



## Hydropower in Santaes:

### Dealing with the Social and Environmental Impacts of Energy Development

#### General Instructions

Santaes is a fictitious country in South America with abundant natural resources, including a high potential for hydro-generated electricity. In recent years, growing demand for electricity has forced the country to turn to hydropower plants to generate electricity for the densely populated cities in the north. These dams are generally considered more environmentally friendly than fossil fuel or nuclear-based power generation, and are therefore regarded as a good way to meet Santaes' growing energy demand.

The Ortega Company is a new hydroelectric business in Santaes. It has primarily developed small hydroelectric projects on private property, and is now looking to install its first larger-scale hydroelectric project in the Cordillerana region of Santaes. There are already several hydroelectric projects in the Cordillerana region developed by other energy companies in the country. Some of these plants have been controversial, with environmental, community, or indigenous groups opposing them or complaining about their impact on the local economy and the environment. This is the first plant proposed along the Reposado River.

In the past, controversies over a particular plant have soured relationships among the various communities and companies involved. Those who opposed the plants have claimed that the impact on the local economy and the environment has been larger than what was claimed by the company during the planning stages of the plant. Additionally, some people have indicated that in the end, the promised investments in the community did not meet the needs of the community or benefitted only certain groups within the affected regions.

Because of the controversial history of hydropower in the region and the fact that the Ortega Company is new and hopes to start off on the right foot, the leaders of the project have found several locations where the company could build its plant with minimum resistance. That said, they have announced that they will locate the plant only in a community that welcomes the project.

In order to help make the decision, Ortega undertook an early consultation process with communities where the plant could be located. They held initial conversations with local authorities in five different communities. Of these five communities, officials in two have indicated their willingness to entertain the possibility of a hydro project. The next step is a larger consultation process with various groups representing the community. Ortega is planning to conduct a broader consultation process in both of the communities who have expressed interest in hosting a hydroelectric plant.

One of the communities that indicated interest in a potential project is the town of Villaverde, a small, remote town with 2,000 residents. Traditionally, Villaverde has been a community of mostly farmers and forestry workers, but in recent years the community has also been developing local tourism by marketing the natural beauty of the area. On the other side of the river there is also a small community of around 50 predominantly indigenous families.

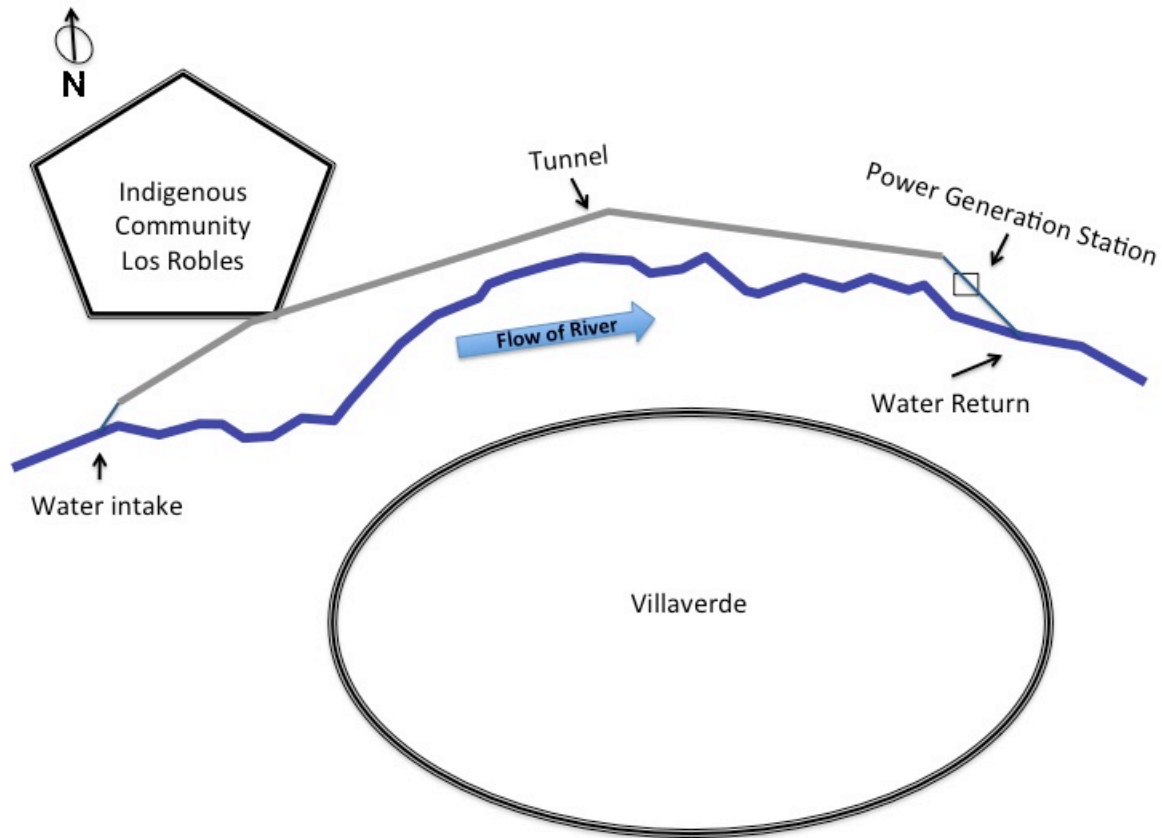
Ever since the company and the local authorities announced this consultation process in Villaverde, there has been strong debate among local residents. Many members of the community oppose the idea of installing a generation station in the area. The local radio station has also entered into the debate. Not long ago the head of the local radio station broadcasted an editorial in which he expressed a very critical opinion of the project. (The transcription of his opposition is included with your instructions.) Some community members, however, are more positive about the project, noting that a hydroelectric project could generate important economic opportunities. They intend to support the project if the company promises to help with community development.

