Scenario 1

You are residents of a village on the outskirts of Chennai city in Tamil Nadu, in the south of India. The village has about 30 households and about 150 people. They have a health clinic with a doctor, and a school with a few teachers.

For years, the women of the households of your village walked miles and miles every day to gather a few pots of water from a pond/stream for domestic use. This time-consuming activity affected the income-generating capacity as well as the health of the women. The quality of the water so obtained was also poor. The Government sought to solve this scarcity of safe water supply by providing piped water supply to the village. However, the combined impacts of rapid population growth and poorly maintained utility led to inadequate water services and the program failed.

In response to the unmet water demands of the community, a local NGO has decided to promote private “small-scale water providers” who will bring water to the village in tankers or on carts in jerry cans. They can employ the village youth for this. They believe that this would ensure a regular supply of water to villages.

Setting: The NGO has convened a village meeting to discuss the potential benefits and disadvantages of the project.

NGO representative: You feel that this would be a great opportunity to provide water for the village. At this meeting it is your job to explain the small-scale water providers project, listen to the concerns of the community and help answer their questions. (Some of the unemployed village youth can bring water in trucks. You plan to provide water treatment at a community-level).

Village Woman: As far as you are concerned, anything like this is welcome. As long as you don’t have to walk two hours a day on that rough road to carry 4 pots of water from the pond back home. You can spend those two extra hours weaving 4 more baskets and earn that much more when you sell them in the city every week.

Village Elder 1: You are concerned that private water providers might exploit the community by charging unfair rates. Furthermore, they might hire people from outside the community to provide the services, rather than local youth. What is the mechanism for oversight? Similar schemes, like the private hospital in your village, suffer from lack of community control. You feel strongly that the village should form a cooperative that will manage the provision of water.

Village Doctor: It all sounds great to you. You think that this can solve the problem of water availability for sure... but you wonder how safe the water will be for drinking. Last year, after the piped water supply system failed, one of the villagers brought water packets from Chennai city, and after consuming it, 8 children of the
village died of diarrhea. Who is going to ensure that the water you bring is safe for consumption? The NGO cannot set up a whole treatment facility for the water in the village – that would be expensive!

**Village Schoolteacher:** You have concerns about how to ensure the quality of drinking water. 8 children died and 32 others fell ill when the water supply system failed. School attendance fell drastically for nearly 2 months and the children hardly made any progress in terms of learning that year. Your students already spend too much of their time laboring outside of the classroom. This project will distract them even more. Maybe water should just be brought from ponds and boiled. But there just isn’t enough firewood for boiling the water.

**Village Elder 2:** You are aware that an NGO that had spearheaded similar efforts to provide safe water supply had tried to sell water filters to every household, but it was too expensive an investment for the households – people had then refused to buy it, “Tsk... this will not work.” Why don't we petition to the government to construct a reliable tube well in the village to provide safe drinking water?
Scenario 2

You are residents of a rural, mountainous community in the Indian Himalaya. Your income comes primarily from growing crops such as rice, millet, and cardamom (a spice). Increasingly, income from agriculture has not been enough to meet your needs. There are 230 people in your village, 1 health post, and 1 primary school (both of low quality). Students that graduate from primary school must travel 10 km to a larger neighboring village for secondary schooling. The village is electrified, but electricity supply is intermittent.

Your area is a popular destination for international and domestic tourists, but your village has seen little benefit from these activities. Most of the children drop out of school after 8th grade, and either enter agricultural work, or migrate to the city to find jobs.

A local NGO is interested in promoting your area as an ecotourism destination, and suggests that this activity might bring in an extra source of income for the village, offer skilled jobs for youth, and help preserve your cultural heritage.

Setting: The NGO has convened a village meeting to discuss the potential benefits and disadvantages of the project.

NGO representative: You feel that the project would be a wonderful opportunity for the village. At this meeting it is your job to explain the project, listen to the concerns of the community and help answer their questions. Project details: 22 households would host tourist guests on a rotating basis. A village committee would be set up to run the ecotourism project and 60% of the revenue from the project would be shared equally among the participating households. The remaining 40% would be used for infrastructure improvements in the village (fixing the village water supply, maintaining trails, establishing a community center, etc) and to pay the salary of 5 local youth who would serve as staff and as guides.

Village Elder: You are skeptical of the project, other NGOs have promised development schemes but little has come of this in the past. You feel that the traditional life and culture in the village will be threatened by the influx of tourists and resent the idea that your way of life would be a source of curiosity for tourists from Kolkata or Mumbai.

