, if not absolute terms, the use of natural resources as a source of raw material for industrial production will become less important.

The diagram below shows the basic relationship between the second and first paychecks. As areas with high-amenity levels attract and hold workers, employers will be able to hire workers more easily than competing firms in low-amenity areas. All else equal, this will give them a competitive advantage and enable them to prosper. Hence, the protection and enhancement of amenities, such as clean air and water, productive recreational fisheries, and scenic natural environments, can serve as the fuel for the generation of jobs and incomes in an era of footloose workers, households, and firms. This view is distinctly different from those of past eras, when environmental protection was seen as an impediment to economic development.

What does all this mean for Louisiana? If Louisianians (1) accept the notion that households and firms will become even more footloose, and (2) want to use their cultural and environmental amenities to increase the levels of jobs and incomes, then they must make certain that the protection and enhancement of these amenities become important elements of their economic-development strategies. Furthermore, they must give special scrutiny to activities, such as resource extraction, emission of pollutants, and unwise land development, that would diminish these amenities, recognizing that, in a footloose world, these activities can seriously damage the state's economic comparative advantage.

In the following pages we discuss these issues



[14] See, for example, Courant, P.N. (1994). "How Would You Know a Good Economic Development Policy If You Tripped Over One: Hint: Don't Just Count Jobs." National Tax Journal XLVII (No. 4): 863-881, and Niemi, E. and E. Whitelaw. (1997). Assessing Economic Trade-Offs in Forest Management. ECONorthwest. USDAForest Service, Pacific Northwest Research Station. General Technical Report PNW-GTR-403. August.

The 2nd Paycheck

- = The Advantage of Living in a Paricular Place
- Total = Social + Scenic + Climate + Recreational Amenities
- Variation in the U.S.:
  - -$5000 per Capita (1980)
  - -30% of Average 1st Paycheck

The 2nd Paycheck in Louisiana

Value of Amenities, Relative to Median of 253 Urban Counties

Ouachita	+$62
Lafayette	-$86
E. Baton Rouge	-$225
Orleans	-$304

(1980 dollars per household per year)

more thoroughly.

The amenities available in an area interact with wages and rents: each influences the others. An area with greater amenities attracts more workers and households, so that, all else equal, wages are lower and rents higher. Because the value of amenities generally are not directly observable, economists use data on rents and wages to estimate the amenity values.

In 1988, three economists from the University of Kentucky and Michigan State University published a paper using data on wages and rents to estimate the value of the "amenity bundle" of 253 urban counties in 185 metropolitan areas in the U.S.[15] They had 1980 data for three types of amenity variables:

- *Climate Amenities* (precipitation, humidity, required heating or cooling, wind speed, sunshine, proximity to coast)
- *Social Amenities* (violent crime, teacher-pupil ratio, central city)
- *Environmental Amenities* (visibility, airborne particulates, dischargers of water pollution, landfill waste, superfund sites, treatment, storage, and disposal sites)

The researchers found that the amenities in the top-ranked county (Pueblo, CO) were worth about $5,000 per household per year more than those in the lowest-ranked county, St. Louis City, Missouri. For technical reasons, this estimate probably overestimates the true difference somewhat. Nonetheless, given that the median household income in 1980 was $17,710, it is clear that the second paycheck can be a significant fraction of the first one.

As workers, families, and businesses in America become more mobile, the status of Louisiana's environmental and social amenities is playing an increasing role in determining the strength of its economy. The outlook is not good.

The study included four Louisiana parishes. Wages and rents in only one, Ouachita Parish, indicated that it had amenities more valuable than the mean of the 253 counties. Residents of Orleans Parish experienced amenities worth -$304 per household per year, relative to the mean. The findings for Lafayette, East Baton Rouge, and Orleans parishes indicate that workers and families have viewed southern Louisiana as having amenities that are subpar relative to metropolitan areas elsewhere in the U.S.

All else equal, reductions in the social, cultural, and natural amenities of southern Louisiana cause firms there to pay more to attract qualified workers than do their competitors elsewhere. Because labor costs are the largest component of production costs for most firms, reductions in amenities place businesses in Louisiana at a competitive disadvantage relative to firms in states with better amenities. Consequently, investors in Louisiana earn lower returns, and there are fewer job opportunities for Louisiana's workers.

