

FLOODING IN MILTON: COLLECTIVELY MANAGING CLIMATE CHANGE RISKS



Teaching Notes

Climate change threatens infrastructure, other components of the built environment, and coastal ecosystems. While there is overwhelming evidence that the climate is changing and sea levels are rising, exactly how and when climate change's effects will materialize in any particular place remains unclear. Adaptation efforts will be necessary to protect human development and ecosystems, but are likely to be complicated by the fact that stakeholders vary in their level of concern about whether and to what extent climate change is an issue that must be addressed now. Additionally, in many places, there is strong disagreement about what, if anything, government needs to do to manage climate change risks. Despite these challenges, adaptation decisions will have to be made, and it is increasingly important that cities and towns take the best possible scientific projections into account as they make collective judgments every day about what infrastructure to build, what development to allow, and what land conservation efforts should be given priority.

This seven-party, multi-issue negotiation exercise introduces a facilitated approach to collaborative risk management. It illustrates the value of engaging key stakeholders in joint decision-making in light of scientific uncertainty. Players must consider the impact of current land-use decisions and infrastructure investments on their community's economic wellbeing and safety, as well as its ecological stability, in the face of climate change risks.

Scenario

The city of Milton has a flooding problem. Milton recently experienced a major flooding event—during which the Granite River that runs through the city overflowed its banks, destroying or damaging many homes, businesses, and roads—and the threat of flooding appears to be getting worse.

River flooding in Milton is related to two different trends. First, over the last 50 years, as Milton and the surrounding metropolitan region have been developed, hard surfaces like roads and buildings have caused stormwater runoff to flow quickly into swollen creeks and rivers rather than drain into the ground. Second, it appears that rainfall patterns are changing. The recent storm is the third “100-year storm” that Milton has experienced in the last decade. Not only have these storms increased the frequency of river flooding, they have also caused sewer collection

systems to occasionally overflow on streets and into storm drains, thus polluting recreational areas, such as beaches and fishing waters.

In response to public concern, the mayor convened the River flooding Task Force, a small working group of city officials and community leaders, to generate recommendations about how flood risks in Milton can be managed now and into the future. If this Task Force can reach agreement on a set of actions to be taken, the mayor will make it his priority during the remainder of his administration to implement these actions.

Teaching Objectives and Key Lessons

This game is designed to achieve the following objectives:

- Increase awareness and concern about potential climate change risks and obstacles to addressing them as a community.
- Teach collaborative decision-making methods that can help communities effectively prepare for climate change impacts despite uncertainty about the future.
- Demonstrate the importance of using scientific forecasts and credible risk assessments in current everyday decision-making.

It aims to convey the following key points:

- Climate change adaptation poses difficult planning choices, but there are actions cities and towns can take now to protect themselves that will be beneficial regardless of how severe climate change risks turn out to be.
- Development, conservation, and infrastructure investments decisions made today will continue to affect communities far into the future. Short-term actions that do not take long-term climate change risks into account could prove extremely costly in the long run.
- There are ways of handling climate change risks that can meet multiple municipal goals simultaneously and do not require significant extra investment. “No-regrets actions” that take climate change projections into account can help to implement short-term planning, zoning, infrastructure and land-use decisions that will also make sense in the long term.
- A community-wide approach to managing the collective risks associated with climate change can create opportunities to address other issues while reducing vulnerability and enhancing community resilience.
- Communities must assess their vulnerabilities and decide which adaptation strategies are most appropriate.
- Stakeholders may have conflicting interests that shape their views about which public policy choices should be made. By working collaboratively and taking science into account, groups can find creative solutions that meet the interests of diverse stakeholders.
- At-risk towns and cities will have to consider how the financial responsibility for reducing climate risks will be distributed and who is responsible for managing certain climate change impacts.

Logistics

Time required:

- 30 minutes to read and review their General and Confidential Instructions
- 60 to 75 minutes to engage in the role-play simulation
- 30 minutes (minimum) for a follow-up debriefing

The game requires a minimum of seven players. For any given training event or class, there can be multiple groups of seven playing the game at the same time, preferably in separate rooms or spaced far enough apart to avoid overhearing each other's conversations. Some roles can be doubled up at a single table to incorporate extra players.

Introducing the exercise

Players should be informed in advance that the role-play exercise explores how stakeholders in coastal communities might work together to address climate change risks. They should also be told that the scenario is not aimed at promoting any particular perspective on how adaptation ought to proceed, but rather is intended to help them think about the climate risks and possible adaptation approaches their own real life community might consider.

Players will surely have personal opinions on the issues that will come up, but they should stay true to the roles they have been assigned, as explained in their Confidential Instructions. The debriefing at the end of the role-play will provide an opportunity for everyone to step out of character and talk about their real life perspectives and the lessons they took away from the exercise.

Setting up

Players should gather in groups of seven around a table. If you do not have an even multiple of seven, you will want to double-up certain roles, as explained in the "Preparation" section below.

If possible, the facilitator of each group should be provided with a whiteboard, chalkboard, or flip chart so they can keep track of their decisions. As the game manager, you should circulate through the room during game play to make sure all the groups have what they need and proceeding smoothly. Observing groups and listening in on their negotiations during game play will make it easier for you to lead the debriefing, since you can reflect on what you heard and saw.

Preparation

All players should receive a copy of the General Instructions. These may be distributed ahead of time. The General Instructions describe the scenario and the decisions the group will have to make, as well as provide some scientific information about climate change risks in easy-to-understand language.

Each player should also receive individual Confidential Instructions specific to his or her role. These should *not* be distributed ahead of time. These instructions describe each role's concerns and priorities. When distributing the Confidential Instructions, remind players *not to show* these instructions to other players.