Primary Schoolteacher: You are supportive of the project and feel that it will offer many opportunities for the youth of the village. These opportunities include: serving as guides, developing ecotourism sites, and handling the business and administration of the ecotourism enterprise. You believe that most of your students will not continue to work in agricultural labor, and feel that ecotourism might give them much needed exposure to ideas and cultures outside of their own. Who knows, maybe wealthy tourists will donate resources to your school?
**Parent 1:** You are undecided about the project, you feel that you want to create new opportunities for your children, and feel that ecotourism is worth exploring, but you are also skeptical that tourists would be interested in coming to the village. Also, you are concerned that the influence of foreigners might encourage bad habits among the village youth.

**Parent 2:** You are hopeful about the project; your maternal uncle lives in another village where a similar ecotourism venture was initiated. The villagers there have formed a committee to manage the ecotourism activities and, for very little work, their annual income has increased by 30 percent. In addition, the children of the village have taken pride in their culture and are actively working to preserve their songs and traditional culture. When you look around your village today, you see these traditions rapidly disappearing.

**Landowner:** You are opposed to the project, because you feel that it will limit development in the area. You own a large portion of the land in the village and you have recently been approached by a hotel development group that is interested in purchasing your land to build a five-star hotel. You feel that the villagers would be better off if they followed your example and sold their land to developers. There is no future in farming, and with the profits from selling their land, many could move into apartments in the city. In addition, this type of development would make your town more similar to larger, thriving cities in the area.
**Scenario 3**

You find yourself in a large room with graying walls and three tall windows. The glass is broken though, and the dusty winds of a Punjab summer blow unhindered over you. The room is full of people, most sitting on the floor and a few on plastic chairs. The sweet smell of Indian tea rises from the many discolored glasses lying on the floor. Looking around, you catch sight of men in dhotis and shirts, and a few women in brightly colored salwars (mostly huddling close to their husbands). A separate group of older women sit in another corner, looking faintly suspicious. The chairs are occupied by a few members of the village Panchayat, a couple with a faintly urbane air about them, a young fair skinned European man, looking enthusiastic, and an older Indian with `government bureaucrat’ written all over him.

The room is currently playing host to a meeting convened by a non-profit organization located in a nearby city. The organization would like to implement a new rural energy project in the city, namely installing a solar cooking and lighting system in 50 houses in the village. The initial batch of 100 systems is to be provided free but beyond that the plan is to scale up the project and begin to charge a minimum cost covering amount for this service. The village folk are aware of the broad details and indeed are no stranger to various well-meaning attempts by bright and enthusiastic outsiders. Their prevailing attitude is now somewhat cynical – sadly being located near a large city has made them a popular test bed for PhD theses, surveys, proto-typing projects and a bunch of other development schemes, many of which have been ill conceived.

**Non-profit Researcher:** You are one of the lucky few sitting in a chair. You played a lead role in the engineering and design of the combined cooking and lighting system and are rather proud of your work. Unfortunately, you occasionally forget that lab tests do not correspond to real world success and that ease of use is not something that is based on your judgment but on the judgment of far less educated end users. You talk about your product with enthusiasm and know a lot about the things the system can do. However you bring to the table your opinions of what normal use conditions and acceptable performance means. These do not necessarily match with the views of the potential users.

**Panchayat Member:** You too have grabbed yourself a chair. Your attitude towards the project is rather cynical but you do like the prototype systems and recognize they might be useful. You see little hope of them succeeding as a commercial enterprise but are rather taken by the fact that the first 50 are free. As you see it, the most crucial question now is which of the 400 households gets the first 50 units? Clearly the poorer and lower caste households should be left out but unfortunately you suspect that the non-profit is made up of those frightfully irritating equal opportunity types from the city. In any case, there are 40 other Panchayat members and you know they all want a free system too.

**Man in audience:** You are relatively young and think the solar system is a great idea. In fact it might even be worth paying for if it works out. You have already installed a new design of a low pollution, efficient wood fired cooking system in your
house but you think this might be an even better idea. The last time you spoke
directly to the organization installing the wood systems and you intend to do
the same. You doubt the woman sitting on the chair has much clout but her male
colleague looks pretty friendly. You also recognize the cost savings and time savings
from using solar as opposed to wood or electricity or water. Your children will be
better able to study with the light. And your wife must be quite delighted.

