Water for you and me, or water for us? Regional collaboration in drinking water systems

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Case Background

The case in this simulation is inspired by real events related to drinking water provision governance in northeastern Illinois.

Safe Drinking Water Provision

The US Environmental Protection Agency (EPA) has established extensive guidelines for the protection of drinking water through the Safe Drinking Water Act (SDWA). While there are specific requirements for drinking water quality, communities utilize a combination of regulatory and voluntary approaches to address threats to their drinking water supply. The Clean Water Act provides the primary regulatory tool for protecting source water quality. Federal and state water program managers, and the public, all play a role in ensuring that Clean Water Act programs are adequately protective of drinking water supplies.

Despite these federal and state level policies, municipalities are not mandated in the choices that they make for drinking water provision, nor are they required to coordinate or collaborate with other municipalities. Some academic research suggests that enhancing connectivity, joint fact-finding, explicit decision-making, and monitoring of effects on water quality can be best accomplished through collaborative actions. However, fragmented

governance is an ongoing challenge for the provision of many public services, especially safe and affordable drinking water. Fragmented governance is a situation in which the scale of a policy problem crosses boundaries of many autonomous decision-making authorities like special districts, cities, and counties.

For example, a 2020 report shows that chloride concentration in shallow groundwater in Central County is above the secondary maximum contaminant level and traces this issue to local road salting practices. Without collaborative governance to coordinate management practices across hundreds of governments in and near the county, this problem will persist. Water systems often also reflect the inequality common in metropolitan areas. Communities with predominantly BIPOC citizens disproportionately contend with aging infrastructure, fiscal distress, and a limited ability to respond to climate change and other systemic stressors.

Often the decision processes regarding drinking water, the operational work, and the regulatory framework are complex and involve many levels of stakeholders. The list of important stakeholders can seem endless and complicated, including politicians, civil servants and technical staff, private or semi-private companies and consultants. National policies and legislation establish the institutional and legal framework, but do not offer much guidance in weighing governance options. In addition, many policymakers, regulators, and stakeholders are engaged in multiple ways in the water management system, including state agencies, regional agencies, municipalities, water providers, and local advocacy organizations. Coordinating all of these interests is often time consuming and potentially contentious.

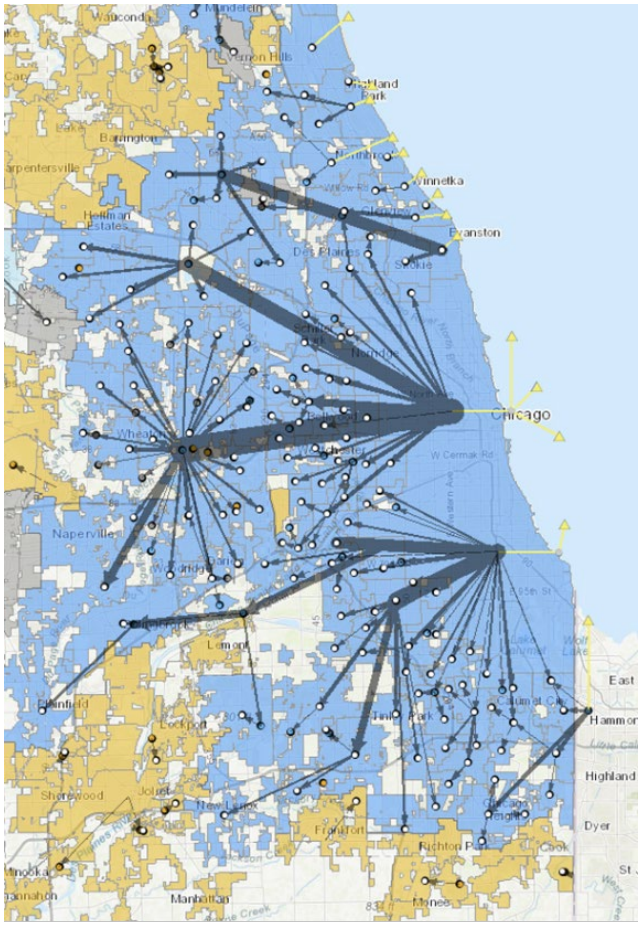
Fragmented Water Governance

The Chicago metropolitan area is considered the most fragmented urban region in the United States, with at least 1,550 individual units of government across the seven-county metro area. This high degree of fragmentation and heterogeneity between communities presents a unique challenge for urban governance. Regional concerns and opportunities that are cross-jurisdictional in nature require a higher degree of collaboration in the absence of a central authority. Depending on the context of the public service or governance area, independent units of government have a "menu" of different intergovernmental collaborations, ranging from informal *ad hoc* approaches to more formal institutions that are legally binding. The choice of institutional form for an intergovernmental collaboration can dictate how the rules, norms, regulatory framework, and resources shape interactions and outcomes of the collaboration.

One such area where the choice of intergovernmental arrangement has profound implications is the provision of drinking water. Despite its high degree of governmental fragmentation, public drinking water systems in the Chicago metropolitan area are somewhat integrated. The key driver for integration between water systems in the region is its proximity to Lake Michigan. In total, 167 of the 284 municipalities in the region rely on Lake Michigan as their source for drinking water. This has resulted in a network of integrated water systems that now stretch more than 30 miles from Lake Michigan's shores (see Figure 1 below). Without direct access to the lake, the majority of municipalities in the supply network must rely on intergovernmental arrangements with communities that can provide access to the resource.

The evolution of this supply network over the past several decades has resulted in a myriad of arrangements that include simple wholesale purchasing agreements between two communities to the creation of quasi-governmental organizations that are jointly governed by their municipal members.

Figure 1: Chicago area drinking water provision network



In the last decade, state officials have introduced a requirement for municipalities to develop long-term plans for their drinking water system. This includes assessments of

infrastructure, financing, lead service line replacement, and identifying any threats to their source of drinking water. As a result, several municipalities in the region that rely on groundwater have discovered a significant risk to the long-term viability of their shared aquifers. Hydrologists now predict that the current population and projected increase in demand for drinking water will result in some aquifers no longer being a viable source of drinking water in 30 to 50 years. This has triggered several municipalities in the region to begin investigating a transition to Lake Michigan as their source for drinking water.

While the Great Lakes hold approximately 90% of the United States' surface freshwater, and represent a near infinite supply of drinking water, there are significant legal restrictions to access. In 2008, the Great Lakes – St. Lawrence River Basin Water Resources Compact was ratified as a legally binding agreement between the states and Canadian provinces that are part of the Great Lakes Basin. This interstate compact stipulates the rules regarding how states/provinces may use the shared water supply. One of the most important rules in the compact stipulates if and how waters may be diverted away from the Great Lakes.

