Session No.14

Course Title: Breaking the Disaster Cycle: Future Directions in Natural Hazard Mitigation

Session Title: Ethics and Hazard Mitigation; Applying Ethical Criteria

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Time: 150 minutes + 15 minute break

Objectives:

14.1 Understand the issues involved in ethical hazard mitigation planning and action.
14.2 Identify the types of groups with ethical mitigation responsibilities
14.3 Discuss the competing values that underlie mitigation programs and policies
14.4 Discuss the ethical principles that apply in mitigation
14.5 Describe the types of ethical issues that arise in conducting mitigation analyses
14.6 Participate in an exercise to develop an ethical code of conduct for a local mitigation program

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Scope:

The first part of the session is a lecture on the issues and context of ethical hazard mitigation planning and action. The instructor identifies the groups with ethical responsibilities, and discusses with the class the values, principles, and conflicts that arise during the planning and implementation of natural hazard mitigation.

The second part of the session is an exercise in which teams of students collaborate in developing a proposed ethical code of conduct for a local hazard mitigation program. The code is to recommend general community-wide ethical principles and targeted ethical guidelines for each type of stakeholder group involved in mitigation.

Reading:

Instructor and student reading:

Godschalk, David R., et al., 1999. Ch. 12. Ethical Guidelines for Hazard Mitigation, pp. 479-524. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning.* Washington, D.C.: Island Press.

Beatley, Timothy. 1994. Ch. 1. Land Use Policy and Ethical Choices, and Ch. 2. Ethical Discourse About Land Use, pp. 3-30. *Ethical Land Use: Principles of Policy and Planning*. Baltimore, MD: Johns Hopkins University Press.

Interagency Floodplain Management Review Committee. 1994. Executive Summary, pp. vii-xiv. *Sharing the Challenge: Floodplain Management into the Twenty-first Century*. (Galloway Report) Washington, D.C.: U.S. Government Printing Office.

Additional instructor reading:

Beatley, Timothy. 1994. Ch. 10. Expectations and Promises in Land-Use Policy, Chapter 11. Private Property, Land-Use Profits, and the Takings Issue, pp. 170-208, Ch. 15. Principles of Ethical Land Use, pp. 261-274. *Ethical Land Use: Principles of Policy and Planning*. Baltimore, MD: Johns Hopkins University Press.

Godschalk, David R., Richard Norton, Craig Richardson, David Salvesen, and Junko Peterson. 1998. Hazards Notification, Ch. 2., pp. 14-38. *Coastal Hazards Mitigation: Public Notification, Expenditure Limitations, and Hazard Areas Acquisition*. Chapel Hill, NC: Center for Urban and Regional Studies.

Handouts:

Exercise Instructions

Overheads:

14.1	Ethical Context for Hazard Mitigation
14.2	Who Has Ethical Responsibility for Hazard Mitigation?
14.3	Competing Values in Hazard Mitigation: What Should Have Priority?
14.4	Ethical Principles in Mitigation
14.5	Ethical Mitigation Analyses
14.6	Guidelines for Ethical Hazard Mitigation

General Requirements:

The instructor presents a lecture on ethical hazard mitigation planning and implementation during the first part of the session. The second part of the session is an exercise in which teams of students develop and present a set of proposed ethical guidelines for a local hazard mitigation program.

Remarks:

During the previous class, students are formed into small teams and asked to propose ethical guidelines for a local hazard mitigation program. The community may be one with

a hazard mitigation program familiar to the students, or it may be one assigned by the instructor. Student present and discuss their recommendations during the class period.

14.1 Understand the issues involved in ethical hazard mitigation planning and action.

Following the Midwest Flood of 1993, an interagency committee (popularly called the Galloway Committee after its executive director, General Gerald Galloway) was formed to explore the lessons learned and to make recommendations for improving floodplain management. According to the Interagency Floodplain Management Review Committee (1994, p. v):

> "…all levels of government, all businesses and all citizens have a stake in properly managing the floodplain. All of those who support risky behavior, either directly or indirectly, must share in floodplain management and in the costs of reducing that risk. The federal government can lead by example; but state and local governments must manage their own floodplains. Individual citizens must adjust their actions to the risk they face and bear a greater share of the economic costs."

