

## **Transboundary river management exercise**



### **Introduction**

This exercise is designed to introduce participants to the subject of international water law and its application to international and boundary rivers. In the scenario presented below, an international river forms the boundary between three countries. Participants 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 border river. The exercise addresses both navigational and non-navigational uses of the boundary river.

### **Geographical setting**

The Zini river basin falls entirely within the states of Arcadia, Brosnia and Cadland. Arcadia and Brosnia are located west and east of the Zini river, which forms the full length of their 120 km boundary before emptying into the Southern Sea. The boundary is delimited along the median line of the river. Cadland is located directly north of Arcadia and Brosnia and a six kilometre stretch of the Zini river forms part of its boundary with Brosnia. The mouth of the river is approximately 65 km south of Arcadia City.

The Zini River originates within Cadland and is considered navigable for most of its course, especially from Arcadia City to the Southern Sea. 80 kilometres south of Arcadia City, however, there are rapids that make navigation in this section particularly treacherous. At Arcadia City, the river is nearly 150 meters wide. At its widest point, near its mouth, the river is more than 300 meters wide.

The region's climate is relatively predictable with the rains coming primarily in the late winter and early spring followed by a dry summer and autumn. The amount of rain that falls on the region, however, varies from year to year and is often unpredictable. The main upper tributaries of the Zini river are located in Cadland, although Arcadia and Brosnia also contribute water to the river through smaller tributaries. According to some limited research undertaken in 1972, the respective contribution of water from the three states is roughly: 40% from Cadland, 35% from Brosnia and 25% from Arcadia. However, no long term studies have been conducted.

### **Country information**

Arcadia and Brosnia are approximately equal in economic development and are considered upper middle income countries according to the World Bank classification system. Cadland is classified as falling in the lower middle income category.

#### ***Arcadia***

Arcadia has a population of 20 million. It has a growing manufacturing base producing various goods with markets in many parts of the world. It has a small shipping port located in Arcadia City on the Zini River. Arcadia believes that by expanding this port, it could increase production, export its goods to more countries, and compete more effectively in the global market. It also believes that by expanding the port, it could become the major port for goods originating from and destined for countries in the region. To achieve its objectives, Arcadia would have to make navigation less dangerous by either eliminating the rapids or constructing a diversion channel. It would also have to dredge and maintain a permanent navigational channel along the entire river south of Arcadia City, ensure that no other obstacles are maintained anywhere else on the river, and ensure that a reliable volume of water is maintained in the river of at least 300 m<sup>3</sup>/second at Arcadia City. Under current (pre-expansion) conditions, the river flow at Arcadia City averages 450 m<sup>3</sup>/sec in the spring, 375 m<sup>3</sup>/sec during the summer months, and 300 m<sup>3</sup>/sec

during the winter. Presently, there is only one navigable channel in the river located, for most of its length, east of the median line of the river. A study commissioned by Arcadia suggests that a second navigational channel could be dug in the river west of the median line, but not without considerable expense. Arcadia does not have the financial means to undertake either the port expansion or the second channel project on its own.

### ***Brosnia***

Brosnia has a population of 30 million. It also has a strong manufacturing base, but believes that its greatest developmental obstacle is the lack of energy. It is especially interested in the hydroelectric potential of the Zini River and has formulated plans to construct a “run-of-the- river” dam at a point approximately 65 km south of Arcadia City. The dam would create a five-kilometre long lake that encroaches approximately 2 km into Arcadia’s territory.

In addition, unless a system of locks was added to the proposal (which would double the cost of the project), the dam would effectively halt all navigation up and down the river. To achieve its energy goals from the dam, Brosnia would have to ensure that a continuous and reliable flow of water is maintained in the stream of at least 350 m<sup>3</sup>/sec at the dam. Under current (pre-dam) conditions, the river flow at the location of the prospective dam averages 560 m<sup>3</sup>/sec in the spring, 500 m<sup>3</sup>/sec during the summer months, and 400 m<sup>3</sup>/sec during the winter. Brosnia does not have the financial means to undertake such a project on its own.

### ***Cadland***

Cadland is a semi-arid country with a population of 25 million. It is the least developed of the three countries and has set its priority on developing its agricultural capacity with the goal of meeting its domestic food needs within ten years. Cadland would like to expand its land under cultivation but is hampered by the lack of adequate and reliable water supplies in the potentially fertile volcanic soils of the interior of the country. It believes that through the use of a diversion channel, the Zini River could provide the much-needed water. Moreover, it would allow the country to add an additional growing season in the late summer. Accordingly, it has produced a study recommending the most effective point for diversion as a location approximately 2 km upstream of the point where the Zini River begins serving as the border between Cadland and Brosnia. The plan calls for diverting approximately 150 m<sup>3</sup>/sec continuously throughout the year. Cadland does not have the financial means to undertake such a project on its own.

### **The task**

Arcadia, Brosnia and Cadland have agreed to begin negotiating a treaty on the use of the Zini River. At the present meeting, the negotiating teams have been tasked with preparing draft provisions addressing the following issues:

1. Allocation of the waters of the Zini river and use of the river for non-navigational purposes;
2. Navigational rights on the river;
3. Mechanisms for monitoring and resolving disputes over the use of the river.

1 hour	In your team, assess the scenario and known objectives of the three countries. Prepare proposals that meet your country’s objectives and (as far as possible) those of the two other states.
30 minutes	Present your proposals to the other teams (5 minutes maximum per team).
30 minutes	In your team, consider possible amendments to your proposals that would make an agreement possible.
30 minutes	Meeting with the other teams, seek to resolve differences and identify points of agreement.
30 minutes	Debrief

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Although you should seek to protect the interests of your country where possible, please remember that the objective of the exercise is to find an equitable solution in a very limited timeframe. Compromises and concessions will therefore need to be made considerably more quickly than would normally be expected in state to state negotiations. The emphasis should be on problem-solving in a cooperative spirit rather than demonstrating your negotiating skills!

Please base your proposals on the information provided in this briefing document. If you require additional information about relevant issues, please consult Martin Pratt – do not invent facts to suit your country's position!

*Good luck and have fun!*