### **Description of the Project**

The proposed project is called “Ruta Recta.” The project is a run-of-river dam of approximately 40 MW, which draws water from the Reposado River. Like other run-of-river projects, Ruta Recta will divert water from the river upstream, which will then be transported through a tunnel to the generation station six km downstream from the point of diversion. After moving through the turbines, the water will be returned to the river. The plant is designed to be built on the north shore of the river, and will transmit the generated energy to the national energy grid via transmission lines located nearby. The company estimates the useful life of the project is about 30 years.

Villaverde is located on the southern bank of the river, between the point of water diversion and the point where the diverted water will be returned to the river. The tunnel will pass by the outskirts of the indigenous community that is located on the northern shore of the river.

**Map: The Ruta Recta Project**



The project has not yet entered into the formal process of environmental evaluation mandated by the government of Santaes; however, the company has conducted preliminary feasibility studies and has identified possible impacts in both Villaverde and the other town in which they could locate the project.

## **Today's Meeting**

The Ortega Company has organized a meeting with several different community representatives from the area in order to see if there is sufficient community support to continue with the project. Representatives from the following groups will be in attendance:

- The Junta de Vecinos (neighborhood group) from Villaverde
- The Mayor of Villaverde
- The indigenous community of Los Robles
- A representative from the Ortega Company
- An environmental NGO that works in the area

**During the meeting, representatives from the community and the Ortega Company will decide whether the project will be submitted for the official environmental impact assessment, and, if so, what provisions need to be undertaken for the community to agree to the project. There will be a vote on whether or not to move forward with the project after 40 minutes, 60 minutes, and 75 minutes. Three of the four town representatives, in addition to the developer, must agree before the project can advance.**

If an agreement is reached with three of the four representatives before the end of the meeting, participants can take the remaining time to improve the agreement and try to reach consensus.

Under the recommendation of the authorities of Santaes, Ortega has contracted an independent mediator to facilitate the discussion. The mediator will help the participants discuss any areas of conflict and will be responsible for managing discussion time.

## **Instructions**

Please take about 20 minutes to read your assigned role. Once you are familiar with your role, the full group will meet for 75 minutes to discuss whether or not to move forward with this project.

Good luck!