Some people may find it puzzling to link the concept of ethical behavior to the practice of hazard mitigation. However, there is no doubt that values play an important part in mitigation decisions. If ethics is seen as the discipline dealing with what is good and bad and with moral duty and obligation, or as a set of moral principles or values, then the connection is clear. For example, you might hear someone say after a disaster that the government was *wrong* to allow development in a high hazard zone, or that the architect *should have* specified a hurricane resistant structure, or that it was the homeowner's *responsibility* to have purchased flood insurance, or that the building inspector *failed* to ensure that roofs were installed according to the building code, or that the administrators of the buy-out and relocation program *discriminated against* lower income homeowners. All of these imply ethical responsibilities and ethical value judgments.

As Godschalk et al. (1999) point out, we encounter four types of ethical issues in hazard mitigation (*Figure 14.1 Ethical Context for Hazard Mitigation*):

- Who is responsible for safety? Is it the government, the private sector, professionals, or individuals?
- What values should be given priority? Should the emphasis be on public safety, property protection, environmental preservation, property rights, or some other value?
- What is fair? How do we make equitable decisions about who benefits and who pays?
- How do values influence analyses? What value assumptions underlie benefit-cost analysis or determination of risk probability?

Most of the time, resolution of these issues is left to individual decision-makers, professionals, or public officials, acting on a case-by-case basis. Certainly, the situational

facts and conditions should play an important role in ethical decisions. However, we should also recognize the cumulative knowledge about ethical issues gained through experience, and be able to organize this knowledge into lessons learned. Such lessons can be valuable to those planning and conducting pre-disaster mitigation programs, as well as those making "street level" judgment calls in post-disaster recovery.

Given the prevalence of ethical issues in hazard mitigation, does it make sense to develop clear ethical principles to guide hazard mitigation programs, plans, and behaviors? Wouldn't such principles be helpful to those involved in making hazard mitigation decisions, in the public and private sectors, as professionals and lay people, and as organizations and individuals? This session is devoted to exploring this question. First, we will describe the various groups who have ethical mitigation responsibilities, then we will discuss the competing values beneath mitigation policies and how to make fair decisions and conduct ethical analyses. In the second part of this session we will review and discuss your proposals for an ethical code of conduct for a local mitigation program.

14.2 Identify the types of groups with ethical mitigation responsibilities

While the responsibility for hazard mitigation is shared among many groups, we recognize some groups as having clear and obvious responsibilities for ethical mitigation, such as government officials and professionals involved with building design, construction, and location. However, they are not the only players with ethical mitigation responsibilities. The full list includes (*Figure 14.2 Who Has Ethical Responsibility for Hazard Mitigation?*):

- Government officials (federal, state and local)
- Professionals in the design and construction field (architects, engineers, planners, and building code officials)
- Builders and developers (who plan and construct housing and commercial projects)
- Building owners and landlords (who invest in structural mitigation and safety measures)
- Home and property owners (who carry out mitigation actions and invest in flood and hazard insurance)
- Realtors (who advise property owners and buyers about hazard and mitigation)
- Politicians and interest groups (who place mitigation on the public agenda)
- Businesses and other private sector organizations (who integrate mitigation into their operating procedures to safeguard employees, customers, and facilities)
- Utility companies (who set and carry out standards for protecting lifelines from hazard risks, and restore services following interruptions by disasters).

