GEOGRAPHY IS THE ANTITHESIS OF SEINFELD. Seinfeld was the TV show about nothing; geography is a discipline that includes everything. The geographic lens can have a wide focus (for example, the insatiable desire of Americans to consume shrimp at chain restaurants can be tied to the incredible toll the 2004 tsunami had on the small fishing villages of India); or it can be narrow, as is the case with the choices a few families make in deciding whether or not to rebuild in the floodplain after a flood destroys their homes.

Geography is the study of anything that varies over the surface of the earth, and geographers attempt to discern spatial patterns and identify the forces that interact to create or modify these patterns. Students are often introduced to the discipline through the study of five themes: location, place, region, movement, and human-environment interaction. Of these, movement and human-environment interaction are of special value in a geographic perspective on disasters and human rights.

Movement encompasses the study of shifts of physical items (e.g., tectonic plates or manufactured goods), people (e.g., migrations) and ideas (e.g., fashion or religion). Geographers attempt to understand why some things move and others don't. They examine patterns of diffusion, such as those that are contagious (e.g., the way a cold spreads) or those that are hierarchical (e.g., spreading through a hierarchy, an example being the way in which new French fashions first jump to Rome, then New York, and finally Tokyo). A general assumption is that the volume of movement will decrease over distance (distance decay), but contrary symptoms are particularly intriguing.

The movement of people is of special geographic interest. At the simplest level are factors that “push” people away from one place and/or “pull” them towards another. This concept is useful when applied to both natural disasters and human rights. One would expect that individuals would be pushed away from areas where they could be hurt by natural disasters and pulled towards safer areas. The history of natural disasters, however, demonstrates that this is not the case. These contrary symptoms stimulate geographers to search for reasons. This is a particularly compelling line of inquiry when natural disasters and human rights are examined in tandem. A simple analysis suggests that those with the fewest rights have very limited means and opportunities to move away from dangerous places for areas of greater safety and opportunity; distance decay does not seem to account for this.

Movement: Building on Floodplains

One key to a geographic perspective on natural disasters is understanding how people make decisions that move them into harm’s way or in response to harm. Peter Haggett, in Geography: A Global Synthesis, reports on the work of geographers Gilbert White and Ian Burton. White and Burton wanted to understand how individuals could make decisions regarding locations of residences and other structures that would, with some degree of certainty, put them at risk for being flooded. Such knowledge can contribute to public policy development that can limit future loss of life and property damage. White and Burton studied 498 U.S. urban communities that were subject to flooding. They examined how the frequency and severity of floods influenced attitudes towards flooding. They reported that residents of a place like Darlington, Wisconsin (which experiences floods about twenty times in any ten-year period) adopt an attitude of “optimistic rationalization” to justify their continued occupation of the floodplain. Haggett summarizes that in places where natural hazards occur at irregular intervals, people cope with the uncertainty by denial or faith:

- Eliminate the hazard by denial
- Deny its existence: “It can’t happen here”
- Deny its recurrence: “It can’t strike twice in the same place”
- Eliminate the irregularity by faith
- Learn the frequency: “Floods come every five years”
- Transfer responsibility to a higher power: “It’s in the hands of God (or the government)”
Despite optimistic rationalization, disasters do strike, and they take a greater toll on marginal members of society who have the least control over where and how they live. When natural disasters strike rural populations, the poor, the sick, and the disenfranchised usually have few options for restoring their way of life. The marginalized are often forced to migrate, and without options to rebuild, they often abandon their rural life and means of support and migrate to urban centers. Here they live in slums in areas that the better off choose not to live in. Not only have the poor lost their livelihood and homes, their new living sites may be low-lying areas that expose residents to flood, chemicals, waterborne diseases, and diseases carried by swamp-dwelling animals, insects, and human waste. The poor may live in structures that are situated on steep slopes susceptible to severe damage from earthquakes, hurricanes, and mudslides. In the event of disaster, these locations may be impossible for rescue and medical personnel to reach.

Examination of the movement of people (including both those by force or by choice), reasons for the movement, and the types of places to which movers relocate, offers a geographic dimension on natural disasters and their impact on human population and rights.