Everyone should be given at least 30 minutes to familiarize themselves with their instructions and to prepare for the simulation.

It is critical that all seven roles at every table be filled. If the number of players is not an even multiple of seven, two players can be doubled-up to play the same role together at a table. If this is necessary, start by doubling-up the Alliance for Watershed Health role. The Geneva Heights Neighborhood Association and Chamber of Commerce roles may also be doubled-up if necessary. If you need to double-up roles, try to distribute the doubled-up roles across the different game tables. People playing the same role together may need an additional 5-10 minutes to talk together and develop a joint strategy before the game begins.

The facilitator's role

The game manager should be aware of the purpose and directions for the facilitator role. These are spelled out in the facilitator Confidential Instructions. Although all other roles should be assigned randomly, the game manager should ask if anyone is willing to play the facilitator role; not everyone is comfortable with this responsibility, and prior experience with group decision-making and facilitation is especially helpful for playing this role, although it is not mandatory.

The facilitator should start the discussion in each group. The facilitator's Confidential Instructions outline how to present the agenda. **It is essential that the facilitator ensure that the group considers the attached climate change projections.**

Simulation process

The simulation will require at least 60 minutes, though 75 minutes is preferable. Before beginning, make sure all the parties understand their instructions and the game logistics. Emphasize the following:

- Once the negotiation begins, players should remain in their roles until the end of the game.
- There is a designated facilitator who will manage each group.
- Players should try to come to consensus, which in this game will mean that at least five out of six players (not including the facilitator) agree with the "deal" that is worked out.
- All players must remain faithful to their Confidential Instructions. No player can agree to

- an outcome that includes provisions identified as unacceptable in their Confidential Instructions. Players are allowed to “fill in the blanks” i.e., to improvise when no specific guidelines are provided. But they must take stands consistent with the priorities indicated in their Confidential Instructions.
- Time is limited so all parties should make their points as clearly and efficiently possible. No one should be allowed to monopolize the group conversation.
- If multiple tables are playing concurrently, players should not interact with players from other groups during the exercise. Comparisons of decisions reached at each table should be made only during the debriefing.
- Modifying policy options or creating new options is entirely permissible and even recommended. However, players must not invent options that they know are unrealistic in the real world.

When all players have read their instructions and are prepared to begin, the groups should convene. If there are multiple groups, they should meet in separate rooms or at separate tables that are spaced far enough apart to avoid tables being distracted by what is going on in other groups. If roles are doubled up, people playing the same role should sit next to each other at their table.

Once the simulation begins, the facilitator should begin the discussion at their table, following the agenda laid out in the facilitator’s Confidential Instructions. The tables will then have the rest of the allotted time (60 to 75 minutes total) to reach an agreement. The game manager should stop all tables after the allotted time is up, regardless of whether tables have reached agreement or not. All participants should then regroup as one large group to begin the debriefing.

Possible Agreements

The following are possible agreements given the restrictions imposed by the Confidential Instructions. Other outcomes are possible if players choose to modify or combine options.

- On Issue 1 (Managing Flood Risks in the Lower Granite Area), the following are potential agreements. Other outcomes may also be possible.
 - The group may pursue floodwalls if they move forward without full consensus of the group. The Alliance for Watershed Health will not agree to floodwalls. The remaining five Task Force members could potentially vote for a floodwall, but it is likely that the Chamber of Commerce and Planning Director will not be satisfied with the decision.
 - Floodproofing buildings infrastructure are both possible options, but Community Action Partners is unlikely to be amenable to floodproofing buildings due to the high direct cost on homeowners.
 - The group may decide to pursue a buy-back program, but reaching agreement on how to fund it and how much money to allocate for this will be difficult. The Public Works director will likely be concerned that a buy back program will get caught up in red tape and not take effect quickly enough. The Chamber of

Commerce will be very concerned about the high cost of the project and the potential effect on the city's fiscal standing.

- On Issue 2 (Managing Growth in Northern Milton), the following are potential agreements. Other outcomes may also be possible.
 - It is possible for all group members to agree to incorporate LID in the zoning code; It is a relatively easy win-win option.
 - The public acquisition of development rights is a less likely agreement. The Chamber of Commerce will be skeptical of the government getting involved in real estate markets and others may express caution regarding the high cost of such a program.

- Trading across issues
 - Task Force members may be willing to accept a strategy that they are less supportive of on one issue, if the group agrees to implement something that they strongly favor for another issue. For example, The Alliance for Watershed Health may be more willing to accept flood-proofing infrastructure to address issue 1 if the group agrees to the acquisition of development rights for issue 2.

- Contingent agreements
 - Contingent agreements are possible and likely. For example, the Task Force might agree to only flood-proof certain types of key infrastructure, with a plan to flood-proof additional infrastructure as the need arises. Or the group might agree to conduct further research on flood risks and dynamics (such as acquiring more data on how sea level rise will impact the river levels and floodplains) and build floodwalls only if deemed necessary.

Debriefing

The debriefing is an important part of the exercise that allows players to discuss possible “take-aways” and link them to their real-life situations. All game players should be gathered for one large group debriefing.

To start the debriefing, the game manager should have the facilitator from each group give a brief summary of what agreement, if any, was reached. If no agreement was reached, have the facilitator and other group members try to explain why.

Then, the game manager should ask the following questions—or a similar set of questions—to promote discussion about group decision-making and climate change adaptation.

1. How did it feel to take on a role or perspective that is different from your own?
2. How did this exercise affect your understanding of the climate change risks facing your community?
3. Did this exercise give you any ideas about how your community might work together to reduce its vulnerability to climate change risks?
4. Should your town undertake a collaborative process for preparing for climate change impacts? What might such a process look like? Who would need to be involved?
5. What do you think are the most interesting take-aways from this experience?

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