We turn to federal, state, and local government officials for first order leadership in hazard mitigation. Governments enact the mitigation laws, pass the mitigation budgets, and carry out the mitigation policies through their mitigation programs. All of these efforts involve some choice of values and fairness standards. For example, is it fair that a homeowner with property in the floodplain fronting a river be allowed to purchase federal flood insurance at the last minute when the flood warning has been published,

even though neighboring property owners have been paying flood insurance premiums for a number of years? This was the case until the federal flood insurance program rules were changed following the Midwest Floods of 1993. To counter the growing expectation that the federal government should bear full responsibility for disaster relief and hazard mitigation, the Interagency Floodplain Management Review Committee (1994, p. viii) recommended that we must:

> "Share responsibility and accountability for accomplishing floodplain management among all levels of government and with all citizens of the nation. The federal government cannot go it alone nor should it take a dominant role in the process."

Ethical standards are also expected of professionals, who operate under their own ethical codes. Architects, engineers, and planners are all expected to maintain the public safety in their projects, through compliance with building and safety codes, as well as through their own standards of practice and through remaining up to date with the latest technical knowledge. However, they must balance these with competing demands to be economically competitive, to design cutting edge structures, and to avoid liability.

Building owners, homeowners, property owners, and landlords all share some responsibility for mitigating known hazards, both to protect lives and property. They often face severe economic demands to upgrade the safety features of older buildings, in order to meet newly adopted codes or standards. In many cases, they can find technical and financial assistance from government agencies, but the responsibility to pursue mitigation is theirs. The responsibility to purchase hazard insurance is also theirs. As stated in the report of the Interagency Floodplain Management Review Committee (1994, pp. v-vi):

> "When floods occur, impacts on individuals and communities can be mitigated with a flood insurance program that is funded by those who are protected. Full disaster support for those in the floodplain is contingent on their participation in these self-help mitigation programs. Measures that internalize risks reduce the moral hazard associated with full government support."

Realtors have a special responsibility to advise property sellers and buyers concerning the existence of hazards and the need for mitigation. Because of their community wide knowledge of land use, realtors are expected by the public to be accurate and ethical communicators concerning risk conditions. Some states recognize this responsibility in their laws regarding public notification concerning the presence of hazards (Godschalk et al. 1998). California's Alquist-Priolo Earthquake Fault Zoning Act is a mandatory program requiring that buyers of residential and commercial property within a mapped earthquake fault zone be notified of this condition by real estate agents prior to signing a purchase agreement. Notification of flood hazards is required by Tennessee, South Carolina, Texas, and Massachusetts. But many states simply have a "buyer beware" policy, putting the responsibility on individual realtors and sellers to follow their consciences.

Politicians and interest groups (both political and development-oriented) also bear responsibility for ethical hazard mitigation. When public safety and economic development are in conflict, local politicians often promote economic development first. While the case of the mayor refusing to warn beachgoers about the presence of a shark in the movie, "Jaws," is an extreme example, there are many cases of post-disaster recovery in which destroyed areas in hazard zones were built back at much higher densities than were originally in place.

Businesses and other private sector organizations also have mitigation responsibilities. These extend from procedures for safeguarding their employees during extreme events to planning and locating their buildings away from hazard areas. Many large corporations now employ their own risk managers--professionals whose job it is to advise executives on mitigation measures and needs.

Finally, utility companies have major ethical responsibilities for hazard mitigation. They must prepare for disasters by hazard proofing their facilities and lifelines. They must organize so as to maintain services during extreme events. And they must develop clear and equitable priorities for restoring services following disasters, so that disadvantaged customers are not placed far down on the list for restoration.

14.3 Discuss the competing values that underlie mitigation programs and policies

Godschalk et al.(1999) identify a number of values that may be in competition for attention in the formation and execution of hazard mitigation policies and programs. The list includes (*Figure 14.3 Competing Values in Hazard Mitigation: What Should Have Priority?*):

- public safety
- property protection
- environmental preservation
- historic preservation
- personal freedom
- individual property rights.

There is general agreement that protecting people from injury and death is a primary value that trumps other values, and that property protection is in second place. But it is the tradeoff between public safety and property protection and the other values that is often at issue.

