Appendix 2.

Chapter 2 — International Water Law

Exercises

1. Overview

The following negotiation exercise is designed to introduce participants to the multitude of issues and factors related to the negotiation of a transboundary freshwater agreement. In the scenario presented below, a river and an aquifer traverse the borders of three countries. While there are no agreements for managing or regulating either to the river or aquifer, the countries are interested in such a possibility. Of course, each country has its own interests and objectives for the use of these fresh water resources as well as its own vision for any potential agreement. Participants in this negotiation simulation will be assigned to represent one of the three countries and then asked to negotiate and draft specific provisions that will serve as the basis for an agreement on the use of the river and aquifer. While each team's goal is to negotiate provisions that are most favorable to their country and its interests, teams also must realize that to realize an agreement, they may have to compromise.

2. Preparation

Divide participants into teams of three to four members whereby each team represents one of the States in the simulation exercise. After reviewing the scenario, each team should complete the following:

- Review and discuss the scenario
- Identify their country's interests, goals, and objectives in relation to the transboundary river and aquifer
- Review the "Principle Tenets of International Water Law" discussed in this Manual and discuss what they would mean in practical terms in the context of the present scenario
- Building on that review, identify the types and content of transboundary rules and regulations related to the transboundary river and aquifer that would ensure the country's interests, goals, and objectives
- Identify points on which the team may be willing to compromise

The preparation should take a minimum of 30 minutes, but can certainly be extended.

3. Negotiations

The negotiations can be facilitated by a neutral moderator. However, that moderator should limit their involvement to suggesting which country would begin the negotiations, when to call a break to allow teams to discuss issues privately, and (when necessary) to ask questions that provoke thought and responses from the teams on a specific fact or possible transboundary rule. The specific tasks for the negotiations are described below.

Teams should sit at a negotiating table that accommodates all members of every team. Ideally, this could be a large round table, or tables arranged in a triangular fashion. An alternative would be a table that accommodates only one or two chief representatives from each team, but with space behind those representatives for the rest of the team.

The negotiations should be allowed to proceed for at least 90 minutes, but can certainly be extended.

4. Review and Discussion

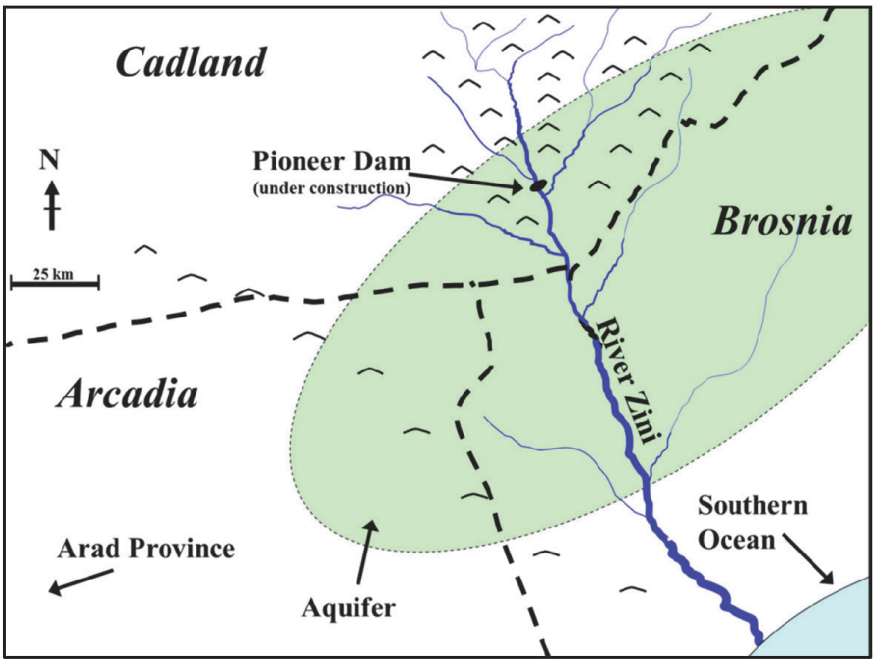
To a large extent, the review and discussion of this simulation exercise may be the most important component of this exercise. This is where participants can explore the rules and provisions that were sought in comparison with those that were actually achieved. This assessment should be conducted with reference to ongoing water disputes, cooperative efforts, and completed agreements and should be evaluated in terms of which provisions are desirable and which are realistic under the circumstances.

To begin the review, each team should present and explain their country's interests, goals, and objectives in relation to the transboundary river and aquifer, as well as explain their negotiation strategy. Thereafter, the moderator and participants should identify the types and categories of rules and provisions they negotiated – those that were pursued, those that were achieved, and those that failed to be realized – and compare them against the "Principle Tenets of International Water Law" discussed in this Manual. Those rules and provisions should then be assessed in relation to one or more ongoing water disputes, cooperative efforts, and completed agreements from around the world.

The review should be allowed to proceed for at least 60 minutes, but can certainly be extended.

Simulation Exercise – International Water Law[2]

■ Fact Pattern



The States of Arcadia, Brosnia and Cadland are neighboring countries. Geographically, Cadland lies to the north of Arcadia and northwest of Brosnia, while Arcadia lies to the west of Brosnia and south of Cadland. River Zini begins its flow in Caldand, flows across the border into Brosnia and empties into the Southern Ocean. While neither River Zini nor its tributaries flow through Arcadia, the river's watershed does extend into the eastern section of Aracdia.