As a result, cities that do not fall within counties in the Basin and wish to use the Great Lakes as their source for drinking water must receive unanimous approval from the governors of all member states. However, an exception to this rule is the State of Illinois. At the time of ratification of the compact, it was determined that a prior Supreme Court decision regarding the diversion of Lake Michigan water in Illinois, due to the reversing of the Chicago River, superseded the compact. As a result, Illinois has a fixed allocation of 2.1 billion gallons per day

that can be diverted outside of the Lake Michigan watershed, which includes the drinking water being supplied to the 167 municipalities in the region.

It is currently estimated that approximately only 5%, or just over 100 million gallons per day, of Illinois' allocation is available for distribution. Although the available allocation provides an opportunity for a majority of the region's municipalities currently using groundwater as a source of drinking water to transition to Lake Michigan water, it is not sufficient to cover the demand from all remaining municipalities using groundwater. It should be noted that as more communities in the region transition to Lake Michigan, especially those with larger populations, the strain on groundwater supplies will be reduced and the long-term viability of aquafers may improve.

Historical Background

In addition to the long-term threats of a diminishing water source and being outside the state's maximum allocation of Lake Michigan diversion, an immediate challenge is presenting itself for a group of neighboring communities in the western suburbs of Chicago. In the late 1990's, the city of Stoneybrook made the transition from groundwater to Lake Michigan water as their primary source of drinking water. At the time, Stoneybrook determined that the most advantageous approach to financing the transition was to contract out with the state's largest private provider.

Prairie State Water Company submitted a Request for Proposals (RFP) that included the construction of a pipeline that would bring water from Middleton, a municipality that was part

of the Lake Michigan network and had sufficient capacity to serve Stoneybrook's projected demand. In addition to privately financing the cost of the pipeline, Prairie State Water also proposed to take over the management of Stoneybrook's water system. Not only did the proposal save Stoneybrook from the high cost of constructing new infrastructure, it also reduced their overall operating expenses by shifting the management of their water system to a service contract.

As the area developed in the subsequent decade, neighboring municipalities also determined that it was advantageous to contract with Prairie State Water, though to a lesser degree. In the neighboring community of Shelbyville, several expansive residential developments were constructed. Prairie State Water, Shelbyville, and the developers of the planned residential communities established a public-private partnership where Prairie State Water installed the water infrastructure and connected it to their existing pipeline. This effectively divided Shelbyville's water system into two sections. The original system remained connected to a groundwater supply and was only connected to the new section as a means of backup in the event of an emergency. Similar to Stoneybrook, Shelbyville also contracted with Prairie State Water to manage the maintenance and billing of the new system serving about 25 percent of its residents.

A similar circumstance also arose in neighboring Annecy. In 2010, a large industrial development was proposed near the border with Stoneybrook. The developers of the industrial park proposed connecting to Prairie State Water's system to reduce the cost of infrastructure construction and development fees. At the time of the development, Annecy was concerned

that the projected demand of the industrial park would exceed the capacity of their groundwater system and could force an investment into an additional deep well. By allowing Prairie State Water to serve the industrial development, Annecy effectively avoided costly capital outlays that would have likely been forced onto the developers and risked the development going forward.

Current Context

In 2018, elected officials in Stoneybrook and Shelbyville began to grow concerned with their contractual arrangements with Prairie State Water. In the time since privatizing their water systems, or portions thereof, residents of their communities had seen their water bills nearly triple. Under the franchise agreements with Prairie State Water, both municipalities transferred the authority of rate setting to the private provider. Under Illinois law, private water providers are required to seek authorization to increase rates through the state's Commerce Commission, but not through the elected boards of the communities that they serve. (See Figure 2 for current water rates across municipalities with different sources of drinking water.)

In order to gain approval for a rate increase, private providers must provide evidence that there is a financial justification for rate increases. Over the course of about a decade, Prairie State Water had been approved for more than six rate increases. Their justifications for requests for rate increases were based on the structure of their long-term financing for the

construction of initial infrastructure outlays, and increasing wholesale rates from the communities supplying Lake Michigan water (i.e. Chicago and Middleton).

Figure 2: Current monthly water bills and system size

Municipality	Avg. Water Bill	# of Accounts
Stoneybrook	$86.93	21,416
Mission River	$23.59	44,302
Julietta	$38.55	16,678
Annecy	$39.14	5,432
Middleton	$31.78	1,898
Shelbyville (Private)	$86.93	5,211
Shelbyville (Public)	$44.04	14,891

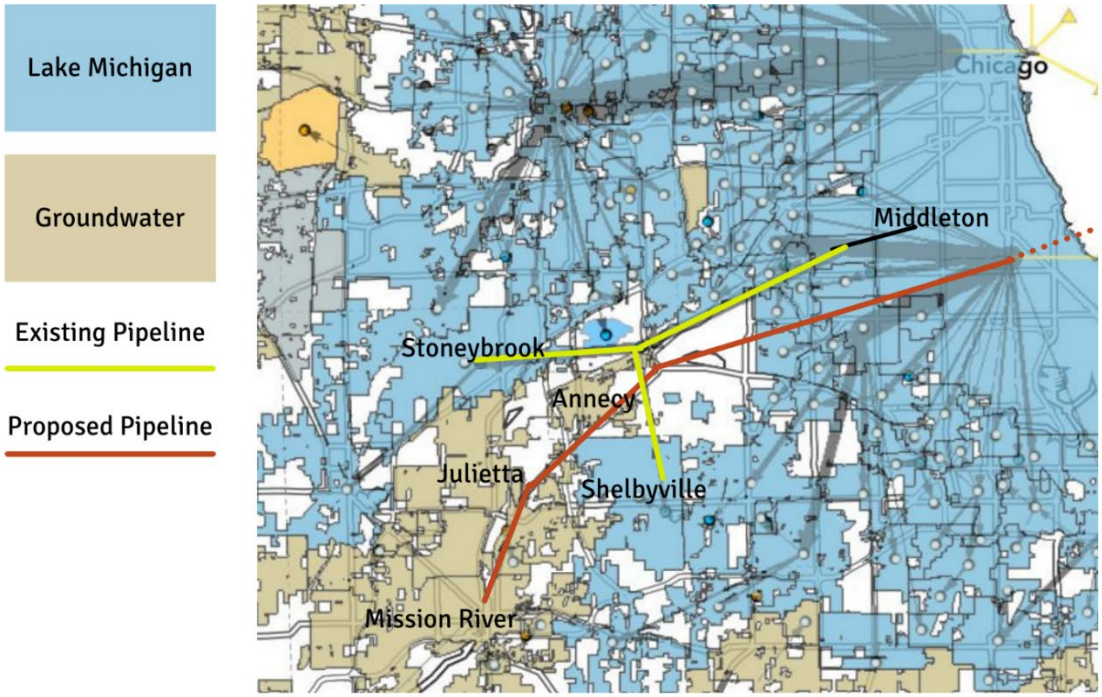
With more than 10 years left on their franchise agreements, elected officials in both communities were determined to find an alternative solution to prevent further rate increases for their customers. Recognizing the shared dilemma, the mayors of Stoneybrook, Shelbyville, and Annency agreed to meet and began investigating whether they could find a shared solution. During this initial meeting, one of the mayors informed the group that he had just