Godschalk et al.(1999) stress the conflict between environmental preservation and protection of life and property. They suggest that this need not necessarily be a conflict, since alternative measures can often be found that protect all these values. For example, conservation of wetlands can serve as an effective flood control strategy. After the 1993 Mississippi River floods, some of the farmland along the river was converted back to its original function as a wetland in order to mitigate future flooding.

Perhaps the most serious conflicts arise between personal freedom and property rights versus protection of life and property. Americans are accustomed to believing that they can do what they want in terms of where they live and what they do with their land, even if this means putting themselves or their property in harm's way. They resist paternalistic efforts by governments to protect them from floods, hurricanes, or earthquakes, on the grounds that they should be free to make decisions about their own lives and property without government interference. But this same individualistic ethic seems to fade away when they need disaster assistance. And their calculations of risk rarely include the public safety officers who must put themselves at risk to rescue the staunch individuals from their flooded homes. As Godschalk et al.(1999, p. 502) observe: "Even though mitigation programs sometimes take away certain personal freedoms, they give back an assurance of safety that would be difficult to achieve individually."

The issue of property rights is a special case. In *Lucas v. South Carolina,* the U.S. Supreme Court decided that denial of a building permit under the state coastal management act deprived the property owner of all of his property rights, even though the act was designed to protect coastal property owners from coastal storms and erosion. However, this has proven to be an isolated case with special circumstances, and other states, such as North Carolina, have successfully enforced their coastal setback and building construction laws.

14.4 Discuss the ethical principles that apply in mitigation

Most ethical principles are grounded in the notion of fairness. However, fairness includes issues of both equitable processes and equitable outcomes, as well as issues of who should pay for mitigation, who is entitled to disaster assistance, and how mitigation burdens should be shared (*Figure 14.4 Ethical Principles in Mitigation*).

We expect that governmental rules for mitigation and disaster assistance will apply equally to all those affected. However, the fairness of the way that those rules are applied is a critical matter. Equal treatment is a clear standard, but it can be difficult to achieve in practice when judgment calls must be made. For example, whether a structure is judged to be 65 percent damaged versus 66 percent damaged can make substantial difference in the rebuilding standards following a disaster. Added to this complexity is the public pressure following a disaster to be allowed to rebuild as quickly as possible, in order to "get back to normal."

Equitable outcomes are related to the issues of distributional equity. Lower income households tend to live on less expensive property, whose low cost is often due to its location in hazard zones, and to live in substandard housing, which is more vulnerable to earthquakes, floods, and other natural hazards. These households may not be able to afford the expense of elevation or structural strengthening required to mitigate hazard risks. And during recovery from a disaster, these same households may have less access to information, technical and financial resources for rebuilding than wealthier households. Devising equitable solutions to such problems can be very difficult.

Who should pay for mitigation is another ethical issue. If someone voluntarily puts themselves at risk, by building a house on an ocean shorefront subject to hurricanes and storm damage, should they expect the taxpaying public to bail them out following a disaster? Or should they be required to contribute to their share of disaster recovery costs? On the other hand, if a poor household can find no other affordable housing except that which lies in a hazard area, can they be expected to bear the costs of disaster relief and recovery? A related issue is whether the local community should be expected to pay for its own relief and recovery or whether this should be a responsibility of the national taxpayers. This last issue underlies the debate over what the federal/state/local cost share formula should be for hazard mitigation grants. Godschalk et al.(1999, pp. 511-512 suggest two possible standards:

- the *benefit standard*, under which those who benefit most should pay the most,
- the *culpability standard*, under which those who create the hazardous circumstances should pay for mitigation.

