1

develop mitigation goals and objectives

Overview

Now that your hazard profile and loss estimation as described in *Understanding Your Risks* (FEMA 386-2) has been completed, it's time to identify appropriate mitigation actions and develop a strategy to implement them. To guide your decisions, you will develop goals based on your hazard profile and loss estimation findings. You will then formulate objectives to define a path for attaining your goals.

Goals are general guidelines that explain what you want to achieve. They are usually broad policy-type statements, long term, and represent global visions, such as:

- The economic vitality of the community will not be threatened by future flood events.
- Minimize wildfire losses in the urban wildfire interface area.
- The continuity of local government operations will not be significantly disrupted by disasters.

Objectives define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific and measurable, such as:

- Protect structures in the historic downtown area from flood damage.
- Educate citizens about wildfire defensible space actions.
- Prepare plans and identify resources to facilitate reestablishing county operations after a disaster.

Mitigation Actions are specific actions that help you achieve your goals and objectives. For example:

- Elevate three historic structures located in the downtown district.
- Sponsor a community fair to promote wildfire defensible space.
- Retrofit the police department to withstand high wind damage.

You should address all of your hazards, but focus first on what you determine to be the most significant and then address the others when time and resources are available. New tools such as HAZUS-MH are capable of producing multi-hazard risk assessments and aggregating loss estimates when more than one hazard is present.

Goals, objectives, and actions are based on a community's values, identity, and culture. There are no "wrong" goals when it comes to mitigating the effects of hazards. However, community mitigation goals should be consistent with the state's goals and should not contradict other community goals, such as those expressed in the local comprehensive or general plan.

In this step, information revealed in the hazard profiles and loss estimation will be used to develop clear mitigation goals—general guidelines that explain what you want to achieve—and objectives—statements that detail how those goals will be achieved. One way to begin this step is to phrase the findings of the vulnerability assessment as problem statements by reviewing the results of the hazard

and loss estimations and noting trends or patterns in the types and location of previous or potential hazard events, and in the vulnerability of infrastructure, buildings, or populations. You can then structure goals and objectives that steer you toward appropriate mitigation actions.

Procedures & Techniques

Task A. Review and analyze the results of the hazard profiles and loss estimation.

If you followed the planning process outlined in these guides, you completed a profile and loss estimation for each of the hazards affecting your community or state using the methodology outlined in *Understanding Your Risks* (FEMA 386-2). The hazard profiles include details on the causes of hazards, the likelihood of occurrence, severity, and extent of areas affected. Knowing the severity and frequency of a hazard are factors, among others, that you will consider as you decide which hazards to focus on first.

The loss estimation provides a dollar amount of damages for a particular hazard event in your jurisdiction. It can also provide related economic information, such as business interruption and revenue losses. After reviewing the loss estimation results, the planning team will have a better understanding of the potential impacts or consequences of the hazards. The planning team can now use the loss estimation and community asset data, and hazard profiles to prioritize the hazards and develop problem statements.

1. Review the findings of your risk assessment.

At the end of Phase 2, you compiled the results of your work into a written report. Most of the information needed to complete this task can be drawn from this report. Some technical assistance may be needed to interpret these findings:

   a. **Note the causal factors of each hazard.** For example, flooding in your community may be due to increased flows from excessive rains, snow melts, or backwaters from another river, or your community may experience flash floods in a particular area because of a small creek's capacity or increased paved surfaces due to development. Knowing the causes of the hazard will help determine what type of actions you can take to prevent future damage. Look at the hazard profiles you completed at the end of Step 2 in *Understanding Your Risks* for this information.

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The loss estimation you completed in the second phase of the mitigation planning process should have helped you determine the following:

- Which areas of the community or state are affected by hazards;

- What assets will be affected and how;

- How likely it is that the hazard event may occur; and

- How intense the hazard event may be in terms of its economic and social impacts.