## **Hydropower in Santaes: Dealing with the Social and Environmental Impacts of Energy Development**

### **Teaching Notes**

#### **Overview**

This is a six-party, multi-issue negotiation focused on issues of public engagement in energy development. The game introduces participants to the dynamics multi-party negotiations, which focus on generating viable land-use and energy-development options for parties concerned about the social and environmental impacts of hydropower.

#### **Scenario**

The Ortega Company is a new hydroelectric company that hopes to build a hydropower plant in the Cordillerana region of Santaes, a fictitious South American country. In a departure from normal operations, the company has asked several different communities if they are interested in allowing a hydropower plant to be developed within their borders. Of the nine communities originally considered, two have expressed preliminary interest in the project. One is the town of Villaverde, located along the Reposado River. The development of the project could bring jobs and infrastructure investment to Villaverde, but would probably reduce the flow of the river, which could threaten the livelihoods of many community members. The Ortega Company is seeking broad support for the project and has invited representatives from the nearby indigenous community, local residents, the mayor's office of Villaverde, and the local environmental NGO (non-governmental organization) to meet with a representative from the company to discuss their concerns. In addition, the company has hired a professional mediator.

**Logistics:**

Materials:

Trainers will need to bring to the negotiation session:

- Copies of General Instructions for each participant
- Copies of the Radio Message for each participant
- Copies of Confidential Instructions for each assigned role, with each one (ideally) printed on six different colors of paper
- Flip charts, easels, or white boards with appropriate markers for each set of negotiators
- Extra paper, pens, and pencils

Players:

Each role-play simulation requires at least six players, one assigned to each role. In the event there are extra participants, players can double up some of the roles without undermining the pedagogical objectives of the game.

Timing and Managing Simulations:

The six participants need approximately 30 minutes to read the General and Confidential Instructions. If there are multiple groups of six playing the game at the same time, it may help to allow participants in the same role (in different groups) to prepare together. The full negotiation requires 90 minutes. An additional hour should be allotted for the follow-up debriefing.

Room Setup:

The main room for the exercise should hold all participants comfortably. During the negotiation sessions, each group should have its own room or a quiet area in which to negotiate. If this is not possible, the participants should at least sit together at tables of six out of earshot of the other groups.

**Debriefing:**

The focus of the debriefing should be on the process of developing options or packages that address the conflicting interests of some members of the group. By focusing on the underlying interests—rather than the stated positions—of the parties and engaging in constructive brainstorming or problem-solving, agreements can be found. The debriefing should begin with each group presenting its final agreement. In the event a group reaches no agreement, the last proposal they considered seriously should be presented.

The Game Manager should guide participants in discussing the following questions:

- What outcomes did each group achieve?
- What were some of the suggestions you found helpful in moving the negotiation forward?
- What were the greatest barriers to reaching agreement, and how did each group try to overcome them?
- Did the mediator help? Would you have reached an agreement without the help of the mediator? Would parties have been equally satisfied with the result if a mediator had not been involved?
- What are the most important lessons from the game?

**Notes for the Game Manager:**

The game instructions are intentionally left vague to encourage imaginative thinking. In testing earlier versions of this game, many groups devised unique solutions to resolve the underlying conflicts. Some solutions, for example, included agreements about joint monitoring, which involved the community and the company ensuring an acceptable flow of the river. Other solutions involved provisions for joint fact-finding, such as agreeing to ongoing environmental assessment, sometimes with the help of jointly selected experts and a mediator. Allowing participants to think outside the box can help them to formulate novel, creative solutions.

The mediator's role is to help ensure an efficient and productive meeting; his or her unbiased guidance can help participants avoid becoming entrenched in their positions. This game can be particularly helpful as a means of raising questions about the role and responsibility of the mediator in: helping parties listen to each other, raising constructive options, clarifying solutions reached, and drafting written agreements. In instances where the negotiation is used with relatively inexperienced students or community residents, it may be most effective to have someone play the role of mediator who is familiar with the role of facilitators in public problem-solving.

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*The author would like to extend her gratitude to Elizabeth Fierman and Patricio Belloy for their guidance in adding depth and authenticity to this game.*