Who is entitled to disaster assistance? Is it fair to "blame the victim"? Or is there an unfortunate "victim mentality" under which anyone affected by a natural disaster deserves financial assistance? Is this a guaranteed right to which every household, business, and community is entitled? Or should there be some standard of contribution to group mitigation programs, such as hazard insurance or local mitigation programs? Should there be a benefit standard under which owners of higher cost property pay more or should the contributions be based on a different calculus? Should there be a culpability standard under which those who put themselves at risk pay for both mitigation and disaster relief? The Interagency Floodplain Management Review Committee (1994) essentially recommends that both a benefit standard and a culpability standard should be applied.

How should mitigation burdens be shared? The question of how the burdens should be shared arises often when households are relocated from floodplains or other hazard areas into safer neighborhoods. Because the relocated households are often poor, disadvantaged, or minority, there may be resistance to relocating them into established neighborhoods. Godschalk et al.(1999) term this a NIMBY or not in my back yard reaction, similar to opposition to non-hazard related land use changes. This raises the ethical issue of how local emergency management agencies should cope with finding safe new locations for relocated households in desirable areas of the community.

14.5 Describe the types of ethical issues that arise in conducting mitigation analyses

The prevailing analytical test for approving proposed hazard mitigation projects is whether they are cost-effective. FEMA's standard simply asks if the ratio of benefits to costs exceeds one. However, this type of analysis has been criticized particularly on the grounds that many important mitigation values can not be easily quantified into monetary terms. (*Figure 14.5 Ethical Mitigation Analyses*) Godschalk et al.(1999, p. 515) cite the report of the Interagency Floodplain Management Review Committee:

> "Because of their non-market nature, environmental quality, ecosystem health, the existence of endangered species, and other social effects are not easily quantified

in monetary values. This limits formulation and acceptance of projects capable of striking a better balance between flood damage reduction or other water resources development and the environment."

Another set of issues results from scientific and technical uncertainty about the likely impacts of future hazards generated by dynamic and complex natural systems. One aspect of this is the potential for a false sense of security resulting from floodplain maps, which may be out of date or inaccurate. Another aspect is the lack of precision in hurricane storm tracks, which poses an ethical problem for emergency management officials who must protect the public but at the same time must not "cry wolf" too often, thus destroying the credibility of future warnings.

In recognition of the problems with existing analyses of mitigation benefits and costs, Congress has directed FEMA to fund an independent study to assess the future savings resulting from the various types of mitigation activities. This study is being conducted by a consulting team under the guidance of the Multihazard Mitigation Council of the National Institute of Building Sciences during 2003-2004. It will look at the benefits and costs of both project and process mitigation efforts, and will assess them both through a quantitative statistical analysis of the FEMA data base and through selected community case studies. The results are expected to be a definitive analysis of both market and non-market values resulting from natural hazard mitigation.

14.6 Participate in an exercise to develop an ethical code of conduct for a local mitigation program

Godschalk et al. (1999, pp. 516-522) suggest 28 guidelines for ethical mitigation as a starting point for debate about what local mitigation officials *should do*. (*Figure 14.6 Guidelines for Ethical Hazard Mitigation*) Your assignment is to translate these guidelines into a proposed ethical code of conduct for a local mitigation program. In terms of the context for your ethical code, you may consider either a local mitigation program whose problems you are familiar with, or a more generic community whose hazards and issues you may imagine.

Exercise:
Assume that a public hearing is being held to consider adopting an ethical code of conduct for a local hazard mitigation program. Each team will have an opportunity to present and defend its proposed ethical code. Other participants will have an opportunity to raise questions and discuss the implications of the proposals. At the conclusion of the presentations and discussions, a vote will be take as to which code is the most desirable for adoption.

Instructor questions:

1. What are the practical implications of your proposals? Who will monitor behaviors and decide whether they meet the ethical standards of the code? Will there be penalties for unethical behavior? Is it feasible for a community to consider developing a formal mitigation ethics policy?

2. What are the legal implications of your proposals? If you provide special benefits to lower income households, will these be subject to constitutional challenges on unequal treatment?
3. Can you give an example of the application of your code in a specific circumstance, such a recovery from a flood, hurricane, or earthquake?