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b. **Note the hazard characteristics.** How the hazard behaves will greatly influence the range of actions you take and when you implement them. For example, if areas in your community are vulnerable to chronic, low-level, but high-frequency hazard events (e.g., a 10-year flood), you may decide to take immediate actions to protect these assets. Similarly, knowing that the community is vulnerable to a lower probability, but high-damage hazard event (such as an earthquake in the New Madrid fault area) may lead you to take actions that could be accomplished over a longer period of time, but should also be started immediately. An example of this would be initiating the adoption of updated building codes. Look at the hazard profiles you completed at the end of Step 2 in *Understanding Your Risks* for this information.

Keep in mind that even if you followed the steps in *Understanding Your Risks*, you may not have necessarily distinguished between areas subject to chronic, low-damage events and areas subject to low probability, high-consequence events. However, understanding these conditions at this point is important for developing goals, objectives, and mitigation actions.

c. **Note which important and/or critical assets (historic, civic, emergency facilities, transportation, lifelines, etc.) identified in Phase 2 are located in hazard areas.** Look at the asset inventory you completed at the end of Step 3 in *Understanding Your Risks* for this information.

d. **Identify specific characteristics of assets in hazard areas that contribute to their vulnerability** (e.g., older buildings not up to current code located in the floodplain, manufactured housing located in flood- or tornado-prone areas, a hospital whose access can be blocked by landslides that may occur following an earthquake, or houses with wood shingle roofs located next to fire-prone woodlands). Look at the asset inventory you completed at the end of Step 3 in *Understanding Your Risks* for this information.

e. **Review the composite map of vulnerabilities and loss estimate tables to identify the areas and hazards that would produce the most potential losses** (see page 4-2 of *Understanding Your Risks*). Note whether there are special features or characteristics in these hazard areas, such as an economic hub, parkland, or special needs populations, including the elderly or low-income residents.

You should also revisit the community's collective notions of perceived risks and compare them to the actual risks and potential losses threatening your community. In the beginning of the planning process, team members, elected officials, and the public may have had preconceived notions of which hazards presented the greatest risk, but after preparing your hazard profiles and loss estimation, you now have a more fact-based idea of the hazards that present the greatest threats to your community. This may be an opportunity for a special briefing for community leaders, and for a more concerted effort to inform the public. The hazard profiles and loss estimation results should be reviewed with stakeholders when they come together to develop the goals and objectives for the plan.

2. Develop a list of problem statements based on these findings.

Your risk assessment findings may not clearly point you to which hazard to address first. You may be asking: Should we focus on the hazard that could affect the greatest portion of land, such as a wildfire? Maybe our best bet is to focus on the hazard that would result in the greatest amount of damage, such as an earthquake with the potential to level the entire community, or maybe we should focus on the hazard with the greatest chance of occurring, such as a flood. Where should the planning team start in this analysis? One way to carry out this analysis is to develop a list of problem statements. Start by addressing previously listed items *a* through *e* to see your community's vulnerabilities more clearly. Write down each problem that was identified in the report. For example, in Hazardville, the risk assessment identified flooding, wildfires, and earthquakes as hazards affecting the town. THORR can now write such statements as:

a. The manufactured home park is the most vulnerable area to flooding. This area floods each year. Flooding is caused by excessive rains.

b. The sewage treatment plant is located in the 100-year floodplain.

c. The lighthouse, of significant historic value, is threatened by erosion from coastal flooding. The rate of erosion is 5 feet per year.

d. Wildfires could destroy the primary forest and a number of residential structures. We are experiencing the fourth year of drought conditions.

e. Hazardville has a moderate earthquake threat. The town lies within a seismic zone that has a 10% chance of exceeding 0.3g in 50 years. An earthquake of that size could damage much of the town and disrupt lifelines, but would cause the most damage to the older buildings located in the downtown business district.

You will probably end up with several problem statements for each hazard. You may also notice that some areas or assets could be affected by multiple hazards. Writing down these issues will help you to better decide which issues to address first.

By the time you complete this exercise, you may have a very long list of problem statements. The challenge you now face is to convert the problem statements into general goal statements to address these issues. One approach you can take is to group problem statements by theme. Look for common or similar characteristics and group those statements together.

> You may want to take the opportunity to **prioritize** the issues/problem statements to reflect their relative challenge to the state/community.

Task B. Formulate goals.