learned that two of their neighboring communities in Central County were also investigating switching to Lake Michigan as their source for drinking water.

Spurred by the state report regarding the long-term viability of groundwater in their shared aquifer, nearby Mission River had hired a consultant to conduct a water study for their community. The results of the report predicted that their projected demand would result in potential water shortages and higher costs of extraction and treatment within 15 years. The report made a firm recommendation that Mission River begin the process of requesting an allocation from the State and establish a set of options for connecting to the Lake Michigan distribution network.

After the Mission River report was made public, elected officials from the neighboring municipality of Julietta began discussing the need to conduct their own water study to determine if they faced the same threat as Mission River. Though it is a substantially smaller community by population, elected officials in Julietta were not willing to assume that the same threats were not relevant to their own system. Additionally, the predicted high cost of constructing the infrastructure necessary to connect to the Lake Michigan distribution network could potentially be shared with Mission River and reduce the overall burden on taxpayers in their communities. In Figure 3, you can see the sources of water, existing supply chains, and a proposed pipeline.

Figure 3: Water sources and pipelines



Given the potential for mutual benefits through intergovernmental collaboration around this shared dilemma, the mayors of these five communities determined that the appropriate next step was the creation of a Task Force to begin preliminary discussions of their options. The Task Force includes the following stakeholders:

- City administrators from each community
- Administrator from Middleton which is currently selling Lake Michigan water to Prairie State Water
- Central County administrator
- Representative from the Chicago Agency for Metropolitan Planning (CAMP)

- Consultant that had previously worked to establish a joint action water agency in another area of the Chicago metropolitan area

Prior to the Task Force meeting, each participant is responsible for consulting with their elected boards and appropriate staff (i.e. public works, finance department, community development, etc.) to determine any potential opportunities and threats to their own organization and water system through different strategies moving forward. Recognizing that one specific strategy is unlikely to be a "best fit" for all those involved, the Task Force members are being asked to discuss the alternative options openly. The goal is for elected officials from all the communities to better understand the complexity of issues and make the most appropriate decision for their community in the short and long term.

Governance Options for Sustainable Water Provision

Many of the communities in the region that currently rely on groundwater are now considering whether to make the transition, and equally important, how and with whom? The major questions include:

- Should we make the transition to purchasing water from Lake Michigan?
- If so, how are we going to gain access?
- Should we "go it alone" or work with our neighbors to share in the cost of transition?

In general, collaboration for public service provision has many associated costs and benefits. Specifically, there are four main issues to consider when deciding to collaborate for drinking water provision (Bendz & Boholm, 2019: Codrington & Hudak, 2008):

1. Municipal size - Some municipalities may be too small to solve their own issues with their drinking water system, and some larger municipalities may not be willing to adapt their current processes and infrastructure to collaborate.
2. Resource vulnerabilities – Consultant assessments may show that the traditional drinking water sources are dwindling, and actions need to be taken for long-term sustainability.
3. Capacity and competency - Sharing information and knowledge can be a major benefit of collaboration, but it also takes time to build social capital and trust in collaborations.
4. Goal alignment - In water systems, there are a variety of views of scale and scope that need to be aligned. Often, this is the most challenging part of establishing a sustainable intergovernmental collaboration.

In this case, several governments overlap and nest within one another to create many layers of complexity. The interests of one governmental authority may not align with others and may overlook the challenges of the broader system. Despite the potential challenges of intergovernmental collaboration, a variety of institutional forms of governance can be chosen for drinking water systems. The table below outlines the positive and negative aspects of three possible choices: 1) Go it alone, 2) Joint purchasing agreements, or 3) Integrated regional water management.

Table 1: Water Provision Options

Form	Pros	Cons	Considerations
Go it alone	Easier to assess and address all risks and benefits. Often less difficult to implement and adjust to respond to citizen needs.	Other local actors may make decisions on their own municipal, short-term needs. These decisions may be inefficient and even put other municipalities' water supplies at risk.	What do our water resources look like short-term? Do we have the resources to remain on our own system?
Joint-purchasing agreement	More internal control. Economies of scale for best pricing.	Can be costly to connect and integrate systems Owner of pipeline may have their own interests that are not aligned.	Who owns and maintains the pipeline? City, county or private company?
Integrated Regional Water Management (IRWM) Quasi-governmental joint action alliances across jurisdictions	Beneficial for solving collective-action problems. Functions to reduce the costs of bargaining, monitoring, and enforcement of agreements (Lubell & Lippert, 2011; North, 1990).	Reduces autonomy and can be time-consuming to establish. Upfront negotiation to establish the shared rules and norms around participation and future membership.	Who will be accountable to citizens? Do the participating municipalities' goals align? Do the participating municipalities have long-term sustainability in mind?

Overview of Key Task Force Stakeholders

The stakeholders below will attend the Task Force meeting. The included details are what you know from speaking with these stakeholders in the past. Each stakeholder will have more information and context to share at the Task Force meeting.

1. City of Stoneybrook – Original convener and main champion for the creation of the Task Force planning meeting. In Stoneybrook, 100% of the population gets water from Prairie State Water.
2. City of Annecy – Small number of effected customers because many citizens rely on groundwater. There may not be a benefit to changing water provision systems.
3. City of Shelbyville – 25% of customers are Prairie State Water customers, and elected official are primarily concerned with unifying water rates for all residents.
4. City of Middleton – There is an external supply possibility, but they need to consider liabilities of current contract with Prairie State Water. Leaders have already signaled that it may be in their best interest to collaborate.
5. City of Mission River – Recent report highlighted impending issues with aquifer supply. They are actively shopping around for potential options of collaboration and connection to Lake Michigan water supply.
6. City of Julietta – Low citizen engagement in issues of drinking water. They have financial challenges, and they draw from the same aquifer as Mission River.