Human-Environment Interaction
The interplay between humans and the environment is another major geographic theme. At the beginning of the twentieth century, many geographers theorized that the environment dictated the actions of man. These environmental determinists became apologists for the second age of imperialism. By the mid-twentieth century, the environmental determinists had been discredited, and a new school of thought began to take shape. H. J. de Blij summarized this view succinctly: “Geographers study the reciprocal relationship between humans and environments.” This perspective yields a view that the environment has a significant and direct role in the activities of humans (e.g., we don’t attempt to grow crops outdoors at the North Pole), as well as the view that humans have a profound impact on the environment. Determinism can stunt inquiry, while the vitality of interaction offers significant opportunities for critical thinking and problem solving.

Long before humans arrived on the scene, hurricanes developed and remade islands and coast lines, volcanoes erupted and created mountains, ice sheets developed and receded to create valleys and rivers, plates slipped and pushed up mountains, and fires raged through forests and prairies. These events produced multiple environmental niches (e.g., forests, prairies, tundra, and deserts) required by many of earth’s creatures, while affecting others more negatively.

As humans evolved and populations expanded, increasingly powerful technologies developed, giving people the ability to alter their environment. In relatively small and nomadic communities the impact of human activities on the environment was felt primarily at a local scale. Today that impact is felt on a global scale. The result is a greater risk from disasters, more frequent and more dangerous to more people. For example, an increase in both frequency and severity of hurricanes and typhoons seems tied to global warming—a development linked to humans.

Where once floods were viewed as a gift of the gods, spreading the fertile silt that rivers carry across agricultural lands that were central to the development of great civilizations like Egypt, floods are now universally seen as disasters that require intervention and control. Most attempts at flood control result in fewer floods, but those that do occur are far more destructive. Alteration of existing space can lead to unintended consequences. Not only do attempts at flood control through dams, channel construction, and levee building increase the possibility of catastrophic floods, they fundamentally change the ecology of rivers. For example, levees prevent river sediment from being distributed across the floodplain. Sediment is then deposited in the main channel. Over time, the sediment in the main channel builds up, and the level of the levees must be raised. Fortunately, people have the capacity to undo some of the damage done. Recent experiments with dam removals have restored free-flowing rivers and environments suitable for aquatic insects and the fish that feed upon them.

The theme of human-environmental interaction is illustrated in Galveston, Texas. In 1900, Galveston was a major port on the Gulf Coast, until it was struck by a fierce hurricane. Residents, either as the result of hubris or tenacity, were determined to rebuild. They even raised the island by 8 feet in an attempt to prevent severe damage from future hurricanes. To some degree, Galveston weathered a number of major hurricanes throughout the twentieth century. Then Hurricane Ike hit in 2008, virtually wiping out a number of Galveston coastal communities. Instead of recognizing the futility involved, many of these communities have rebuilt or are in the process of rebuilding in the same locations.
The geographic themes of movement and human-environmental interaction can be applied to the study of a recent event that is infrequently examined in social studies—shrimp farming and the 2004 Indian Ocean Tsunami.

Natural disasters can destroy lives and livelihoods in minutes, or they can strangle the life out of communities over months and years. Both fast-hitting and slow-acting natural disasters play out in the coastal fishing villages of India, the result of globalization (the creation of a global economy in which goods and capital flow in an almost frictionless state that is aided by technology) and an insatiable demand for shrimp in world markets. In the process of meeting this demand, the fundamental human rights of the residents of these communities, particularly those listed, are abrogated. While this case study focuses on the Indian Ocean Tsunami of 2004, the processes observed in these villages are evident worldwide, especially in mid-latitude coastal communities, and the geographic perspective facilitates examination of the issues on both micro and global levels.

Grescoe’s Bottomfeeder: How to Eat Ethically in a World of Vanishing Seafood makes some very important points:

The Indian Ocean tsunami, the most destructive in human history, disrupted shipping lanes, altered coast lines, exposed ancient submerged temples, and left three hundred thousand people dead. Strangely, however, it may have been a minor incident compared to a slow-motion catastrophe that has been unfolding on the shorelines and creeks of Asia for the last two decades. Largely unnoticed in the West and abetted by the collusion of trade organizations, loan-granting banks, and foreign-exchange-hungry politicians, it is a disaster that is the undoing of the lives and livelihoods of tens of millions of coastal villagers—among the most powerless and voiceless members of societies—in the name of ever-cheaper protein and all-you-can-eat meal deals.