Your mitigation goals should articulate the community's desire to protect people and structures, reduce the costs of disaster response and recovery, and minimize disruption to the community, tribe, or state following a disaster. These should not identify specific mitigation actions (those will be developed later), but identify the overall improvements you want to achieve.

Your state will have goals and objectives they wish to focus on, and any funding made available through state or tribal programs may need to address these priorities. Learn what these goals are before developing your own. Your goals should reflect the mitigation mission statement you developed in Phase 1 of the planning process (see *Getting Started,* FEMA 386-1), as well as state or tribal mitigation goals and other local community goals. Contact your State Hazard Mitigation Officer (SHMO) to verify your state's goals.

1. Develop proposed goal statements.

Once your problem statements have been grouped by similar themes, you can develop proposed goal statements that correspond to the problem statements. Goals are broad, forward-looking statements that succinctly describe your aims. Several problem statements can lead to one broad goal.

A comprehensive plan (also called a general or master plan) is a document that expresses community goals and objectives. This plan documents the community's desired physical development and includes policy statements that indicate the desired rate and quantity of growth, community character, transportation services, location of growth, and siting of future public facilities and transportation. It also indicates how these goals are to be achieved. These plans are comprehensive in that they cover the entire geographic area of a community and include all of the physical elements that will determine the community's future development. These plans usually contain written policies and land use maps. The comprehensive plan has no authority in and of itself, but it serves as a guide for community decision-making. One of the most common tools used to implement plan policies is the community's zoning ordinance, which creates land use districts and specifies the land uses permitted in each district. All land within the community is classified into one of the zoning districts. Other tools that are used to implement plan policies include subdivision ordinances, site planning and development codes, tax policies, capital improvement policies, and building permit policies. *Not all communities have such plans, however.*

Most communities update their comprehensive plans on a periodic basis, generally every 5 to 10 years. These plans, therefore, should be reviewed for their relevance to current conditions. During review of the community's comprehensive plan, consider ways to incorporate hazard mitigation components into the plan at its next scheduled update. Many communities already have comprehensive plans, and incorporating hazard mitigation into the next plan update is a good way to keep the community focused on making day-to-day decisions that support hazard loss reduction.

For example, if your problem statements addressing floods are:

- The manufactured home park is the most vulnerable area to flooding. This area floods each year. Flooding is caused by excessive rains.

- The sewage treatment plant is located in the 100-year floodplain.

Your proposed goal statement may be:

- Minimize losses to existing and future structures within hazard areas, or

- Minimize losses to existing and future structures, especially critical facilities, from flooding.

The first goal is very general. It can apply to any structure, including critical facilities, and also addresses other hazards. The second goal focuses only on floods and points out critical facilities as a priority. There is no right or wrong way of writing your goals. Some mitigation plans have very general goal statements (see the following two excerpts), while others may be more specific. The key is to write goals that are achievable through the corresponding objectives.

2. Review existing plans and other policy documents to identify potential conflicts.

Hazard mitigation goals, while broad, should be consistent with the goals and objectives of other plans in your community. Comprehensive plans, for example, may address issues such as sustainable development, smart growth, watershed protection, and transportation policies. Review existing plans and list the goals established in these plans to assess whether they conflict with those for reducing the effects of hazards. In the event that goals do conflict, it is important to discuss how such a conflict would be resolved. It may be that the existing plan did not benefit from the hazard knowledge you now have. When the goals complement each other, an opportunity to build support for mitigation is created, and there is the potential to implement planning initiatives that serve multiple objectives for your community.

Look for plans or policies that address topics that are closely related to mitigating the effects of hazards, including:
- Sustainability
- Economic growth
- Growth management

- Environmental preservation
- Historic preservation
- Redevelopment
- Health and/or safety
- Recreation
- Land use/zoning
- Public education and outreach
- Transportation

When reviewing the plans, note sections and related ordinances that could be revised or updated to provide a more comprehensive approach to hazard mitigation. These changes may end up as recommended actions in Step 2. For example, sections addressing redevelopment may be revised to include provisions to incorporate a hazard mitigation assessment of new redevelopment proposals. Review goals presented in other community mitigation plans within your state, or those of other communities with similar hazards, to determine whether you have overlooked any key issues. Contact your SHMO for assistance.

Task C. Determine objectives.