7. Central County Manager – Focused on economic development and ensuring capacity for growth if supply capacity is expanded in Central County. The manager is known to favor whatever brings more capacity in the long term, and the state is more likely to favor quasi-government from a drinking water allocation standpoint.

8. Chicago Agency for Municipal Planning (CAMP) - As a regional planning organization, CAMP has a long-term view that favors the creation of a quasi-governmental alliances to draw from Lake Michigan. CAMP also collects and disseminates data that they will share at the Task Force meeting.

9. Integrated Environmental Consultants – Long-established environmental planning consultants with prior experience in organizing regional water governance alliances.

Preparing for the Task Force Meeting

You have been invited to a regional Task Force planning meeting to learn about a proposed multi-stakeholder alliance for drinking water provision. The City of Stoneybrook is hosting this meeting and has been talking with local municipal leaders over the last few months about the importance of this meeting.

Review your profile to learn about what municipality, county, or other stakeholder you represent. Additionally, review the profile for the consultant below closely. This profile contains important details about the different options for drinking water provision and important pros and cons. Next, take time to fully complete the Task Force Preparation Worksheet. The three questions on the second page of the worksheet should guide your thinking about what you will

discuss at the Task Force meeting, as well as any limitations you have identified for the stakeholders you represent. The main tasks for preparation are:

1. Clarify your short-term and long-term strategies as they relate to political, financial, environmental, and public needs.
2. Evaluate the challenges and opportunities of each of the three options for drinking water provision.
3. Determine what aspects of collaboration you may be able to negotiate and what aspects would not be supported by those you represent.

During the Task Force Meeting

The Task Force meeting convenes representatives from neighboring municipalities, the county, the local regional planning organization, and a consultant. A critical outcome for all members of the Task Force is information gathering. Prior to the meeting, each member has a narrow view of the situation, and it will take cooperation to develop a clear picture of the landscape, the opportunities, and potential challenges the Task Force is collectively faced with.

The City of Stoneybrook has called the meeting and set the agenda below.

Task Force Meeting Agenda

4. Welcome and introductions
5. CAMP regional data on drinking water
6. IEC information on collaboration
7. Discussion of municipal needs and opportunities
8. Break
9. Identification of collaboration opportunities

10. Establishing next steps

Stoneybrook is interested in identifying options for collaboration, but not all attendees, perhaps including yourself, seek collaboration options. During the meeting, actively take notes and engage in discussions to voice the needs of your community and stakeholders. As you learn about the perspectives and needs of other municipalities, the meeting facilitator will take notes and capture important information. Throughout the course of the meeting as you gain more information from other members, you may change your view on how to best meet your citizens' water supply needs, but at the end of the meeting, you must have a clear position on what you will recommend for your community.

There may be times during the meeting that there are disagreements and even agree-to-disagree topics. As you engage in the meeting, the following questions may be asked to help choose to collaborate, or not, and can help guide productive conversation (adapted from propositions in Ran & Qi, 2018):

1. Does my municipality want to cultivate collaboration through power sharing? Do others?
2. Do my stakeholders see the challenges in a similar way to others who want collaboration? How do our views differ?
3. Can my municipality voluntarily engage in collaborations, or will we be "locked in" to agreements?

4. How are others defining their cost-benefit analysis for decision-making? How is their process different from mine?

After the Task Force Meeting: (Optional) Write a Policy Memo

After the Task Force meeting, you will have made a decision about what type of drinking water provision would be best for those that you represent. Using your notes of the Task Force meeting discussion, write a two-page memo for your local elected officials that articulates your position and outlines the main reasons for this type of drinking water provision. Your policy memo should include:

- Brief background information
- Overview of the outcomes of the Task Force meeting
- Clear evidence for your decision about drinking water provision
- Concise discussion of the challenges and benefits
- Final recommendation

Teaching Note

Summary

This simulation gives students the opportunity to explore the complexities of drinking water provision governance, as well as relate important aspects of decision-making to the needs of the stakeholders they represent. In this case, there are a variety of viewpoints, including municipalities, counties, regional planning organizations, and independent consultants. The Task Force aspect of this simulation gives students the opportunity to first reflect upon, and articulate, their stakeholder's interest in collaboration. Next, the students engage in a facilitated discussion in which their orientation toward collaboration may shift as new information is learned. The final output of this simulation is an optional policy memo, based on student level, to share back with local-level policymakers about next steps in the governance of drinking water provision.

This simulation is designed for undergraduate and graduate students and professionals in the fields of Public Policy, Management, and Analysis. This simulation could also be effective in Environmental Policy courses. This simulation would best be utilized in courses that examine municipal government decision-making, collaborative governance to address complex public problems, and strategic management of public services. A key aspect of this simulation is that it directly challenges students to integrate stakeholder perspectives in the process of choosing short-term and long-term collaboration options in a polycentric and fragmented setting.

Additionally, this simulation includes the option for students to choose not to collaborate, reflecting the reality of the complexities of governance decisions, municipal capacity, and public opinion about drinking water provision.

The simulation also introduces students to the processes that bridge the phases of collaborative governance (Ansell & Gash, 2007; Emerson et al., 2012; Morse & Stephens, 2012). A short overview of those phases is included below and could serve as an introductory lesson, or a lesson included in a prior course meeting to prepare students for the simulation. This overview is offered as a way to help facilitate the growth of collaborative meta-competencies (Morse & Stephens, 2012).

Collaborative Governance Phases

Collaborative governance is broadly defined as processes and structures of public policy design. As such, collaborative governance decisions often engage important stakeholders that span public agencies, multiple levels of government, and/or nonprofit and for-profit entities (Emerson et al., 2012) that need to work together to solve a complex public challenge. In this simulation, students will engage in at least the first three, if not the full four, phases of collaborative governance as outlined in Table 2 below that is adapted from Morse and Stephens (2012). The table below phrases questions in each phase so that students could review the table before the simulation begins as a way to deepen their understanding of the processes of collaborative governance.