Governments can impose taxes in any number of ways. We distinguish between two kinds. The first we call frontdoor taxes. It includes a wide range of con-

Parish	Value of Amenities, Relative to the Mean for a Sample of 253 Metropolitan Counties (1980 dollars per household per year)
Ouachita	$62
Lafayette	–$86
East Baton Rouge	–$225
Orleans	–$304

[15] Blomquist, G.C., M.C. Berger, and J.P. Hoehn. (1988). "New Estimates of Quality of Life in Urban Areas." American Economic Review 78 (1): 89-107.

A Common-Ground Focus (Part 2)

Find Efficient Levels of:
Frontdoor Taxes
+Backdoor Taxes
= Total Taxes

Front- or Backdoor, Taxes are Taxes

- Direct Taxes on 1st Paycheck:
  -Reduce Disposable Income
  -Curtail Private-Sector Growth
- Indirect Taxes on 2nd Paycheck:
  -Reduce Disposable Income
  -Curtail Private-Sector Growth

ventional taxes, such as income taxes, retail-sales taxes, and vehicle taxes. The common characteristic of frontdoor taxes is that a governmental body imposes them, calls them taxes, and collects the proceeds as money. Directly or indirectly, frontdoor taxes take money away from a household's first paycheck and, hence, reduce its disposable income. Insofar as they impede market mechanics, they curtail private-sector growth.

The second we call backdoor taxes. They have a different design, but they are just as powerful. With this type of tax, the governmental body does not ring the doorbell, announce that it has passed a tax, and tell families to hand the money over. Instead, it allows someone else to sneak around to the back and take the money from people's pockets, unannounced. Common backdoor taxes include laws that allow: utilities to raise the prices households pay for energy, polluters to degrade the quality of water and air households drink and breathe, or resource-extraction firms to destroy habitat for fish and wildlife.

Such actions, in effect, are taxes imposed on the second paycheck. Because they do not directly generate revenue for a governmental body, but nonetheless reduce the disposable incomes of households and impede private markets, we call them backdoor taxes. As we've shown earlier, changes in the second paycheck can have a strong influence on the first paycheck. Whenever governmental actions create backdoor taxes that diminish the value of the second paycheck in an area, they push the overall well-being of local residents downward.

It is important to recognize that we are not saying each and every tax, whether it takes money from households through the front or back door, is bad. Insofar as taxes correct unavoidable distortions that already exist in the economy or provide resources to support valuable public services, then the net effect on the economy is positive. We are not addressing this issue. Instead, we are saying that, if Louisianians want to use tax policy as part of an economic-development strategy, they should consider the total tax package. As we demonstrated above, Louisiana already has done about all it can to reduce its frontdoor taxes relative to other states. As we show below, however, its backdoor taxes are extremely high.

Louisiana's current economic-development strategy can stimulate economic growth only if the advantages of the state's low-tax policies, applied to the frontdoor taxes, are sufficiently large that they can overwhelm the disadvantages associated with high backdoor taxes. The data show otherwise.

Relative to the national average, Louisianians paid $615 per person less in state and local taxes in 1993. This amount represents the savings on the first paycheck one could realize by moving to (or remaining in) Louisiana rather than locate elsewhere in the United States. In other words, taxes took $615 less from the wallet of the average Louisianian.

Unfortunately, the state's environmental and tax-concession policies allowed the backdoor removal of more than $1,400 from the same wallet. Relative to the national average, the extra backdoor taxes in Louisiana are more than double the much-touted savings in frontdoor taxes. The readily available data show that Louisianians pay extra backdoor taxes, relative to residents in other states, for the adverse effects of pollution and extra costs for energy. They also incurred extraordinary additional costs because of the loss of coastal-wetland habitat and the loss of services that otherwise would have been supported by property taxes on heavy industries.

Backdoor Pollution Taxes. The estimates of the backdoor taxes associated with pollution were estimated in a 1995 study by Paul Templet.[16] He compared the amount that industries in Louisiana spend on pollution control with the national average, controlling for the amount of toxic materials released into the environment, and then divided by the state's population to determine the per capita amount. He found that Louisiana's industries spend $410 dollars per capita less.

The actual backdoor tax on Louisianians is probably more than this. That is, Templet estimated the amount the industries saved by locating in Louisiana

[16] Templet, P. (1995). "Grazing the Commons: An Empirical Analysis of Externalities, Subsidies, and Sustainability." Ecological Economics. 12: 141-159.