After you have developed your mitigation goals, you are ready to formulate objectives. Objectives are more specific and narrower in scope than goals. They expand on the goals and provide more detail on the ways to accomplish them. While the planning team undoubtedly will have many good ideas, the public should also be involved in developing these objectives. Several ways to include the public in this process are discussed in Task D. It is important to have measurable objectives because they provide a roadmap for successfully implementing the strategy.

Objectives define strategies or implementation steps to attain the identified goals. Unlike goals, objectives are specific and measurable.

Some goals and objectives may not be based solely on the results of the loss estimation, but also on social and environmental values, political desires, historic preservation concerns, and/or state mitigation priorities and funding opportunities. For example, a community with a large tourism industry may be more interested in protecting historic or commercial assets first than in protecting other assets that demonstrate a higher vulnerability to hazards. If this is the case, the planning team should document the reasoning behind these goals or objectives.

Task D. Get public input.

Involving the public when developing the community's goals and objectives is important to ensure fair representation of all sectors in the community or tribe and reduces the chance that any concerns will be overlooked. The more that the public or those who will be affected by your plan participate in the process, the more likely it is that they will support the process and the plan. The method you choose to use to involve the public depends on the size of your jurisdiction, the style of public input that normally is used for community issues, the established timeline, and the resources available. You most likely developed a set of procedures earlier in the planning process when you established the planning team and secured support for the process. The following summarizes some of the in-

Example of community goals and objectives:

Village of Gurnee, Illinois, Mitigation Goals (excerpted from the November 15, 2001 plan)

Goal 1   Protect existing properties.

Objectives:
- Use the most effective approaches to protect buildings from flooding, including acquisition or relocation where warranted.
- Enact and enforce regulatory measures that ensure new development will not increase flood threats to existing properties.
- Use appropriate actions to mitigate against the danger and damage posted by other hazards.

Goal 2   Protect health and safety.

Objectives:
- Advise everyone of safety and health precautions to take against flooding and other hazards.
- Improve traffic circulation during floods and at other times.
- Improve water quality and habitat.

Goal 3   Improve the quality of life in Gurnee.

Objectives:
- Preserve and improve the downtown core of businesses and services.
- Ensure that current owners can maintain and improve their properties.
- Use acquisition programs to expand open space and recreational opportunities.
- Maintain an attractive riverfront and other public open spaces.

Goal 4   Ensure that public funds are used in the most efficient manner.

Objectives:
- Prioritize mitigation projects, starting with sites facing the greatest threat to life, health, and property.
- Use public funding to protect public services and critical facilities.
- Use public funding for projects on private property where the benefits exceed the costs.
- Maximize the use of outside sources of funding.
- Maximize owner participation in mitigation efforts to protect their own properties.
- Encourage property-owner self-protection measures.

formation contained in *Getting Started: Building Support for Mitigation Planning* (FEMA 386-1).

1. Organize public forums to solicit input on community goals and objectives.

You may choose to conduct more than one of the approaches proposed below, or you may use another method that has already been successful in your community, tribe, or state. All of the approaches provide citizens with an opportunity to voice their concerns, present ideas about the mitigation plan, and learn about how proposed actions may affect them.

a. **Town Hall meetings.** Town Hall meetings are an effective way to bring citizens and other stakeholders together to learn about study findings and the progress being made on the plan, and to provide input on the proposed goals and mitigation strategy.

b. **Working groups or advisory committees.** Working groups or advisory committees may have already been established by topic areas, such as land use, environmental protection, and transportation. These committees can help the planning team identify goals and objectives specific to their topic areas. Membership in such committees should be broad-based. They should include people with direct knowledge or understanding of the topic, as well as those directly affected by the problems and/or those with a specific interest in it.

c. **Facilitated meetings**. A large workshop or group session may be more appropriate when many stakeholders are expected to attend. These meetings are most productive when a trained facilitator is used. With the facilitator's assistance, the planning team can get opinions, suggestions, and other information that may be useful to consider when setting goals and objectives.