In addition, all three countries overlie a large, recently discovered and yet-unnamed aquifer. Preliminary studies suggest that geographically, 50% of the aquifer underlays Brosnia, 30% underlays Arcadia, and 20% underlays Cadland, however, the true boundaries of the aquifer are still uncertain. A chief dispute among the region's water

2. This simulation exercise, instructions, and scenario are taken from material used in classes and workshops taught by Professor Gabriel Eckstein. A variation of this exercise and scenario is found in Richard Kyle Paisley (2007), *FAO Training Manual for International Watercourses/River Basins including Law, Negotiation, Conflict Resolution and Simulation Training Exercises.*

scientists pertains to the source of the aquifer's recharge and whether the aquifer is hydraulically connected to River Zini. Scientists in Cadland argue that such a connection does not exist, or, at the very least, is insignificant, and that the aquifer is likely a non-recharging aquifer. In contrast, Arcadian scientists are quite certain that the aquifer receives considerable amounts of recharge from River Zini. The studies of Brosnian scientists are mixed and inconclusive. None of the countries has the knowledge base to conduct detailed studies of the entire aquifer's extent, volume, recharge, or the hydraulic connection between the river and aquifer. Moreover, none has adequate resources to invest in such an endeavor, especially since they must allocate their resources very carefully in light of all of the other national priorities they each face.

The region's climate is relatively predictable with the rains coming primarily in the late winter and early spring followed by a relatively dry summer and fall. The volume of rain that falls on the region varies from year to year, however, precipitation rates are higher over Brosnia and eastern Cadland and significantly lower over Arcadia. The great majority of the water in River Zini originates in Cadland. The actual contribution of the two states to the flow of River Zini has never been formally studied but is estimated at 75% from Cadland and 25% from Brosnia. It is unclear whether and how much rainfall in the region recharges the aquifer.

Arcadia has a primarily agrarian population of forty-five million, one-third of which reside in Arad Province, the country's arid interior located approximately 250 kilometers west of its border with Brosnia. Although very fertile, the interior region has very few freshwater resources. Non-governmental agencies suggest that as much as half of the population in this region does not have access to adequate fresh water to meet basic daily needs. Accordingly, Arcadia's chief priority is to provide for its citizens by developing new water resources to meet their basic needs. The country is also interested in enhancing the region's agricultural capacity. A number of Arcadian politicians and academics have raised the possibility of pumping water from the newly discovered aquifer and diverting it to Arad.

Brosnia is a small country in comparison with its neighbors. Its land area is approximately one-quarter the size of Cadland and one-third the size of Arcadia, and it has a population of twelve million people. The scenery in this country, which enjoys a marine temperate climate, is spectacular largely because much of the country is still in its natural, pristine condition. The majority of the population lives along the Southern Ocean and River Zini. In recent years, Brosnia has become closely allied with a number of environmental and tourism organizations. As a result, the country has a growing tourism industry and prides itself on pursuing a balance between development and environmental goals. For example, expeditions on River Zini have

become especially popular because of the Zini Skipjack, a fish inhabiting the lower and middle reaches of River Zini (primarily in Brosnia). Zini Skipjack have been known to top 100 pounds and grow to lengths of 1.5 meters, and are especially known for jumping out and skipping on the water's surface. The fish is highly dependent on the river's seasonal flooding for breeding and development, as well as the deep rapids of the middle reaches, which allow these large fish ample space to swim in highly aerated waters. Expeditions are organized both to view the fish in its natural habitat as well as for sport fishing.

Cadland is a mountainous country with a temperate climate and a population of twenty-two million. Of the three countries, Cadland's population is experiencing the fastest growth rate due to cultural and religious traditions. Cadland believes that its greatest developmental obstacle is the lack of food and energy security. It is especially interested in developing the irrigation potential of River Zini through the construction of dams and diversion canals in its territory. In fact, it has already begun construction on the largest of the proposed dams – Pioneer Dam – at a point twenty-five kilometers north of its border with Brosnia. Because of the 10-meter height of the planned dam, Cadland also proposes to use the structure to generate electricity. While Cadland claims that any downstream consequences would be insignificant, those consequences have not been studied or identified.

Although all three countries are considered developing nations, Brosnia is a bit more economically developed than the other two and is classified in the upper-middle income level according to The World Bank classification system. Arcadia and Cadland are classified as falling in the lower-middle income category.

■ The Task

Arcadia, Brosnia and Cadland have agreed to meet to begin negotiating an agreement containing both general and specific principles and provisions for the use and allocation of River Zini and the aquifer. During preparatory discussions, the three countries specifically agreed that the main purpose of the meeting is to formulate provisions that, to the greatest extent possible, will:

- identify each states' rights in River Zini and/or the aquifer;
- identify each states' responsibilities in River Zini and/or the aquifer; and

Accordingly, each negotiation team is expected to bring to the negotiating table proposals for provisions, including proposed language that would achieve these two objectives as well as the respective national interests of the three countries.