This activity, framed as a role play to develop a community water system committee, is actually about gender issues. Students are told that they will be designing an improved water system for a village and as part of the process must select a Water Development Committee. In fact, the point of the exercise is for students to recognize that decision-making mechanisms often exclude uneducated, village women who are most affected by these decisions. It's important to present a session on water before this exercise so that the context of the role play makes sense, and that the students have been exposed to the fact that water is overwhelmingly a women's issue.

Start the activity by explaining the assignment: designing improvements to a community water system. The students will form groups, create a Water Development Committee and then each student will take on one of the roles of the committee. They will need to fill in the role play worksheet during class and turn it in at the end of the session. Finally tell them that they will take on these roles in a negotiation session during the next class in order to come up with a proposal for improvements to their village water supply system.

Students should be divided into groups of five or six and given the assignment packet. They will need about ten minutes to read through the material, and then take another fifteen minutes to discuss who should be on the water committee. Following that, they should decide who will play each role, and take about fifteen to twenty minutes to fill in the role play worksheet. If there is time remaining, they can begin the negotiation session.

During the second class, rather than run the negotiation session, you should discuss who they chose to be on the committee and why. To facilitate discussion and help students remember and compare whom they selected, you can project a table like Table 1 on a PowerPoint slide that shows the people they selected for each group. Each column is a committee, with the D-Lab student in italics on the bottom row.

Table 1: Initial Table

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Agnes	**Kabelo**	**Agnes**	**Agnes**	**Agnes**	**Kabelo**
Kabelo	**Mary**	**Kabelo**	**Metheo**	**Kabelo**	**Metheo**
Metheo	**Metheo**	**Metheo**	**Mpho**	**Metheo**	**Mpho**
Per	**Mpho**	**Per**	**Per**	**Mpho**	
Peter				**Peter**	
Ashley	***Aimee***	***Christina***	***Irene***	***Rob***	***Jessica***

After the initial discussion, confess that this wasn't really a role play about water, it was a role play about gender issues. Show Table II, where men are shaded, to show how many women were on the committees (female D-Lab students are shaded lightly because it was coincidental that they were women, rather than intentional).

Table II: Genders Highlighted

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Metheo	Metheo	Kabelo	Metheo	Peter	Mpho
Peter	Mpho	Agnes	Mpho	Mpho	Kabelo
Agnes	Mary	Per	Per	Kabelo	Metheo
Per	Kabelo	Metheo	Agnes	Metheo	Agnes
Kabelo				Agnes	
Ashley	*Aimee*	*Christina*	*Irene*		*Jessica*

You can also show a table like Table III, that shades in the people who were not actually from the village, leaving the truly local participants. It is interesting to note that in many cultures, even though someone has lived in the village for many years, there are many reasons why they will continue to be considered to be outsiders—tribal affiliations, language barriers, etc.

Table III: Local Committee Members Highlighted

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Metheo	Metheo	Kabelo	Metheo	Peter	Mpho
Peter	Mpho	Agnes	Mpho	Mpho	Kabelo
Agnes	Mary	Per	Per	Kabelo	Metheo
Per	Kabelo	Metheo	Agnes	Metheo	Agnes
Kabelo				Agnes	
Ashley	*Aimee*	*Christina*	*Irene*		*Jessica*

Table IV, the final table, shows how many local women were selected for the committee.

Table IV: Local Female Committee Members Highlighted

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Metheo	Metheo	Kabelo	Metheo	Peter	Mpho
Peter	Mpho	Agnes	Mpho	Mpho	Kabelo

Agnes	**Mary**	**Per**	**Per**	**Kabelo**	**Metheo**
Per	**Kabelo**	**Metheo**	**Agnes**	**Metheo**	
Kabelo				**Agnes**	
Ashley	**Aimee**	**Christina**	**Irene**		**Jessica**

From this point on, it's important that the discussion not take on an accusatory tone, so that students don't tune out and instead learn from their choices and recognize how easy it is for this exclusion to happen. Students may claim that it is unfair, because there were not many local women on the list. I emphasize that, as D-Lab students, they will be introduced to a variety of people within the community but they should be aware that the people they meet are just a small subset of those who live in the village, and that extra effort may be needed to ensure that there is adequate representation. For this exercise, students may need to choose people who are not on the list in order to exert that extra effort. It is also worthwhile to mention that language and education tend to be additional barriers to women's participation and therefore it is important that students account for this as well. You could assign homework following this assignment, reflecting on the exercise and addressing the issue of how to encourage inclusion so that all parties are involved in the decision-making process.

You are on a D-Lab team working to design a water system for a small village in rural Botswana. Your job is to assemble a Water Development Committee, assess the village water resources and design a system that will improve access to safe water. The following is a description of the village where you will be working.