Frontdoor Taxes in Louisiana

	Per Capita
Property	$274
Sales & Receipts	$897
Individual Income	$217
Corporate Income	$57
Other	$239
Total	$1,685
U.S. Avg.	$2,300
Difference	$615

Fiscal Year 1993 *Tax Foundation (1997)*

Backdoor Taxes in Louisiana

	Per Capita
Pollution*	$410
Energy*	$207
Coastal Habitat Loss	≈ $700
Tax Concessions	≈$ 90
Recreation Impairment	unk.
Total	$1,1407

**Relative to U.S. (Templet 1995)*

and taking advantage of its lax environmental standards. He did not measure the costs imposed on the state's residents by the additional pollution emitted by these industries. Health-related costs are foremost among these.

The impacts of air and water pollution on human health in Louisiana are notorious. Louisiana's chemical industry, alone, released more than 408 million pounds of toxic chemicals into the environment in 1991.[17] Of this amount, about 68 million pounds were airborne emissions, which can cause an increased risk of cancer, respiratory illness, and birth defects. To place this in a better context, consider that Louisiana's chemical industry has the nation's second highest ratio of air emissions to chemical manufacturing jobs, about 3 times the national average. The vast majority of these emissions occurs in the parishes (counties) where the industry is concentrated, along the Mississippi River between Baton Rouge and New Orleans. This strip, unaffectionately dubbed 'Cancer Alley' for good reason by the public and the press, is home to 1.5 million people. Lung cancer rates in this area are about 30 percent above the national average.[18] Analyses in the mid 1980s by the Environmental Protection Agency of the risks associated with airborne emissions showed excess cancers in the range of one per 1,000 persons exposed, whereas a rate of one per 1 million is commonly considered acceptable. These findings are exacerbated because the extreme poverty of the area often prevents those most at risk from abandoning the area to seek homes and jobs elsewhere.

One recent report, which focuses on the impacts of airborne particulates on human mortality, concludes that emissions in the area are responsible for the death of approximately 500 persons each year.[19] A recent summary of the literature on environmental economics concluded that each death attributable to environmental risks has a value between $2 million and $12 million.[20] These estimates indicate that the mortality effects, alone, of the area's airborne particulates impose spillover costs on the local economy of $1 billion to $6 billion each year. We are aware of no recent, reliable estimate of the emissions impacts on human morbidity in this area, but, based on studies elsewhere, it seems likely that the morbidity value in Cancer Alley may be as high as $1 billion per year. Thus, the total human-health-related economic costs from airborne emissions in this area are about $2 billion to $7 billion annually. On a per capita basis, the health-related costs exceed $1,000 per person per year.

These costs reduce the disposable incomes and the standards of living of local residents. They also increase health-care costs for households, firms, and public institutions. These burdens are functionally equivalent to a tax on all households and firms in the area, imposed by those that emit the pollutants and paid by those who suffer the consequences. Outside the perverse stimulant to the health-care industry, these emissions deprive the economy of jobs and rob households of income. A substantial portion of this burden is attributable to the oil and gas and petrochemical industries, although the exact amount is not known at this time.

Backdoor Energy Taxes. Templet (1995) also estimates the backdoor taxes that arise when state regulators raise the costs consumers pay for energy in an effort to lower the costs to heavy industries. Prices for

[17] U.S. Environmental Protection Agency. (1993). Toxics in the Community, National and Local Perspectives: The 1991 Toxics Release Inventory National Report.

[18] Bartholomew, J. and N.J. Craig. (1984). Environment and Health in Louisiana: The Cancer Problem, Executive Summary. Task Force on Environmental Health, Louisiana State Planning Office. March.

[19] Shprentz, D.S., G.C. Bryner, and J.S. Shprentz. (1996). Breath-Taking: Premature Mortality Due to Particulate Air Pollution in 239 American Cities. Natural Resources Defense Council. May.

[20] Cropper, M.L. and W.E. Oates. (1992). "Environmental Economics: A Survey." Journal of Environmental Literature 30 (2): 675-740.

energy are generally set by state policy through the state Public Utility Commission, and, hence, both the overall level of energy prices and the distribution of prices among different user classes are influenced by political considerations as well as market forces. On average in the U.S., residential consumers pay about twice what industry pays for an equal amount of energy, but in Louisiana, this ratio is 4:1. Assuming that the 2:1 average ratio is justified by factors such as economies of scale associated with the delivery of energy to industrial consumers, Templet concludes that the higher ratio in Louisiana represents a subsidy from residential consumers to industrial consumers. He estimates that the annual energy-price subsidy to industry, or backdoor tax on households, is $207 per person per year.