Table 2: Phases of collaborative governance

Assessment (Review stakeholder profile)	Initiation (Formulation of questions and Task Force meeting opening)	Deliberation (Discussion at Task Force meeting)	Implementation (May be the conclusion of Task Force meeting, but not necessary)
Based on my stakeholder profile, should I collaborate? What are the political, financial, environmental, and public need preconditions?	Is the issue framed in a manner that motivates me to collaborate? Who else do I need to engage/discuss my discussion with?	Does the possible group work effectively? What are the ground rules for engaging? Are we considering all the possible options	Who will do what? What kinds of processes and structures do we need? How will we monitor our new collaborative arrangement?

Learning Objectives

By the end of the simulation and submission of the policy memo, students will:

- Understand the complexity of drinking water provision in a fragment, polycentric setting
- Learn to integrate political, financial, environmental, and public needs for decision making in a collaborative setting
- Expand their practice of advocacy and negotiation skills in a multi-stakeholder deliberation setting
- Build solutions for municipal and county-level challenges that address diverse stakeholder needs

- Enhance their collaborative mind-set through understanding other stakeholders' needs and weighing governance options

Simulation Preparation

Roles: This simulation includes nine stakeholder roles and at least one Task Force meeting facilitator. With larger classes, multiple students may be assigned to each stakeholder role, and a group of students could serve as the Task Force meeting facilitators. An instructor or student(s) can serve as the facilitator. Additionally, the role of the IEC consultant can be assigned to a student, or the profile can be given to all students as background information.

Materials: For this simulation, the Teaching Note is provided along with the additional resources including: the Case Background document, Stakeholder Profiles to only be distributed to assigned students, Instruction for Task Force Facilitation, and a Task Force Meeting Preparation Worksheet. For the simulated Task Force meeting, large sheets of paper and markers can help gather feedback from the stakeholders, as well as track discussion of the possible governance options. Copies of the Stakeholder Profiles should be available to the assigned students, as well as copies of the Task Force Meeting Preparation Worksheet.

Preparation for instructor and students: As you review the case simulation, you may want to create a few basic slides for students to help discuss the concepts of polycentricity and fragmented governance. Additionally, you may want to introduce/review the basic definition of collaborative governance and orient students to the aspects of different phases.

Example Course Schedules

This simulation can be effective for both undergraduate and graduate students. Below are two example schedules that can be adapted for a variety of course formats. The first schedule is an example of a two hour and 30 minute class, and the second is an example of how to structure the simulation for two one hour and 15 minute classes. For both course schedules, students should have read the simulation and their assigned stakeholder profile before the class meets.

<u>Two hour and 30 minute course</u>

- 15 minutes – Introductions and overview of the Task Force meeting process
- 30 minutes – Each stakeholder discusses their short-term and long-term concerns and plans while facilitator takes notes on large paper
- 15 minutes – Opportunity for stakeholders to ask each other questions about priorities and collaboration options
- 15 minutes – Break- students are encouraged to stay in character as this simulates instances where negotiations and information sharing may take place outside the larger Task Force setting
- 40 minutes – Discussion of drinking water provision options. During this time, facilitator should take notes and work to point out areas of consensus and/or disagreement. There may be some stakeholders who choose to "go it alone", engage in a joint purchasing

agreement, or become part of an IWRM alliance. All solutions are possible and split-off groups can form as needed.

- 15 minutes – Stakeholder decisions and next steps
- 20 minutes – Debrief the Task Force Meeting

<u>Two one-hour and 15 minute courses</u>

First class

- 15 minutes – Introductions and overview of the Task Force meeting process and agenda
- 30 minutes – Each stakeholder discusses their short-term and long-term concerns and plans while facilitator takes notes on large paper
- 15 minutes – Break, but students should still stay in character
- 15 minutes – Opportunity for stakeholders to ask each other questions about priorities and collaboration options

Second class

- 5 minutes – Welcome and review the Task Force meeting process and agenda
- 30 minutes - Discussion of drinking water provision options. During this time, facilitator should take notes and work to point out areas of consensus and/or disagreement. There may be some stakeholders who choose to “go it alone”, engage in a joint purchasing agreement, or become part of an IWRM alliance. All solutions are possible and split-off groups can form as needed.
- 20 minutes – Stakeholder decisions and next steps

- 20 minutes – Debrief the Task Force meeting

Task Force Meeting Facilitation

The Task Force meeting can be facilitated by an instructor or student(s). Below are a set of questions to help facilitate the meeting. If a student(s) is facilitating, there are some additional resources below the questions.

1. At the opening, when stakeholders are discussing their individual views:
    a. What is the number one challenge or issue you would like the Task Force to discuss? (Political, financial, environmental, or public needs)
    b. What do you feel like you are doing well with drinking water provision right now?
    c. Do you have issues with environmental or financial capacity?
    d. Do you have political or public need challenges?
2. Discussion of drinking water provision options:
    a. What are the main costs and benefits of your preferred governance approach?
    b. What are the differences between what is best for the region versus what is best for you as a stakeholder?
3. Stakeholder decisions and next steps:
    a. What governance decision have you chosen and why?

b. What are the short-term and long-term activities that you will need to undertake based on your decision?

4. Debrief of the simulated Task Force meeting:
    a. From your stakeholder's perspective, did you get the arrangement for drinking water provision that you wanted?
    b. What did you learn about the other stakeholders' unique views and needs?
    c. Did you feel like your needs were listened to when expressing your views and needs? Why or why not?
    d. What were the main reasons that you either stuck to or changed your approach to drinking water provision?

If a student(s) will be facilitating the Task Force meeting and/or the debrief session, ensure that they have read the entire simulation and have access to the discussion questions above. If student(s) are new to facilitating a group discussion the two resources below will help prepare them to serve in an unbiased role in the simulated Task Force meeting.

1. Harriet W. Sheridan Center for Teaching and Learning at Brown University: Tips on Facilitating Effective Group Discussions
   https://www.brown.edu/sheridan/teaching-learning-resources/teaching-resources/classroom-practices/learning-contexts/discussions/tips
2. Integration and Implementation Insights: Principles for Welcoming All Voices
   https://i2insights.org/2021/08/31/principles-for-inclusive-groupwork/

(Optional) Resources for Preparing a Policy Memo

After students have completed the simulation and had an opportunity to debrief, students can write a policy memo. Students should write this memo based on the decision about what type of drinking water provision would be best for the community that the student represents. Students should use their notes from the Task Force meeting discussion to construct their policy memo.