Metsi a Mangwe, Kweneg District, Botswana
Official Languages: Setswana, English
Latitude: -25º 10' Longitude: 22º 35'
Time Zone: GMT +2

Metsi a Mangwe is a small village in eastern Botswana in the Kweneng district, about 100 km northwest of Molepolole. There are 400 households, each comprised of several rondavels, that make up the family compound. In the village, there are four primary schools and one Junior Secondary School. At the end of Junior Secondary School, students take the Junior Certificate Exam, and if they pass, they can attend Senior Secondary School, usually in Molepolole, which is the capitol of the Kweneng district.

The land surrounding Metsi a Mangwe is primarily divided into "the lands" where women grow maize, sorghum, beans and melons, and small cattle posts, where the men keep the cattle. Most families in Kweneng have three homes—one in the village, one at the lands and one at the cattle post. The landscape is primarily desert scrub. At the lands, they practice rain-fed agriculture as there is no irrigation, but in the eastern part of the country there is usually enough rain during the rainy season (November – March) for at least part of the crop to be successful. Farther from the village, most of the land is tribal grazing land without clear ownership; young boys usually keep track of the herds and bring them back to their cattle posts when necessary. Livestock is a very important part of Setwana culture and is a measure of wealth. There are three times as many cattle as people and twice as many goats as cattle. The cattle are primarily kept at the cattle posts, where they are allowed to freely roam and graze; the goats are dispersed throughout the cattle posts and the village.

There is a small river that along the eastern side of the village, it is a seasonal river that runs only for about five months of the year. People within easy walking distance of the river use it as a source of water for their household needs; otherwise, water in the village is provided through five government-installed boreholes that reach into a water table approximately sixty meters below the surface. Each borehole has a single tap, which serves about eighty families. Some compounds are more than two kilometers from the closest tap. There is also a borehole at the Junior Secondary School, which provides water for the teachers' quarters and the school garden. Farther from the village, some of the wealthier members of the village have installed wind-powered

pumps to supply their cattle with water. The seasonal rains, if they come, arrive in November and fall sporadically until mid-March. If the rains are good, the desert becomes a grassland; if not, only the acacia shrubs are green. During the rainy season, water accumulates in large puddles called pans; these often last a few months into the dry season, but rarely until the beginning of the next rainy season. When the rains are especially heavy, the roads become impassable and take up to a week to dry out, but there are alternative routes, so the village is not completely cut off. The village is about 100 km from Molepolole on a road where the first half is paved and the rest is a well-traveled but poorly maintained track. Transport of supplies into the village can be expensive, depending on the time of year, as only the most rugged items and vehicles survive the journey intact.

Apart from teachers and civil servants, few people in this area have formal employment: some make crafts, a couple of people have small stores or bars that sell necessities and serve as a social gathering place. There are a few skilled craftsmen—a metal worker, two carpenters and a mason—who are self-employed and make a good living for themselves. Religion is important in Metsi a Mangwe: there are several different denominations, but only three churches have their own buildings. Many of the churches conduct services at the compound of one of the members of the congregation. There are a few extension agents and government officers who work in Metsi a Mangwe, but the district headquarters are in Molepolole and most services are provided by these offices, as they are relatively close. There is a post office and most people who have savings invest it in the Post Bank as there are no bank branches in the village.

When considering a water system for this community, it is important to consider the capital resources of the community. Livestock is the traditional measure of wealth and most people would rather invest in a cow than a bank. As such, cash is only available in small quantities and saving and investment in money is uncommon. Bank loans are available at a 15% interest rate, though few people apply for them. Typically, if one wants to buy something of high value, the first step to buying it is to sell a cow or goat. The Botswana Meat Commission provides a high price for livestock as part of a European Union aid package, though transport to the abattoir takes about 10% of the profits. The government has recently started a program where villages can apply for grants of up to P 200,000 (the unit of currency is the *pula*, which is Setswana for “rain”) to augment their water systems. It costs P 25,000 to drill a borehole and install a tap. It costs an average of P 50 per meter to install a pipeline to distribute water from the tap to the surrounding area. In general, additional requirements can be approximated at 30% higher than prices in South Africa.

The following are some members of the community that you have met and may choose to have on your Water Development Committee. Your first job is to select the committee. As a group, decide who you will invite to be on the committee. Once you have selected the committee, each of you will be responsible for learning and playing the role of one of the members: studying your role, preparing the Role Play Worksheet to develop your understanding of the role, and playing it in character during the negotiations during the next class. One of you will be the D-Lab student who is helping the village apply for the government funding for the project; the rest of the group will be the other people who make up the committee.

Metheo Borolong is the chief of the village. He was born in Metsi a Mangwe but was educated at a government school in Molepolole, followed by private school in Gaborone. He has not attended university but values education and has advocated for the construction of two primary schools and a junior secondary school in the village. Fifteen years ago, he took over responsibility as chief from his uncle. Despite taking on the role at the young age of thirty-seven, he has earned the respect of the villagers through the programs that he has brought to the village. He is wealthy by Botswana standards—owning 120 cattle and 200 goats, as well as a new Toyota Hi-Lux pick-up truck.

Boitumelo Borolong is the chief's wife. She lives with her husband and seven children in the chief's compound, which is in the center of the village. She attended primary school in Metsi a Mangwe and junior secondary school in Molepolole. She is on the board of the junior secondary school and is very active in the community.