The oil and gas and petrochemical industries receive the bulk of the benefits from this backdoor tax, which totals $800 million per year. The proceeds go to the managers and shareholders of large industrial firms. This subsidy, like the others, reduces the disposable incomes of households. Subsidized energy prices harm the economy in other ways, also. In particular, they discourage efficiency in those industries receiving the subsidy, instead creating an incentive for firms in these industries to invest in energy-intensive plants and equipment (Templet, 1995). Not incidentally, such investments also constitute the key that firms in these industries use to unlock the treasure chest of tax exemptions discussed above. Thus, the policies of the State of Louisiana create energy-price subsidies that induce firms to invest in energy-intensive plants and equipment and then reward these firms with an additional tax-exemption subsidy. And the firms, workers, and households in the rest of the economy pick up the tab through backdoor taxes.

Backdoor Tax-Exemption Taxes. As we explained above, the tax-exemption program allows heavy industries to avoid paying property and other taxes. Louisianians then either pay extra frontdoor taxes to make up the difference or pay equivalent backdoor taxes by forgoing the services that would have been supported by the lost revenue. We assume the predominant outcome is higher backdoor taxes, about $90 per person per year. We were unable to compare this figure with a national average to determine the extent to which it exceeds similar backdoor taxes elsewhere, but we are confident that it far exceeds such an average.

Backdoor Coastal-Wetland Taxes. Louisianians pay additional backdoor taxes whenever state officials allow private firms to destroy natural resources that provide essential services to the entire population. The state's coastal wetlands provide such services.

By buffering against high winds and absorbing stormwater surges, they prevent inland damage from coastal storms. About three-fourths of Louisiana's population lives within 50 miles of the coasts, and the loss of wetlands significantly increases their vulnerability to future flooding of residential and commercial structures, damage to transportation infrastructure, and the long-term intrusion of saltwater into domestic and industrial water supplies. Over the past 60 years, Louisiana has lost about 1 million acres of coastal wetlands. By one recent estimate, the protection from storms and saltwater provided by the remaining 1.7 million acres of wetlands in the Barataria-Terrebonne Estuary System, alone, yields a value between $11 billion and $12 billion.[21] If the same values per acre apply to those that have been lost, the current annual damage to the economy because of the loss of protection from storms and saltwater totals about $7 billion per year. This estimate does not include the value of protection afforded hazardous-waste storage tanks and other structures that may become exposed as wetlands are lost. These costs have not yet been estimated, but experts predict that they also are large (Industrial Economics, 1996).

The loss of wetlands occurs in three different ways: (1) wetlands become open water because of natural or artificial processes, such as erosion, subsidence or dredging; (2) wetlands are drained and filled to create terrestrial habitat; and (3) wetlands can be partially or completely isolated by banks of dredged material, losing the ability to interact with the estuarine system and ultimately being converted to open water through subsidence.[22] Draining wetlands, dredging them, and building canals through them account for 30–59 percent of the total wetland loss between 1955 and 1978.[23] The oil/gas industry, and the state policies that encourage it, provide the major impetus for these activities. In addition, the withdrawal of oil and gas can induce subsidence and encourage saltwater intrusion into, and destruction of, wetlands.

If the accountability estimate presented by Boesch et al. (1994) applies to the entire 60-year period, then the oil and gas-extraction industry is responsible for about 30–59 percent of these damages, which accrue to

[21] Industrial Economics, Inc. (1996). Economic Value Assessment for the Barataria-Terrebone Estuarine System. Barataria-Terrebone National Estuary Program, Thibodoux, Louisiana. BTNEPPublication - 26. March.

[22] Barataria-Terrebonne National Estuary Program. (1991). Scientific-Technical Committee Data Inventory Workshop Proceedings. BTNEP-5. October.

[23] Boesch, D.F., M.N. Josselyn, A.J. Mehta, J.T. Morris, W.K. Nuttle, C.A. Simenstad, and D.J.P. Swift. (1994). Scientific Assessment of Coastal Wetland Loss, Restoration and Management in Louisiana. Vol. Special Issue No. 20. Journal of Coastal Research.