The memo should be at most 2-pages and written for local elected officials. The policy memo will articulate the student's position on collaboration and outline the main reasons for this type of drinking water provision. If students have not written other policy memos, the resources below can be shared with this assignment:

1. Leadership for Education Equity Policy Memo Overview

   https://educationalequity.org/sites/default/files/documents/best_practices_-_policy_memo.pdf
2. Broad Institute Communication Research Lab

   https://mitcommlab.mit.edu/broad/commkit/policy-memo/

Stakeholder Profiles

** Participants in the simulation should only receive their profile to review **

** Option to share the Integrated Environmental Consultant profile as background **

City of Annecy

Elected Officials

1. City council broadly opposes any changes that would result in major expenditures or require changes to organization
2. City council is fearful of giving up autonomy through any collaboration
3. Concerns with Mission River's management of current system and political environment

Finance

1. City has one outstanding bond obligation that will retire in three years
2. City has long history of balanced budget and healthy reserves
3. Current enterprise fund for water system is operating at a surplus

Public Works

1. Current deep water wells are sufficient for current and projected demand, but little room for new development
    a. Threat to current groundwater supply would be reduced if Mission River makes switch to Lake Michigan as primary source of drinking water
2. Existing infrastructure is well maintained, and City has long-term capital plan that is well funded

3. Cost of switching to Lake Michigan would not require any major infrastructure changes other than improving connections to Stoneybrook
4. Integrating with Mission River would require substantial capital upgrades to 10 miles of water main and require a new pumping station

Citizen Needs

1. Most recent community survey scored city operations at a B+
2. Little concern regarding water quality or cost of water

Central County Manager

Elected Officials

1. Strong support from county board members for unifying under a regional system to simplify governance and improve equity across county
2. Increasing capacity, especially to most western communities, is a high priority as that is where there is greatest room for development and growth
    a. Economic development is a top priority for county board
2. County board concerned with water crisis in Mission River, and it's high priority to solve their problem
3. Little concern about what benefits Middleton as it is not located within the county

Finance

1. County currently has no financial stake in any municipal water systems
    a. Creation of regional water agency would not result in significant fiscal requirements for the county
4. Greatest growth in tax base and employment in past decade has been in Mission River
    a. Improved capacity and water quality for suburbs further west of Mission River would facilitate long-term development and growth in county tax base
5. County has ability to implement county sales tax or county-wide special assessment to help facilitate the financing of new pipeline and treatment facility

Public Works

a. County does not have a public water system, and residents in unincorporated areas rely on private wells or are required to pay annexation fees to join municipal services
b. County owns roadway and forest preserve where proposed pipeline would be constructed

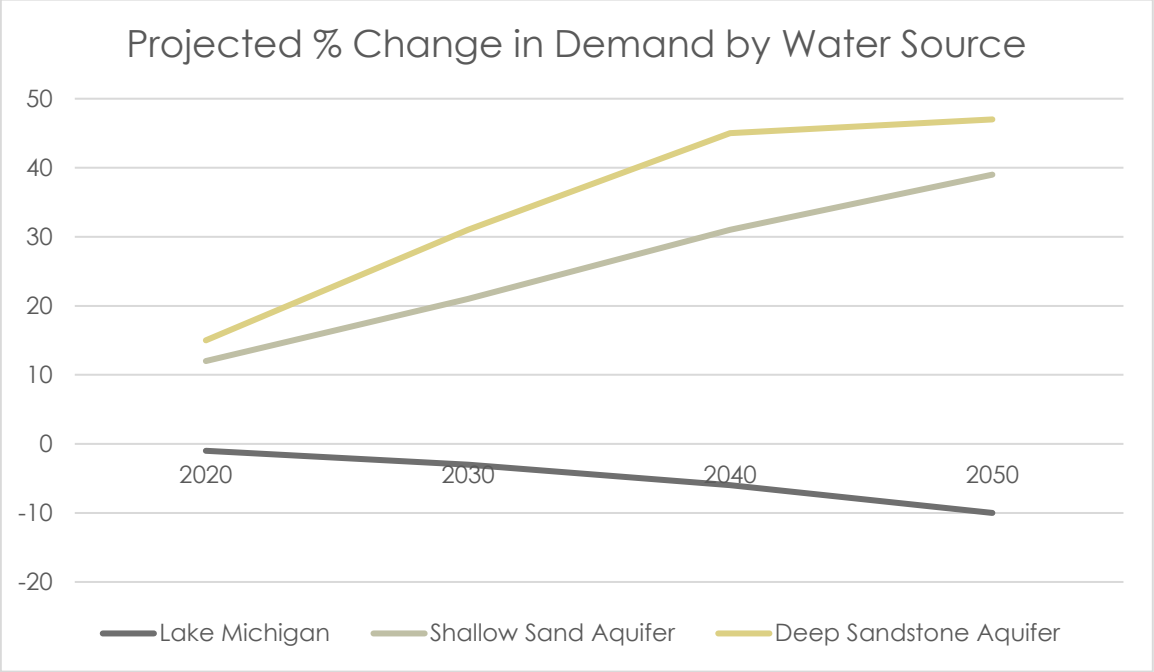
Citizen Needs

1. Rural-suburban dynamic, with some citizens concerned about urbanization
2. Concern that communities will lose identity and autonomy with more expansion

Chicago Agency for Metropolitan Planning (CAMP)

Physical Environment

(The chart below has not been shared with all the stakeholders at the meeting because the data was just updated. CAMP representative may want to show this to stakeholders during their portion of the meeting.)



1. Demand is projected to increase for groundwater supplies in the future due to continued growth in western suburbs that rely on it as a source
    a. Central County primarily relies on deep sandstone aquifers
2. Demand for Lake Michigan water is projected to decrease due to efficiencies being made through urban redevelopment with more efficient buildings, and infrastructure improvements made through regional water agencies

3. Quality of groundwater supplies are also at risk due to oversalting of roads in the winter and other biochemical inputs from agriculture outside metropolitan region

Regulatory Environment

1. State legislature is concerned with water affordability and considering new rules that would limit water rate increases
2. Expectation that EPA will continue increasing regulations around water treatment:
    a. Higher standards for removing radium in groundwater (within 10 years)
        1. Radium removed must be treated as a radiological contaminant and cannot be released back into waterways through normal treatment process
    b. Higher standards for removing chlorides (within 5 years)
        1. Generally, does not require intensive upgrades to water system
    c. Considering treatment for removal of chemical pollutants (timeline for regulation unknown)
        1. Little is known about specific pollutants and how/if it would be treated
3. Federal government is expected to expand access to revolving loan fund through Water Infrastructure Financing and Innovation Act within next 2 years
    a. Eligibility for funding favors applications that are regional in nature
4. Illinois Environmental Protection Agency is expected to expand funding to the revolving loan fund for infrastructure repair and upgrades within next 5 years

Integrated Environmental Consultants (IEC)

IEC has an extensive history working with municipalities in the Chicago area over the past 30+ years as a consultant specializing in the analysis of water infrastructure and capital planning, including working on intergovernmental arrangements for shared infrastructure and system integration. On multiple occasions, IEC has played an important role in the establishment of quasi-governmental organizations (i.e. joint action water agencies), sub-regional special districts for water treatment (drinking water and wastewater), and advising on collective purchasing agreements. The notes below are some of the lessons learned from these past arrangements that can provide some initial insight into the opportunities and challenges to the current context.