**Woman in audience:** You are married to the young man. Unfortunately while most
people feel you’re quite lucky to have got yourself a progressive husband and a
progressive cooking system at the same time, you have serious reservations about
the latter. The wood fired system has caused more problems than solutions for you.
You appreciate the fact that it’s less polluting but not the fact that it can’t be moved –
forcing you to sit inside all day cooking, rather than sitting outside your house as
you could do with the earlier portable wood stove you used. You foresee exactly the
same issue with the solar cooking device. You also see a host of other concerns with
the solar device. Mosquitoes for one – a great way to keep them out of the house is
to keep the kitchen somewhat smoky and you don’t know how to deal with them
without that. You also used the smoke from your old wood stove to dry spices and
chilies - that’s another problem. Unfortunately you are also somewhat hesitant. Most
everyone around you is male, the non-profit is mostly men, the panchayat is entirely
men, and you do not really feel your opinion is particularly important. In any case, it
seems obvious that this is an important project the details of which you don’t really
know and your worries are probably of no real concern. For the first time though,
there is an Indian woman from the non-profit. So perhaps you could speak to her.

**Government representative:** You’re faintly amused by the entire proceedings. The
girl from the non-profit is about the same age as your niece (who is similarly
enthusiastic about saving the world). You feel it’s all very well to play around with
these projects but eventually it is proper grid connectivity, electricity and gas, which
will develop this village. Not yet another hare-brained idea jumping from lab to field.
You also find the European man ridiculous. Typical donor agency representative –
thinks you throw money at something and it will all work out. That said, you don’t
want to stand in their way provided they do not expect you to do anything.
Unfortunately since they want to scale things up, it appears they do want the
government to support them – at least by providing permissions to buy land, set up
distribution centers and use a mix of Indian and foreign funding.

**ESCO representative:** You were brought in to attend the meeting and give your
opinion on the scope for commercialization. You are excited by the project and think
private enterprise could make money out of the system. Not in this sort of village
though. In your opinion, the system would cost at least a thousand rupees to cover
costs and that means the target audience should be richer villages and towns. You
do want to make it clear that the system may not be super cheap long term, though
you probably can’t say to the village people that in your opinion many of them are
not going to be able to afford this.
**Scenario 4**

Tejgarh is a village in Gujarat, 30 km from Ahmedabad. The lives of farmers there are tracked principally by paper records. Land deeds, records of profits and loss, and loan documents are the principal documents of their lives. However, most of these farmers are illiterate. Those that can write can do little more than sign their names on paper. They do not understand the content of these records, for the most part, nor do they understand the relevance and importance of records they cannot read. Further, these records are easily destroyed if there is an incidence of fire or, quite commonly, theft.

It would be ideal if the farmers could be educated so that they may read and understand these documents. They should be informed enough so as not to be exploited by moneylenders, government officials, and the middlemen who buy their produce.

In the short term, however, could a solution be devised to address the needs of these farmers that accounts for their illiteracy? A local NGO, a team of researchers from the U.S. and some local stakeholders meet on a hot, dusty afternoon to discuss these problems.

**NGO head**: You are well versed with the problems of these small farmers and have seen them suffer injustices over time due to their lack of education. Moneylenders, middlemen, corrupt government workers, etc. are constantly trying to fleece them and take advantage of them. Assets are frequently lost or stolen. You would like to devise a mechanism (preferably technology-based) for protection of these farmers' rights. The other day you met with a team of interested researchers from the U.S. who are eager to help and explained the problem to them.

**Researcher 1 (Social Scientist)**: You are a graduate student researcher in the U.S. and are interested in the problems of the small farmers in this area. You have a background in sociology and ethnography and have an interest in really understanding their problems. You think that technology is not the solution to everything, and that it is important to understand the roles of the all of the stakeholders to come up with a just solution. You have seen technology-driven interventions fail in the past and are skeptical about their potential to improve the situation.

**Researcher 2 (Technologist)**: You believe that technology can solve the problems of the world and are keen to apply technology to solve the problems these farmers face. You know the NGO head is on your side. You feel that a digital voice-based record-keeping system for storing these records would be ideal, because it would allow these farmers to employ technology to overcome the hurdle of illiteracy.

**Farmer**: You cannot read or write. Last year, a local moneylender ripped you off and stole a large piece of your land. You are afraid to take loans because you do not trust these moneylenders and don’t know what they’re making you sign. In fact, you are perennally worried that you may be signing something you don’t know everything about. You are excited about a technological solution to this problem, and want the
latest and the greatest, but are doubtful whether you will have the skills to use such a system.