Conclusion: LAis a High-Tax State
High Backdoor Taxes on 2nd Paycheck Outweigh Low Frontdoor Taxes on 1st Paycheck

Common Ground: Reduce High Taxes
•Further Reductions in Frontdoor Taxes Will Yield Few Jobs and Little New Income •Further Industrial Tax Exemptions Will Yield Few Jobs and Little New Income •But, Reductions in Backdoor Taxes on the Environment Can Yield Big Increases in Jobs and Income

private property owners, taxpayers, and other industries. In other words, the oil and gas-extraction industry, and the state policies that support it, are currently responsible for about $2 billion to $4 billion of damage per year. We conservatively estimate that the per capita damage from the loss of coastal-wetland habitat attributable to these policies and activities is about $700 per year ($3 billion divided by 4 million population). The actual damage is undoubtedly greater.

The evidence on the preceding pages argues for greater cooperation among Louisiana's businesses, workers, and resource conservationists to work toward improvements in jobs, incomes, *and* the environment. The key is to recognize that a good environment can generate economic growth and many of the state's policies, by imposing substantial backdoor tax on the environment, impede economic growth throughout the state. The state's economic-development policies, focused on minimizing frontdoor taxes, and giving tax concession to heavy industry, have proven that they cannot produce economic growth commensurate with the rest of the nation. In the process, they diminish the state's social and environmental amenities, making the state less attractive to footloose workers and firms, curtailing the competitiveness of firms here relative to those in states with better amenities, and reducing job opportunities.

The impairment of the state's environmental amenities is a backdoor tax, functionally equivalent to frontdoor taxes on sales, property, and income. Backdoor taxes that can be quantified include policies that encourage pollution, distort energy prices to favor heavy industry, reduce public services, destroy coastal wetlands, reduce disposable incomes and discourage economic growth. The readily available data support quantification of only a few of these backdoor taxes. Even so, it is clear that the extra amounts Louisianians pay through backdoor taxes exceeds what they save through low frontdoor taxes. **In short, when one considers the total tax structure, Louisiana is a high-tax state**. Reductions in backdoor taxes on the environment can be far more effective in stimulating economic growth than a continuation of past and present policies. **The bottom line is that protecting the environment in Louisiana can be good for the state's businesses and workers.**

LUCEC
Miscellaneous Publications (1), 2002

The Nature of Risk Perceptions and Environmental Decision Making

Joye C. Gordon[1]
A.Q. Miller School of Journalism & Mass Communications
Kansas State University
105 Kedzie Hall
Manhattan, Kansas 66506
gordon@ksu.edu

In the state of Louisiana, it is a primary offense to operate a car without wearing a seat belt yet legal to ride a motorcycle without wearing a helmet. Many would argue environmental regulations are often equally illogical and contradictory. Morevover, many would argue that our responses to environmental threats are not based on the "actual risks." Clearly much controversy over the nature of risks exists associated with environmental issues. Competing stakeholders often assess risk in widely varying ways leading to hotly contested battles.

Incongruity between lay people and expert risk judgment is often at the center of social and political controversies (Committee on Risk Perception and Communication; Commission on Behavioral and Social Sciences and Education; Commission on Physical Sciences, Mathematics, and Resources; & National Research Council, 1989). Not surprisingly, many environmental issues have been approached with the "if you only knew what I know" attitude. In short, how an expert defines risk is not how a lay person defines risk. Concerns about motivating people to action, scientific illiteracy, and social conflicts over risks, including environmental risks, have all motivated study of how lay people develop risk perceptions. This paper reports the scholarly community's efforts to understand lay people's perceptions of risks and draws conclusions regarding the validity of aligning disparate lay and expert evaluations of environmental risks.

Risk perception is a well-established factor associated with a host of human behaviors. The question of why and how lay people develop their risk perception has been the object of much scholarly attention. However, there are surprisingly few explicit definitions of risk perceptions given the amount of attention afforded the construct. Coleman (1993) writes that risk perception "is a vague term that has had many meanings: researchers have equated risk perception with attitudes, beliefs, feelings, and cognitions about risk". Dunwoody and Neuwirth (1991) note that risk perceptions have also been operationalized as behavior or intended behavior change in some studies. The results of previous risk perception studies, Coleman (1993) argues, are difficult to generalize from because of the variety of definitions and operationalizations of the risk perception construct. What is clear is that risk perception plays a significant role in personal decisions including responses to environmental issues.