Other participation methods include hosting a public workshop, establishing a hotline, conducting interviews, and distributing a survey or questionnaire (these methods are covered in *Getting Started,* FEMA 386-1). Workshops can be held at different milestones in the planning process for large or small groups of community, tribal, or state representatives, business representatives, and citizens. These meetings can bring problems and issues to the table and provide new ideas for solutions.

2. Develop consensus on goals and objectives.

An important task to accomplish during your public involvement activities is to build consensus on the proposed goals and objectives. Make sure that you allow time in the agenda for the participants to formally express their opinions on the proposed goals and objectives. See *Getting Started* (FEMA 386-1) for consensus building methods to use in your meetings. It is important for your elected leaders, civic organizations, and agencies to agree on the proposed goals and objectives, as they will guide your mitigation strategy.

Sample Performance-Based Objectives

You may wish to include time frames and specific targets within those time frames as part of your objectives (see examples). There is no single method for developing good objectives. What is important is that the objectives you develop achieve the goals and allow you to measure progress toward reducing your risks.

Element	Sample Performance-Based Objectives
Housing	Within 2 years, reduce by 10% the number of houses in the floodplain that are subject to repetitive losses from flooding.
	Within 10 years, reduce by 30% the number of houses that are in the floodplain and vulnerable to flooding.
Business	Within 2 years, increase by 20% the number of businesses that have developed a business risk reduction plan.
	Within 3 years, increase from 15% to 60% the proportion of businesses that have flood insurance.
Critical Facilities	Within 5 years, increase by 25% the number of wastewater treatment plants that have carried out mitigation measures to ensure their functionality in a 100-year flood.
	Within 5 years, increase by 20% the number of electric utilities in seismically vulnerable areas that have undertaken seismic retrofit measures to ensure their functionality following a damaging earthquake of magnitude 6.0 or greater.
Environment	Within 3 years, reduce by 20% the number of agricultural businesses that have production, storage, or processing facilities that are vulnerable to flooding.

Source: Hazard Mitigation in North Carolina: Measuring Success, February 2000

Summary

Developing clear goals and objectives that reinforce your overall purpose and mission for undertaking a mitigation planning process keeps the planning team focused and helps clarify solutions to problems and issues as they arise. Well articulated goals and objectives that are agreed upon by the planning team, elected officials, and the public provide the necessary framework by which decisions on mitigation actions will be based.
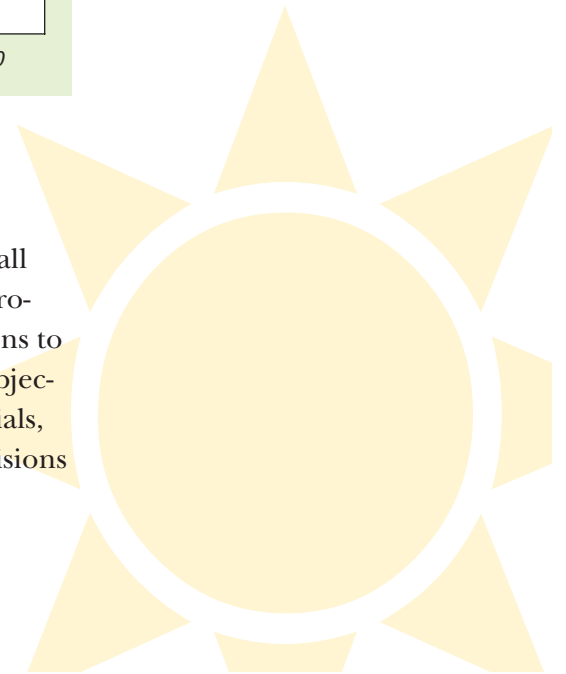
The Hazardville Post

THORR Develops Hazard Mitigation Goals and Objectives

(Part 1 of a 4-Part Series on the Mitigation Strategy Process)

[Hazardville, EM] In a facilitated workshop last night, the Town of Hazardville Organization for Risk Reduction (THORR) developed several hazard mitigation goals to guide the town in its mission of disaster resistance. THORR has been working for the past several months to develop a hazard mitigation plan, using the process outlined in the Federal Emergency Management Agency's (FEMA) how-to guides.

