COASTAL FLOODING AND CLIMATE-RELATED RISKS IN LAUNTON

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 the impacts of climate change 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 in order to reduce future impacts, and it is increasingly important that cities and towns take the best possible scientific projections into account as they make collective judgments everyday 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. Participants 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 coastal New England town of Launton has faced increasingly intense storms over the past decade, resulting in significant damage to homes and businesses. The town is concerned about climate change increasing the vulnerability of coastal neighborhoods as sea level rises and more extreme precipitation events exacerbate coastal flooding and storm surges. The eastern part of town has many homes and businesses and is vital to the town's economy and tax base. Tourism is important in Launton, and many of the town's

most valuable summer homes appear to be in vulnerable neighborhoods.
Because of recent storm damage and fears about what would have happened if Hurricane Paul, which caused severe damage farther south, had hit Launton, the town has decided to incorporate climate change adaptation into its Comprehensive Plan update scheduled for next year. The Town Manager has convened a task force to recommend ways of reducing potential damage to existing development and reducing climate-related risks associated with future development in Launton. The task force members are the Town Manager, the Emergency Management Director, a Town Council representative, the Executive Director of the Great Coast Regional Land Trust, the Executive Director of the Launton Chamber of Commerce, the Chairperson of the Brewer's Cove Neighbors Association, and a neutral facilitator.

Teaching Objectives and Key Lessons
This game is designed to achieve the following objectives:

- Increase awareness and concern about potential climate change risks and explore obstacles to addressing them as a community.
- Teach collaborative decision-making methods that can work in the face of climate uncertainty.
- Demonstrate the importance of using scientific forecasts and credible risk assessments in current everyday decision-making

The role-play simulation aims to convey the following key points:

- Climate change adaptation poses difficult planning choices, but there are measures cities and towns can take now to protect themselves from future changes in climate, despite uncertainty about the magnitude and timing of climate change impacts.
- Development, conservation, and infrastructure investment decisions made today will continue to affect communities long into the future. Short-term actions that do not take long-term climate change risks into account could be extremely costly in the future.
- 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 provides the added benefit of exposing undetected vulnerabilities and enhancing community resilience.
- Communities must assess their vulnerabilities and strengths and decide which adaptation strategies (i.e., no action, protect, accommodate, or retreat) are most appropriate for different climate change risks.
- 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 whose responsibility it is to manage certain climate change impacts.

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

The game requires a minimum of seven players. For any given training event or class there may 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 participants.

Introducing the exercise
Inform participants in advance that they will be participating in a role-play exercise exploring how numerous groups in a community may grapple with climate change risks facing coastal towns and cities. They should also be informed that the scenario with which they will be working is intended to help them reflect on their own situation. It is not aimed at promoting any particular perspective on how adaptation ought to proceed.

Participants will surely have personal opinions on the issues that will come up, but they should stay true to the roles they have been assigned. Their Confidential Instructions will help stay on course. The debriefing at the end of the role-play will allow everyone to step out of character and talk about whatever lessons they may want to take from the game and apply in their own situation.

Setting up
Participants will need to gather in groups of seven around a table. As mentioned above, many groups can play at the same time. Extra players can be assigned to double-up any of the roles, although it is preferable to double-up the Neighbors Association, the Chamber of Commerce or the Land Trust roles. If two participants at a table are sharing the same role, they may require additional preparation time to develop a joint strategy.

If possible, each group should be provided with a whiteboard, chalkboard or flip chart so they can keep track of the decisions they make. As the game manager you should circulate through the room to make sure all the groups have what they need and are proceeding smoothly. Listening in will make it easier to lead the debriefing.

Preparation
All players should receive a copy of the General Instructions. (These can be distributed to potential participants ahead of time.) They will also need Confidential Instructions specific to their role. (These should NOT be distributed ahead of time.) Everyone should be given at least 30 minutes to familiarize themselves with their instructions and to prepare for the simulation.

The General Instructions describe the scenario and the options for the group to negotiate. Some scientific information about climate change risks will be provided in easy-to-understand language.

It is critical that all seven roles at every table be filled.

Confidential Instructions describe each player's concerns and priorities. These are based on interviews with people in these actual roles in a community similar to the one depicted in the role-play. When distributing the Confidential Instructions, remind players NOT TO SHOW these instructions to other participants. If two players are sharing the same role at a given table they may need an additional 5-10 minutes to caucus and develop a joint strategy.

The facilitator's role
The game manager should be aware of the challenges facing the facilitator. These are spelled out in the Facilitator's Confidential Instructions. The game manager should ask for a volunteer willing to play the role of facilitator (even though all the other roles are best assigned randomly). Not everyone is comfortable with this responsibility. Although it is not mandatory, prior experience with group decision-making and facilitation is especially helpful for the person playing this role.

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 climate change projections which are attached to the General Instructions, are considered by the group.

Simulation process
The simulation will require at least 60 minutes; 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.
- Participants should try to come to consensus, which in this game will mean that at least five out of six players (not including the facilitator) are prepared to support whatever "deal" is worked out.

- All parties must remain faithful to their Confidential Instructions. No participant may 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. Group members monopolizing conversation will not be tolerated.
- Parties are allowed to break up into small groups or leave the table for private caucuses. If multiple tables are playing concurrently, however, players should not interact with anyone at any other table during the exercise. Comparisons of decisions reached at each table should only be discussed during the debriefing and not before.
- Modifying, combining, or creating policy options is entirely permissible, as long as the players think those options are realistic.

When all players have read their instructions and are prepared to begin the groups should convene. If roles are doubled up people playing the same role should sit next to each other

Once the simulation begins the facilitator should ask each player to give a 30-second summary of his or her interests. The facilitator should then remind everyone about the ground rules to which they have all agreed. He or she should then review the timetable for the rest of the meeting.

Possible Agreements

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

- On Issue 1 (Reducing Risk to Existing Development) the following are potential agreements. Other outcomes may also be possible.
    - The group may agree to pursue seawalls *if* they also pursue increased flood-proofing or a buyback program to help property owners move out of at-risk areas.
    - The group may decide to increase subsidies for flood-proofing or expand the flood-proofing requirement to the 500-year flood elevation.
    - The group may decide to pursue a buyback program, but the issue of how to fund it and how much money to allocate will be difficult to agree on.

- On Issue 2 (Reducing Risks Associated with Future Development) the following are potential agreements. Other outcomes may also be possible.
    - The group may agree to invest in upgrading roads and water infrastructure along the coast. However, the extent of upgrades will be controversial due

  - to concerns about whether the town should continue to invest in at-risk neighborhoods, or whether the expense is appropriate given climate uncertainty.
  - The group may choose to incentivize new development inland, but they will only reach a five out of six consensus at best on this issue if they do not include a conservation plan to address environmental concerns.
  - The group may choose to incentivize new development inland in conjunction with a conservation plan.

- Trading across issues
  - There are ways for players to trade across Issues 1 and 2. For example, the land trust role can offer to contribute funds towards the buyback program in Issue 1, if that group agrees to tighter land use regulations as part of a conservation plan on new inland development in Issue 2.

- Contingent agreements
  - Contingent agreements are possible. For example, the group might agree to infrastructure improvements along the coast that meet certain criteria (e.g., necessary for emergency access or improvements that have environmental benefits). Or the group could agree to expand flood-proofing subsidies, but cap the size of subsidy offered. Or they can only offer subsidies to homeowners who have not built floodwalls.

Debriefing

The debriefing is an important part of the exercise that allows participants to discuss possible "take-aways" and link them to their real-life situations. All game participants 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 different role from your everyday role?
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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