**Middleman:** You purchase produce from farmers in the area and resell it in area markets. You are literate and have worked with these farmers all of your life. Your business is based on the trust these farmers have in you. You think that meddling with the situation would add extra overheads and make things more complicated. You like status quo.

**Moneylender:** You think this discussion is a waste of time. The farmers should have educated themselves in the first place. You believe that you are providing a service to these illiterate farmers, and that their ignorance poses an enormous risk for your business. You argue that any technology-based system would be too complex for the farmers to learn and use.
Scenario 5

You find yourself in a ramshackle sheep herders’ hut, huddling for warmth around a small fire made from dried dung. You all are taking shelter from an unexpected summer storm, at this altitude the weather is very unpredictable. The cold air whips through the chinks in the stones that make up the hut. You are happy for the small bottle of local spirits that is passed around, and for the conversation that you share with the others grouped around the fire. You are in Ladakh, a remote region of India located in the transhimalaya. Because you are in the rainshadow of the Himalaya, this region is extremely arid- a high-altitude desert. The scenery is austere and breathtaking. In your group are two local villagers – an old man and his 16-year old son, who are herding sheep in the pastureland above, a young European trecker and her guide, a wildlife officer for the park region, and a NGO field worker.

Conversation inevitably turns to the local environment and to the challenges faced by the local villagers from the predation of snow leopards on their herds.

Try and play out what might occur in a meeting like this. To keep it simple, choose one of the 6 roles provided and have a conversation.

Suggested Roles:

Old Herder: You grew up in a village below the pasture land, for half a century you have taken your flock of sheep up to this area to graze in the summer months. Every year, some of your herd is killed by the snow leopards that live in the hills. You build corrals, but the snow leopards still get in at night. What’s worse, the snow leopards don’t kill one sheep, they kill many- sometimes as many as 20. You despise these animals, as they can completely decimate your only asset- your livestock. So, like many in your village, you have set out traps to systematically exterminate the leopards.

Young Herder: This is the fourth trip you have gone on to accompany your aging father up into the hills. You respect his tenacity, but at the same time, you wonder if such a life is for you. Most of your friends in the village have already left- for seasonal employment in the hotels in Leh, the capital, or as laborers in places as far as Delhi or Mumbai. You understand the threat that the snow leopards represent, yet at the same time you see something that your father, apparently, cannot. The snow leopard, is a symbol of Ladakh and it is almost exterminated. Only 500 live in all of India. From what you’ve learned in school, it must be preserved. Plus you know that tourists (such as the cute german girl at the fire) seem to value the animals such as this, and perhaps your village could benefit from the income that they represent.

Tourist: You are awestruck by the beauty and severity of life in Ladakh. You listen to the old man’s arguments, but they just make you outraged. How could people—buddhists no less—exterminate such a noble and precious animal? You studied environmental science in University and you know that snow leopards are a
keystone species in this ecosystem. But you feel silly as you struggle to find the words to explain its importance of preserving this animal.

**Guide:** You grew up in the same village as the herders, and in fact graduated a few years ahead of the young boy. You were lucky enough to find employment with a local trekking agency and make your living guiding tourists in the areas where your fellow villagers still graze their sheep. You have sympathy for both arguments. You have never seen a snow leopard before, but you know that even the idea that these animals exist brings tourists and rupees to Ladakh.

**NGO officer:** You are part of an organization that tries to help the local population that lives within the Park boundaries coexist with the wildlife of the region. Your efforts are to educate the local population about the value of conservation and to help construct predator-proof corrals that protect livestock from snow leopards. You listen carefully to the old man’s arguments, but you are also frustrated, because you know that many in his village feel the same way. Why should we protect this despicable animal that has killed so many of our livestock? How can you convince people like him that your plan is viable?

**Wildlife officer:** You are stationed in this remote area, far away from your family and friends in Srinagar. You are in charge of protecting the wildlife of the area, and in stemming the tide of illegal trade in rare and protected species. From the sale of one snow leopard pelt to Chinese traders, a villager can make two year’s salary. Many of your fellow officers have been able to supplement their income and live quite comfortably from the bribes offered by the traders. You have no special love for the wildlife in this region, and see this as a hardship posting. But so far, you have abstained from taking bribes, and instead focus on upholding the laws you were sworn to protect. As such, you are universally disliked by the villagers.