To identify goals and objectives, THORR first overlaid a base map of the town with a hazard map created during the loss estimation

Town of Hazardville Composite Loss Map

| Moderate Vulnerability | High Vulnerability | Extreme Vulnerability |

study completed in November 2001. Highlighting the areas in the town likely to suffer losses during hazard events, THORR and the advisory committee clarified the town's concerns with a list of problem statements, including the following:

- The manufactured home park is the most vulnerable area to flooding. This area floods each year. Flooding is caused by excessive rains.
- The sewage treatment plant is located in the 100-year floodplain.
- The lighthouse, of significant historic value, is threatened by erosion from coastal flooding. The rate of erosion is 5 feet per year.
- Wildfires could destroy the primary forest and a number of residential structures. We are experiencing the fourth year of drought conditions.
- Hazardville has a moderate earthquake threat. The town lies within a seismic zone that has a 10% chance of exceeding 0.3g in 50 years. An earthquake of that size could damage much of the town and disrupt lifelines, but would cause the most damage to older buildings in the downtown business district.

From these statements, THORR developed goals and objectives to address these problems. Joe Norris, Hazardville's Planning Department Director and task force leader, said that by defining the goals and objectives, "We are taking a long-range view to make our community more disaster resistant. We are developing these goals and objectives on a town-wide basis but are also considering statewide priorities."

Much of the credit for developing goals and objectives goes to the advisory committee. Advisory committee members had some very lengthy discussions about the difference between goals and objectives. Some members wanted to write very specific goals that sounded more like actions. Joe Norris was helpful in pointing out the difference and using existing goals and objectives of other Hazardville plans as examples to help guide the group.

"Sheila Frost, a local business leader and member of the advisory committee, worked really hard to bring town and county leaders together in a workshop to discuss sustainable development," Norris said. "At first, some THORR members didn't get the connection, but even-

(continued from page 1-12)

tually everyone realized that sustainable development could truly help our mission of disaster-resistance."

As stated by Mayor McDonald, "The primary purpose of hazard mitigation is to minimize or eliminate the vulnerability of people, property, and resources to all types of hazards. A key benefit is that money spent on hazard mitigation today will significantly reduce human suffering and future demand for large amounts of dollars when disasters strike. As part of this, we must closely examine all current town operations and policies."

Vincent D'Blizzard, a member of the advisory committee and president of the chamber of commerce, said that a hazard mitigation plan would reduce the economic losses that often follow a hazard event, including destruction of property, loss or interruption of jobs, and closing or disabling of businesses and critical facilities. D'Blizzard reminded business leaders that the manufactured home park where many of the workers live is prone to flooding and unreinforced commercial masonry buildings located in the older part of town are prone to earthquake damage. Mayor McDonald agreed, and added, "Mitigation is a philosophy that includes a range of actions that, when holistically implemented, increases a community's resiliency to disasters."

Some of the goals, and their associated objectives, identified in the workshop included:

Goal #1: Minimize losses to existing and future structures within hazard areas.

Objectives:
- Reduce damages to the manufactured home park in the floodplain.
- Address potential flooding problems to the sewage treatment plant.
- Strengthen existing buildings to withstand the impact of earthquakes.

Goal #2: Preserve invaluable cultural resources threatened by hazards.

Objective:
- Protect the lighthouse from erosion and coastal flooding.

Goal #3: Promote sustainable development to improve the quality of life.

Objectives:
- Establish open space parks and recreational areas in hazard areas.
- Provide for the conservation and protection of natural resources.
- Prohibit additional housing (especially elderly and high density) in areas of high hazard risk.

Goal #4: Increase public awareness of hazards to facilitate support for and adoption of mitigation actions.

Objectives:
- Develop education programs to reach all citizens, especially those within high hazard areas.
- Encourage businesses and private property owners to adopt appropriate mitigation actions.

Goal #5: Prevent destruction of forests and structures in the Urban Wildland Interface.

Objectives:
- Improve communications capability between local and county emergency management and law enforcement personnel.
- Protect structures in the Urban Wildland Interface.
- Develop evacuation procedures to enable residents near the forest to evacuate safely.

develop
mitigation goals
and objectives
1

**identify and
prioritize
mitigation actions**

step 2

prepare an
implementation
strategy
3

document the
mitigation
planning process
4