Johnson (1993) refers to "risk perception" as "a misleading and standard term". The term itself implies that lay people assess risks flippantly whereas the expert activity of "risk assessment" predicts risk using "proper" considerations (Johnson, 1993). Likewise, Dunwoody and Neuwirth (1991) note that risk perception is often defined as the similarity between personal evaluation of hazards and expert risk estimations. Zeckhauser and Viscusi's (1990) complaint that "too much weight is placed on risks of low probability but high salience" highlights the assumption that lay people's faulty assessments result in a system of managing risk that is "deeply flawed". They ask, "[t]o what extent should the government focus on risks that are of particular concern to its citizens, who may be misinformed and subject to severe errors in perceptions and valuation of risk?"

Some view the public as uneducated and uneduca-

[1] Fellow, Institute of Environmental Communications, 1999

ble; others view the public as competent and able to develop legitimate risk judgments. Fischhoff, Slovic, and Lichtenstein (1982) say these extreme public depictions persist for political and theoretical convenience. If one advocates that the public participates in hazard - management decisions, then one needs to describe the public as competent. An incompetent public, however, legitimizes experts and allows for elite policy making. Theoretically, Fischhoff, Slovic, and Lichtenstein argue, it is hard to build a model in which people are sometimes wise and sometime foolish. Recent work shows that it may be more useful to understand lay perceptions than merely to dismiss them (Freudenburg, 1988; Slovic, 1987).

When asked to provide quantitative estimations of loss of life, lay people can provide responses very reflective of experts' estimations of annual fatalities (Fischhoff et al., 1982; Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978). But when asked about "risk," lay people reveal judgments of risk based on considerations in addition to loss of life and limb (Fischhoff, et al., 1982).

Slovic (1987) writes that lay people's "basic conceptualization of risk is much richer than that of the experts and reflects legitimate concerns that are typically omitted from expert risk assessments". Lay judgments of risks are correlated to hazard characteristics other than probabilistic data. Fischoff, Slovic, and Lichenstein (1982) identified several hazard characteristics that affect the magnitude and direction of the lay person's judgments. Risks that are controllable, known, observable, and voluntary are less likely to be perceived as "risky." In contrast, uncontrollable, unknown, hidden, and involuntary risks are more likely to be perceived as risky. Risks associated with new technologies, fatal consequences, and global consequences and risks whose consequences are inequitably distributed also are more likely to be perceived as "risky."

Understanding hazard characteristics' impact upon risk judgments helps explain why lay people may perceive a nuclear power plant as extremely risky and household cleaning agents as safe when the latter causes more injury and death each year than the former. Household cleaner hazards are familiar and are perceived as controllable and fair. Nuclear power, on the other hand, is a relatively new technology that is less familiar and has more potentially devastating consequences that would be imposed on innocent bystanders.

While the preceding example may lead some to argue the irrationality of lay people, Slovic (1987) uses nuclear technology as an example to show the utility of lay assessments of risk. The Three Mile Island incident resulted in no deaths and few, if any, latent fatalities. However, the result was a devastated utility, enormous costs to the nuclear industry, reliance on more expensive energy sources, greater public opposition to nuclear power and, perhaps, more hostile views toward other new and complex technologies (Slovic, 1987). In short, the Three Mile Island incident had tangible consequences that were not included among the experts' risk assessment criteria but were in lay perceptions.