Experience with Elected Officials

1. Go it alone option
    a. Provides elected officials in each municipality the greatest degree of control and autonomy over future decisions
    b. Easiest environment for collective decision making, and only requires approval from one body of elected officials
    c. Maximizes accountability with constituents
    d. Prevents blame-shifting when water rate or taxes are increased
2. Joint Purchasing Agreement option

a. Elected officials from participating communities are still responsible for internal controls and planning of water rates and capital expenditures
b. Limited decision making within contractual terms as elected officials must work within predetermined system costs
c. Requires multiple boards to negotiate and approve intergovernmental agreements on an ongoing basis

3. Quasi-governmental option
    a. Requires majority of all elected officials from potential partnering communities to favor communitarian approach to providing public services
    b. Depending on the structure and bylaws of the new joint entity, this form reduces the autonomy of each participating municipality, and reduces available options for day-to-day management and planning of water systems
    c. Requires substantial upfront negotiation to establish the shared rules and norms around participation and future membership
    d. Reduces direct accountability with constituents and allows blame-shifting when consumer costs increase

Experience with Finance Considerations

1. Go it alone option
    a. Highly dependent on the current financial condition of each municipality
    b. Municipalities with poorly maintained or obsolete infrastructure are not able to take advantage of economies of scale on capital projects

c. Municipalities with healthy finances and well-maintained infrastructure are not exposed to current or future fiscal strain of partner communities
d. Cost of connecting to Lake Michigan is highly dependent on geographic location, proximity to potential seller(s)
e. All costs related to integrating into another system for supply is carried by the municipality
f. Subject to higher ongoing treatment and extraction costs if municipality decides to stay with groundwater supply
g. Overall cost-benefit when compared to Lake Michigan depends on the cost of integration

2. Joint Purchasing Agreement option
    a. Increased purchasing power through economies of scale
    b. Potential for long-term contractual arrangements that stabilize costs and improves capital planning and avoids sudden rate shocks for customers
    c. Higher upfront legal costs to negotiate and renegotiate intergovernmental agreements
    d. Multiple agreements may be necessary for any infrastructure that connects partner communities within the joint purchasing agreement
3. Quasi-governmental option
    a. Economies of scale extend from wholesale purchasing of water to broader infrastructure through system integration

b. Reduces ongoing capital expenditures and management costs after responsibilities for system are transferred to the new joint entity
c. High upfront costs for integrating systems and building new shared infrastructure
d. High upfront costs are mitigated over extended period of time (10+ years)
e. Actual cost dependent on condition of partner communities' existing infrastructure
f. May require a higher complexity of financial arrangements to manage shared infrastructure overtime
    i. Requirement for establishing membership contribution schedule
    ii. Creation of an overlapping special service area to levy property tax dollars for capital financing

Experience with Environmental (Public Works)

1. Go it alone option
    a. Less complexity of the system allows for easier day-to-day management
    b. Reduces exposure of outages due to maintenance issues in another community's system
    c. Managing shared infrastructure or points of integration requires more coordination and planning
2. Joint Purchasing Agreement option

a. Similar to go it alone with exception of shared supply infrastructure that must be managed
b. Reduces overall strain on groundwater supply as multiple municipalities in the area move away from it as a source

3. Quasi-governmental option
    a. Reduces the requirement for internal management and planning after systems are integrated and governance responsibilities are transferred
        i. Management costs are not reduced to zero because municipalities must maintain existing groundwater infrastructure as a redundancy in the event of an emergency
    b. Broad system integration requires complex planning and coordination amongst partners
        i. Integration can be done internally or through shared contractor
    c. Broad system integration may reduce responsivity within a community in the case of a leak or emergency

Experience with Public Needs

1. Constituents within any given community have different needs and preferences
    a. Affordability: higher percentages of low-income residents that are not able to absorb rate increases or tax increases due to debt obligations
    b. Reliability: residents and businesses may collectively favor reliability and quality without overall concern for cost of service

c. Sustainability: residents may favor efficiency and reducing environmental impact of the overall system
d. Capacity: municipalities with high-volume users (businesses) may favor capacity to ensure continued economic growth and viability of industry

City of Julietta

Elected Officials

1. Most recent election resulted in more than half of city council and the mayor being replaced
    a. New alderpersons are still learning history and inner workings of the organization
    b. Strong social capital within the city, but none with neighboring communities' elected officials
2. Long history of strong administrative leadership and trust of City Manager and department heads
    a. Elected officials have taken an hands-off approach to policy

Finance

1. City has a large unfunded pension and OPEB liability that has caused structural deficit for several years in a row
2. Bond rating has fallen twice in past five years and new debt is not advised
3. City could not afford infrastructure upgrades to switch to Lake Michigan as a primary source without being a part of regionalization scheme
4. Declining tax base due to lack of new development since recession

Public Works

1. Engineering study to test viability of groundwater supply has not been completed, but city is using same aquifer as Mission River
2. Public Works Director believes city as at same risk for wells running dry
3. Existing water treatment facility is nearing end of useful life
4. Cheap upgrades could extend the life of the facility another 10 years so long as EPA regulations do not become more stringent

Citizen Needs

1. Citizen engagement in the community is low due to a high proportion of rental housing
2. Affordability of water and other public services is an important principle as the majority of the community is lower-middle income

City of Middleton

Elected Officials

1. Concern that a new pipeline would result in loss of existing wholesale water contracts
2. Strong preference for joint purchasing agreement or other communities to form a water agency that purchases using existing pipeline
3. Village board is split on whether to join a joint action water agency if option is available
4. Mayor and two board members are concerned about the political environment and publicity tied to Mission River plans

Finance

1. Current agreement with Prairie State Water includes transmission fee that subsidizes water fund and is keeping water rates down forMiddleton residents
2. Loss of wholesale water contract would require 50% increase in average water bill for residents

Public Works

1. Current pipeline has capacity to serve all customers in Stoneybrook, Shelbyville, and Annecy
2. Upgrade of pipeline and internal infrastructure would be needed to serve Mission River and/or Julietta.