Shrimp is one of the most prized proteins. With new and efficient means of transportation making it possible for agricultural products to be shipped profitably worldwide, shrimp farming has become a huge international business. The result has been much lower shrimp prices in the U.S. for farmed shrimp (and a resultant increase in demand), which has produced human tragedy, severe environmental degradation, and an increase in the damage done by hurricanes and tsunamis.

Many shrimp farming ventures are located in coastal communities in tropical latitudes. Shrimp farms have been carved from creeks and mangrove swamps that have served these communities as breeding grounds for an enormous number of aquatic animals and have provided significant protection from the storm surges generated by hurricanes and tsunamis. Both the nutritional needs and economic needs of these communities have been met by the environmental niches they have occupied.

In India, shrimp farms are created by bulldozing ponds out of these swamps. The dry ponds are treated with urea and superphosphorous. Both provide nutrients for the plankton that the shrimp will feed on. The ponds are then filled with brackish water. Diesel oil is pumped onto the surface to kill insect larvae. The water itself is treated with many chemicals to kill off any aquatic life that might compete with the shrimp. Throughout the six month growing cycle, the ponds are treated with pesticides, piscicides, and antibiotics. At the end of the cycle, the ponds are drained into the creeks, and the shrimp harvested. The chemical stew in which they have been reared is released into the environment. This cycle is repeated over and over again. The first to feel the impact of the production process are the workers who often become sick from the chemicals to which they are exposed.

Beyond the personal health considerations in this cycle, there are economic, social, and political repercussions, including human rights issues. Because some of the shrimp farms are created from converted rice paddies, jobs are lost. A one-acre rice paddy employed fourteen individuals. Only one person is needed for a one-acre shrimp pond. Moreover, the repeated release of chemicals into the creeks destroys much of the aquatic life that the local individuals had fished. Simultaneously, the same processes destroy the mangroves—further limiting the productive capacity of the environment and reducing the natural protection from hurricanes and tsunamis. When the 2004 tsunami hit those who lived in areas where there had been little or no loss of mangroves, villagers escaped with little or no loss of life. Where the mangroves had been destroyed, the loss of life was staggering. Indian aquaculture promoters attempted to use the 2004 tsunami as a way to further reduce the interference of local fisher people in the expansion of fish farms. The fisher people who had not already been driven to the cities in search of employment were now offered subsidized housing at inland locations that would have forced them to give up fishing. It was the effective lobbying of the aquaculture interests that led to the creation of the subsidized housing programs.

In order to protect both the coastal environment and its inhabitants, in 1996, the Indian Supreme Court prohibited the
construction of new fish farms within a half-kilometer of the high tide mark. The economically advantaged have found it relatively easy to bypass this law and continue to develop new farms. The beneficiaries of shrimp farming have avoided the new law simply by making sure the high-tide line is never demarcated. This boundary has great relevance for those who can no longer reap their fundamental needs from the water around them.

India is not the only country to suffer the ill effects of shrimp farming. Grescoe cites one study that attributes 38% of mangrove losses worldwide to shrimp farming. He goes on to report that Ecuador has lost 70% of its mangroves to satisfy the demand of America’s chain restaurants.

Every step in this process illustrates human-environmental interaction. Both humans and the environment suffer from the interaction. Who benefits? Clearly, consumers from the developed world benefit from cheap shrimp (especially if you discount the potential health implications from eating shrimp grown in a chemical stew). The real beneficiaries are the huge agricultural conglomerates that provide the feed and chemicals used in aquaculture. As it turns out, the local shrimp farmers made out well in the early days. But there is so much competition today that the price to the producer has dropped significantly. As the local shrimp farmers attempt to eke out a small profit, they are forced to buy feed and chemicals from a handful of agribusiness conglomerates that dominate the world market—the real agribusinesses are the big winners.