Figure 14.1 Ethical Context for Hazard Mitigation

***Ethics*: the discipline dealing with what is good and bad and with moral duty; a set of moral principles or values.** (*Webster's New Collegiate Dictionary*)

Some fail to perceive the *connection* of ethics and hazard mitigation, but routinely ask:

- ***Should* government allow development in high hazard zones?**
- ***Should* architects be required to specify hazard resistant structures?**
- ***Should* homeowners in 100 year flood plains be required to purchase flood insurance?**
- ***Should* building inspectors be required to certify that roof installations meet the building code?**
- ***Should* buy-out & relocation programs avoid practices that discriminate against lower income households?**

Since all of these questions imply *ethical responsibilities* and *ethical value judgments*, doesn't it make sense to develop universal ethical principles for hazard mitigation?

Figure 14.2 Who Has Ethical Responsibility for Hazard Mitigation?

- **Government officials**
  - **Federal**
  - **State**
  - **Local**
- **Professionals**
  - **Architects**
  - **Engineers**
  - **Planners**
  - **Building code officials**
- **Builders and developers**
- **Building owners and landlords**
- **Home and property owners**
- **Realtors**
- **Politicians and interest groups**
- **Businesses and other private sector organizations**
- **Utility companies**

Figure 14.3 Competing Values in Hazard Mitigation: What Should Have Priority?

- **public safety**
- **property protection**
- **environmental preservation**
- **historic preservation**
- **personal freedom**
- **individual property rights**

Figure 14.4 Ethical Principles in Mitigation

Issues:

- **equitable processes (fair procedures)**
- **equitable outcomes (fair results)**
- **who should pay for mitigation**
- **who is entitled to disaster assistance**
- **how should mitigation burdens be shared**

Standards:

- **the *benefit* standard, under which those who benefit most should pay the most,**
- **the *culpability* standard, under which those who create the hazardous circumstances should pay for mitigation**

Figure 14.5 Ethical Mitigation Analyses

Issues:

- **How to *quantify* non-market values in monetary terms for benefit cost analyses**
  - **Environmental values**
  - **Social values**

- **How to deal with scientific and technical *uncertainty* in hazard analyses**
  - **Inaccurate hazard maps may create false sense of security**
  - **Imprecise hazard forecasts may generate unnecessary responses (e.g., evacuations)**

Figure 14.6 Guidelines for Ethical Hazard Mitigation
(Source: Godschalk et al. 1999, pp. 516-522)

1. **Discuss ethical choices**
2. **Consider full range of moral issues**
3. **Involve those affected in mitigation decisions**
4. **Give public needs priority over individual wants**
5. **Be honest about risks**
6. **Encourage individual, group, & governmental responsibility for safety and hazard reduction**
7. **Apply mitigation rules & standards fairly & consistently**
8. **Treat similarly situated individuals similarly**
9. **Obey & enforce the law**
10. **Demand professional accountability for public safety**
11. **Give protection of life priority over property protection**
12. **Preserve & restore the natural environment**
13. **Protect & preserve historic buildings**
14. **Develop mitigation alternatives that satisfy multiple values**

Figure 14.6 Guidelines for Ethical Hazard Mitigation (continued)
(Source: Godschalk et al. 1999, pp. 516-522)

15. **Minimize negative side effects of mitigation**
16. **Avoid burdening least advantaged**
17. **Ensure equal access to mitigation benefits**
18. **Consider interests of future generations**
19. **Minimize negative effects on neighboring communities**
20. **Provide benefits based on need, not citizenship**
21. **Respect personal freedom & life choices**
22. **Respect private property**
23. **Encourage land & property owners to minimize hazards and protect public values**
24. **Hold culpable those who contribute to disaster**
25. **Require those who benefit from risky behavior to assume some mitigation costs**
26. **Modify expectations about public disaster assistance**
27. **Clarify ethical assumptions of mitigation analyses**
28. **Convey uncertainties of science**