3. Potential new pipeline would not pass through Middleton or require any changes to current system

Citizen Needs

1. Village is primarily an industrial town with more than 30,000 employees, but only 3,000 residents
2. Majority of demand is from large industrial users
    a. Increase in water rates would make business recruitment and retention more difficult for non-logistics types of businesses

City of Mission River

Elected Officials

1. High degree of internal conflict between elected officials and staff due to crisis of not taking earlier action on water issues
2. Strong preference for a formal, regionalized water agency to share in cost of infrastructure
3. Mayor sees an opportunity to act as a regional leader in upgrading to a regional water system

Finance

6. Cost of building an independent pipeline to Chicago is approximately $750 million
    a. Pipeline would allow for resale to neighboring communities in region
    b. Eligible for 50% of project cost in federal and state aid, increases to 70% if multiple partners co-finance pipeline and create regional water agency
    c. Wholesale price from Chicago is non-negotiable
7. Building raw water pipeline and treatment facility is approximately $1.2 billion
    a. Would allow for resale to neighboring communities in region
    b. Eligible for 70% of project cost in federal and state aid
    c. New facility would be state of the art and be major economic development driver
8. Upgrading existing pipeline and integrating with Annecy is approximately $200 million

a. Eligible for 30% of project cost in federal and state aid
b. Resale of water to communities further west would be unlikely

9. Several property tax abatements given to industrial development ending over next 5-10 years

Public Works

1. Three of 10 current groundwater wells will not be viable in next 10 years
2. Regional treatment facility would be state of the art in terms of quality and sustainability
    a. Design also allows for facility to expand in phases to accommodate more demand in the future
    b. Constructing new facility would require upgrades that would include repairs to oldest sections of water main in the city

Citizen Needs

1. Widespread animosity towards city for not managing water system better or having more foresight to avoid current situation
2. Multiple industrial parks have large water users that could look to relocate if cost of water increases or becomes unreliable
3. Largely middle class community and concern with increased taxes to finance new infrastructure

City of Stoneybrook

Elected Officials

1. Primary concern is with ongoing water rate increases that are out of the control of the City Council
2. Some elected officials are fearful that the cost of retaking control of the pipeline will result in debt obligations that require equal or higher water rates
    a. Sense of urgency to bring as many partners on board as possible to reduce the cost of retaking control of pipeline
3. Strong unanimous support for the creation of a new joint entity to manage water system
4. Split amongst council members regarding use of eminent domain to retake the pipeline
    a. Potential risk of high legal expenses that result in loss in court
    b. Preference to approach eminent domain with other communities

Finance

1. General fiscal condition is healthy, coupled with high bond rating
    1. Increasing staff to manage water system would not make significant impact on fiscal condition
2. Use of debt to purchase pipeline back from Prairie State Water alone would require water rates that are 50% higher than current prices, but could remain stable over time

3. Splitting based on proportions of current Prairie State customers would allow water rates to stabilize at current rates
4. Splitting the cost of the pipeline based on per capita would allow water rates to decrease, but would require other communities to make full switch to Lake Michigan as a source
5. Purchase of existing infrastructure does not meet guidelines for state or federal subsidization and would require financing
6. Upgrades to a regionalized system would be eligible for both federal and state funding, and local match would be 30% of total project cost

Public Works

1. Bringing Mission River into a joint recional system would require upgrade of existing pipeline or a new pipeline
2. Connecting Mission River to pipeline would be less complicated if Annecy makes full switch
3. Switch to groundwater a source would be high risk due to overdraw by neighboring communities
4. Current system would not require any major upgrades or changes if no additional partners switch to Lake Michigan as their primary source, only cost of pipeline purchase

Citizen Needs

1. Significant public outcry regarding regular water rate increases

2. Current water rates are still well below threshold for affordability, as measured by average water bill as a percent of median household income, which is primarily driven by higher than average median household income of the community
3. No major concerns regarding quality of water
4. History of bond referendums being passed without major contention

City of Shelbyville

Elected Officials

1. Unanimous support for switching to Lake Michigan for full system, but only under a circumstance where there is full control of water rate setting
    a. Unifying rate across community is primary concern
2. Open to becoming wholesale customer of Mission River if new pipeline is constructed
3. Preference for remaining autonomous and not under a regional authority
4. Split on council around willingness to participate in co-financing new pipeline
5. Preference for a joint purchasing agreement with Stoneybrook and Annecy

Finance

1. Substantial rate difference between customers that are on city water system and Prairie State Water System
2. Water fund for city water system has surplus of $2 million
3. Terminating service contract with Prairie State Water requires paying a $5.5 million penalty
4. Unrestricted General Fund balance exceeds $20 million
    1. 25% operating threshold is approximately $17.5 million

Public Works

1. Current system is mix of groundwater (75%) and Lake Michigan (25%)

2. Groundwater source used for city water system could meet demand for existing Prairie State Water customers as a temporary solution until new pipeline is constructed
3. Existing connections already in place as a redundancy
4. Full switch to Lake Michigan through existing pipeline would not require any substantial infrastructure changes
5. Connecting to Mission River would require construction of a new pumping station for $10 million

Citizen Needs

1. Animosity from residents that are Prairie State Water customers
2. Customers of city water system are concerned that city will raise rates if full system is switched to Lake Michigan as a supply
3. Current rate is well below threshold of affordability as measured by average water bill compared to median household income

Task Force Meeting Preparation Worksheet

After you have reviewed your profile and the information provided in the consultant profile, use this worksheet to consider short and long-term constituent/citizen needs. Next, fully consider all three types of governance decisions based on the information provide in your profile. Think of both opportunities and challenges. Finally, take notes for the three questions below to help you prepare for possible negotiations of collaboration types.

	Political Environment	Fiscal Environment	Physical Environment
Short Term			
Long Term			

Governance decision	Opportunities	Challenges
Go it alone		
Joint purchasing agreement		
Quasi-governmental commission		

What is your primary focus (political, fiscal, and physical) and why?

What challenges are you willing to deal with based on positive opportunities?

What are your non-negotiables? What things can you not compromise?

Task Force meeting notes:

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