Similarly, Freudenburg (1988) argues that lay peo-

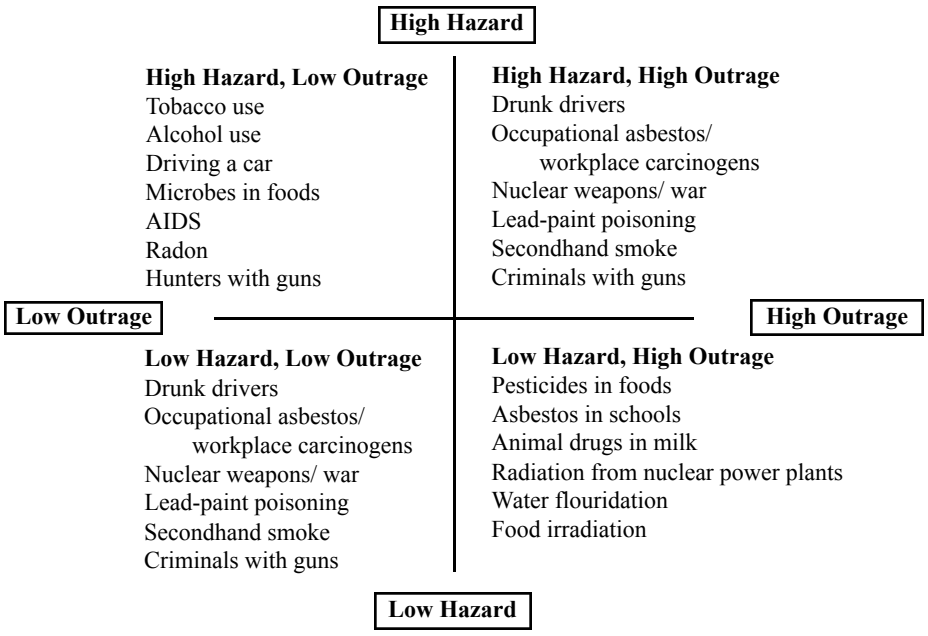


Figure 1. Selected threats sorted according to Sandman's (1987) hazard/outrage model.

ple's risk judgments may be different than "expert" risk judgments because lay people may be utilizing different criteria to make risk judgments. One of those criteria is what he terms "uncertainty costs". Uncertainty costs are those incurred to deal with risk even if "nothing goes wrong". Such costs include maintaining emergency-preparedness systems. Worry and emotional stress about potential disasters are also uncertainty costs (Dunwoody & Neuwirth, 1991; Freudenburg, 1988). In formulating their judgements of risks, lay people may also be considering the likelihood of human error and the extent to which they trust industry experts (Dunwoody & Neuwirth, 1991; Freudenburg, 1988; Wildavsky & Dake, 1982).

In a study assessing perceptions of food irradiation, Bord and O'Connor (1990) concluded that "effective risk communication may be more a problem of ensuring trust than it is an issue of explaining risk/benefit analysis in lay terms". The impact of trust in the food irradiation industry, government regulatory agencies and in science itself dramatically influenced respondents' acceptance of food irradiation technologies. Focus groups revealed respondents' concerns that even flawless technical plans were subject to human error in their execution and that managing the technology would itself create serious problems.

Sandman (1987) developed a hazard/outrage model that separated the quantitative, probabilistic aspect of risk (hazard) from the value judgment, qualitative aspect of risk evaluations (outrage). His model provides a good explanation of why lay people and experts often view risk dramatically differently. Sandman identified a threat's voluntary nature, controllability, visibility, familiarity, and the diffusion of consequences in space and time as characteristics that predict outrage responses. Similar to the Fischoff, Slovic, and Lichenstein's (1982) conceptualization of characteristics impacting intensity of perceptions of risks, Sandman (1987) found that controllable, visible, familiar, threats were less likely to evoke outrage among lay people than threats which are uncontrollable, hidden, or unfamiliar. Figure 1 visually presents several risks sorted by Sandman's hazard and outrage components.

Dunwoody & Neuwirth (1991) explored risk perception as a multi-dimensional concept. In a study examining AIDS perceptions among college students, the researchers found that cognitive and affective dimensions emerged as separate factors. The cognitive dimension refers to how individuals assess their own likelihood of being harmed. The affective dimension refers to the dread, worry, or anxiety felt about some risk. Affective orientations were grouped into one general factor and one behavior-specific factor. Risk estimates loaded onto one cognitive factor. These researchers also argued for clarification of individual-level versus societal-level referents for provided risk judgments.

Coleman (1993), drawing from the work of Dunwoody & Neuwirth (1991) and Tyler and Cook (1984), examined risk perception as two separate constructs: societal risk and personal risk. Societal risk perceptions are those that characterize and evaluate risks to society. Personal risk judgments are those that characterize and evaluate risks to the self. Coleman's (1993) study supported the well-documented tendency for individuals to assess personal levels of risk below their assessment of risk to others (societal-level risks). Across eight environmental hazards, some voluntary others involuntary, all respondents viewed others to be more at risk than themselves.

Coleman's (1993) study lent little support to Dunwoody's and Neurwirth's (1991) and Tyler's and Cook's (1984) earlier hypothesizing that channels of communication impacted perceptions of risk. Earlier hypothesizing proposed that mass mediated channels would impact perceptions of societal risk and that interpersonal channels of communication would have more impact on personal risk perceptions. Coleman (1993), in fact, concluded that the distinction between personal and societal risk judgments may not be as clear-cut as envisioned. She writes: "factors that contribute to one's personal sense of risk are not necessarily the same factors that contribute to one's view of social-level risk".