George Nyamagure is the headmaster of the local Junior Secondary School. He is one of the few people in Metsi a Mangwe to attend the University of Botswana in Gaborone, where he studied education and literature. He lives on the school campus with his wife, four children and his elderly mother. He has a reputation among students of being very strict but fair, and everyone who graduates from his school remembers him fondly as an excellent teacher and administrator.

Peter Kalanga runs a small metal-working shop on the edge of the village. He is a Zimbabwean refugee, who moved to Botswana with his family during the instability in the early 80's. He is well-educated and speaks excellent English; his workshop is known for its high quality work. Every few years, he hires students who graduate from the junior secondary school to serve as apprentices in the shop. In addition to the metal shop, he owns a small general store in the front of his compound which is run by his oldest daughter. He gets his supplies for the shop from Gaborone and Molepolole, which arrive on a weekly delivery truck.

Agnes Modimo is the leader of the women's group in Metsi a Mangwe. She is married to the pastor of the United Church of Christ, which is the largest church in the village. She was born in Francistown and moved to Metsi a Mangwe to be with her husband forty years ago. She founded the women's group twenty-five years ago and has been a dynamic leader of the group, which now has over seventy members. She is a proponent of women's rights, but still holds strongly to her traditional beliefs, though she is more progressive than many of the other women her age. She attended senior secondary school at a time when few girls continued their education to this level; she was the top student at her school, but did not go to university.

Gabriel Modimo is the pastor of the United Church of Christ, the largest church in Metsi a Mangwe. He is one of the most highly respected elders in the village. He was born and raised in Metsi a Mangwe and has spent his whole life there with the exception of two years at the seminary. In addition to dynamic preaching, he is known for his pastoral outreach and concern for the members of his congregation. He supports many projects that help his parishioners including a sewing school and a day care that are run in the church building during the week.

Brett Anderson is a Peace Corps Volunteer from rural Montana. He went to a large state school and studied accounting before deciding that he wanted to have a better understanding of other parts of the world and make contributions wherever he could. He arrived in Botswana three months ago, and the Metsi a Mangwe area will be his home for the next two years. His family grew corn and wheat in Montana and Brett wants to work in agricultural management when he returns to the United States. Although he comes from a very isolated area and has had limited exposure to other cultures, most people have really taken to Brett because of his curiosity and willingness to ask questions and experience village life first-hand. He was in the advanced Setswana group during his Peace Corps training and has a knack for learning new languages. In addition to his primary assignment to promote village horticulture projects, he is looking for secondary projects to work on.

Mpho Temothuo is the agriculture teacher at the junior secondary school. He speaks excellent English and is a charismatic young man who is well-liked throughout the community. He lives in school housing with his wife and three small children. He attended Botswana Agricultural College where he specialized in horticulture and beekeeping. He was born near Francistown (Botswana's second largest city) but enjoys the village life in Metsi a Mangwe. He is a favorite teacher at the school due to his energy and enthusiasm. The school garden is productive and sells vegetables to raise money for equipment for the school football (soccer) and netball teams. Each year, his students earn outstanding marks on the agriculture practicals for the Junior Certificate exams. He is friends with the agricultural extension worker that is stationed in Molepolole and they are working together to start a community horticulture project in the village.

Mary Dintwa is a nurse at the clinic on the edge of town. She often sees patients from Metsi a Mangwe and nearby areas who are ill from water-borne diseases but many times cannot give any treatment beyond recommendations for better water practices because medicine is short in supply and very expensive for the villagers. She was born in the Tsabong district of Botswana, in the southwest, but traveled a lot within the country as a young girl and speaks several of the local languages. However, her English is not very good and she prefers to communicate through other people rather than to make an attempt with her limited skills.

Per Vand is a Danish volunteer who works for Water for Humanity. He spent six years installing village water systems in Cambodia and three years installing systems in Rwanda before coming to Botswana six months ago. He is on a five-year contract with the Danish government to assist with implementing the new village water system augmentation program and is the representative for the Kweneng district. He lives in a government-issue house on the outskirts of Molepolole on the road that leads to Metsi a Mangwe.

Kabelo Mothibi is a long-time Department of Water and Sanitation worker with the national government of Botswana. He grew up in Gaborone and keeps his office there but visits the rural districts throughout the year to check on any infrastructure problems and to train local maintenance crews, where applicable. His visits are eagerly awaited because they bring connections to the resources and knowledge available at the national level. He started university with a specialization in biology but was forced to withdraw because his academic performance was not strong enough to maintain his scholarship.

D-Lab

Water Role Play Worksheet

Fall 2007

What is your MIT name?

Who else is on your team?

What is your Setswana name?

What is your role in the Metsi a Mangwe community?

Based on the information you have or can infer from your position in the community, what are your top priorities in this process? Why?

How will you behave in the Water Development Committee meetings? In other words, what personality or character will you exemplify based on your character?

According to your role, what is the best possible outcome of the Committee's work?