Natural Disasters and Human Rights: Geographical Implications
Examining the lives of these coastal producers demonstrates that human rights abuses are likely outcomes of movement decisions and patterns of human-environment interaction that either cause or result from natural disasters. The farmer who loses his life because the mangroves that protected him from tsunamis were destroyed, lost his rights to life and security. When aquaculture interests prevent the demarcation of the high-tide line and block implementation of laws that will stop the spread of shrimp farms, the “will of the people” as the basis of governmental authority is thwarted. When people are engaged in a primary economic activity (e.g., hunting, fishing, mining, or farming) and the resource is effectively destroyed, their rights to work and choice of employment have been crushed. When their way of life has been destroyed and when friends and family have been killed as the result of manageable natural disasters (i.e., mangrove loss increases deaths), it is impossible to achieve “a standard of living adequate for the health and well being” for individuals or groups.

Instructional and Classroom Applications

Social Studies Standards
1. PEOPLE, PLACES, AND ENVIRONMENTS
2. GLOBAL CONNECTIONS

The geographic perspective can be best explored through case studies. Unfortunately, there are many recent examples of natural disasters (exacerbated by human action) in which human rights have been shortchanged.

Case studies may be pursued through a two-step process. First, students should be introduced to the Universal Declaration of Human Rights (UDHR). Students can then be provided with one or more articles describing both a natural disaster (e.g., Hurricane Katrina) and its impact on human populations. Students can work in groups to identify violations of the UDHR that they find in the articles. As groups present their cases, the instructor can follow up with questions that begin to expose causal chains.

Then, having demonstrated linkages between natural disasters and human rights, groups should be ready to find their own examples. Using either Internet resources or media center resources, groups should be encouraged to identify a specific example of a natural disaster (created or exacerbated by human action) in which human rights were abridged at a specific location. The teams should report on how man contributed to the disaster (human-environment interaction), which populations suffered the most and why (preferably through exploring causal linkages), which articles of the UDHR were violated, and policies that would help avoid both natural disasters and human rights abuses.

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National Council for the Social Studies
Woody Guthrie chronicled the rights abuses of the men, women, and children who fled the Dust Bowl in his album *Dust Bowl Ballads*. At the time, the concept of human rights was neither well known nor well defined. Not until the UN’s founding did an international organization pursue the work of codifying universal human rights. The result was the development of the Universal Declaration of Human Rights (UDHR), adopted in 1948 by the UN General Assembly. Key articles of the UDHR can be used to judge the human rights impact of natural disasters. Among these are UDHR articles:

- **Article 3**—Everyone has the right to life, liberty and security of person.

- **Article 21**—The will of the people shall be the basis of authority of government.

- **Article 23.1**—Everyone has the right to work, to free choice of employment.

- **Article 25**—Everyone has the right to a standard of living adequate for the health and well being of himself and of his family, including food, clothing, housing and medical care.

Humans have developed the means to wreak disaster on the earth that would far exceed that of other known disasters, short of a collision with a huge asteroid. A nuclear war could transform our planet into a wasteland—the ultimate human disaster. This would also be the ultimate human rights violation, as well as environmental catastrophe; the acts of a tiny minority would destroy the lives of billions and alter life on earth.

When researchers delve into airplane accidents they often find that the accident resulted from a series of interconnected decisions (e.g., taking off without enough fuel) and circumstances (e.g., weather being worse than predicted). When natural disasters result in the significant loss of human life, the study of these events reveals similar interconnections. All too often, we find that the poor and marginalized suffer disproportionately to the general population. Study of these events ultimately must focus on what happened to a specific group of people in a specific place. The geographic perspective utilizes all of the subfields of geography (e.g., physical, medical, political, cultural, and religious) to analyze the multiple causal chains that result in these tragedies.

The Indian Ocean Tsunami of 2004 impacted many lives. Application of the geographic perspective helps one understand both the obvious causes of this disaster as well as the deep and complex web of human and environmental processes affecting the daily lives of people worldwide. These same inquiry tools can be used to study why marginal populations are more at risk from natural disasters and subsequent abuses that occur during recovery, and how such risks can be minimized in the future.

**NOTES**


4. DeBlij, Murphy and Fouberg, 11.


10. Grescoe, 149.


12. Grescoe, 158.


15. Grescoe, 163.

16. The study of boundaries is an essential part of the examination of political geography.


18. Grescoe, 165.