The social construction or cultural influences models lend yet another interpretation to understanding risk perceptions of lay people (Johnson & Covello, 1987; Johnson & Fisher, 1989; Kasperson, et al., 1988; Wildavsky & Dake, 1982). Otway and Wynne (1989) argue that there is no one right definition of risk and that it is both rational and normal for people to view hazards in terms of how their lives are affected. These authors argue that the lack of attention paid to contextual and cultural influences, along with selfish motivations of risk-imposing industry, is a reason for the inherent weakness in the risk perception paradigm. Clearly the factors associated with the how's and why's of the development of lay people's understandings of risk are very complex.

This paper has examined how the scholarly community has attempted to understand lay perceptions of risk. From this examination, several conclusions can be drawn. First, perceptions of risks are an important factor influencing human decisions and regulatory responses to environmental issues. Second, lay person and expert evaluations of risk often conflict. Third, it should not be assumed that lay people use faulty criteria for assessing risk. Fourth, the ideal of a participating citizenry is dependent on establishing mutual respect between lay and expert stakeholders. And finally, a stronger understanding of cultural influences and the

social construction of meaning is needed to better understand how society assesses environmental risks and makes decisions regarding environmental issues.

REFERENCES

Bord, R. J., & O'Connor, R. E. (1990). Risk communication, knowledge, and attitudes: Explaining reactions to a technology perceived as risky. Risk Analysis, 10(4), 499-505.

Coleman, C.L. (1993). The influence of mass media and interpersonal communication on societal and personal risk judgments. Communication Research, 20(4), 611-628.

Committee on Risk Perception and Communication; Commission on Behavioral and Social Sciences and Education; Commission on Physical Sciences, Mathematics, and Resources; & National Research Council. (1989). Improving Risk Communication. Washington, D. C.: National Academy Press.

Dunwoody, S., & Neuwirth, K. (1991). Coming to terms with the impact of communication on scientific and technological risk judgments. In L. Wilkins & P. Patterson (Eds.), Risky business: Communicating issues of science, risk, and public policy (pp.11-30). New York: Greenwood.

Fischhoff, B., Slovic, P., & Lichtenstein, S. (1982). Lay foibles and expert fables in judgements about risk. The American Statistician, 36(3), 240-255.

Freudenburg, W. R. (1988). Perceived risk, real risk: Social science and the art of probabilistic risk assessment. Science, 242, 44-49.

Johnson, B. B. (1993). Advancing understanding of knowledge's role in lay risk perception. Issues in Health & Safety, 4, 189-212.

Johnson, B. B., & Covello, V. T. (1987). The social and cultural construction of risk. Dordrecht: Reidel.

Johnson, F. R., & Fisher, A. (1989). Conventional wisdom on risk communication and evidence from a field experiment. Risk Analysis, 9(2), 209-213.

Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Gobel, R., Kasperson, J. X., & Ratick, S. (1988). The social amplification of risk: A conceptual framework. Risk Analysis, 8.

Lichtenstein, S., Slovic, P., Fischhoff, B., Layman, M., & Combs, B. (1978). Judged frequency of lethal events. Journal of Experimental Psychology, 4(6), 551-578.

Otway, H., & Wynne, B. (1989). Risk communication: Paradigm or paradox. Risk Analysis, 9(2), 141-145.

Sandman, P. M. (1987). Risk communication: Facing public outrage. EPA Journal, 13(9), 21-22.

Slovic, P. (1987). Perceptions of Risk. Science, 236, 280-285.

Tyler, T. R., & Cook, F. L. (1984). The mass media and judgments of risk: Distinguishing impact on personal and societal level judgments. Journal of Personality and Social Psychology, 47, 693-708.

Wildavsky, A., & Dake, K. (1982). Theories of risk perception: Who fears what and why? In M. Douglas & A. Wildavsky (Eds.), Risk and Culture (pp.41-60). Berkeley: University of California Press.

Zeckhauser, R. J., & Viscusi, W. K. (1990). Risk within reason. Science, 248(4), 559-564.

Miscellaneous Publications, (1) 2002

Loyola University Center for Environmental Communications ISSN 1-537-3541

CONTENTS

LOYOLA
UNIVERSITY
NEW ORLEANS