Case Study: Making reforestation "climate-smart"

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Objective: Participants critique a proposed forest restoration project to determine if climate change has been fully considered in its design, implementation and outcomes. Through this exercise participants will learn how we can help make reforestation efforts, and conservation in general, "climate-smart."

Time required: This activity can be completed in 30 minutes with a small group, but we suggest budgeting 45 minutes to allow for longer discussion.

What you will need: You will need one copy of the case study handout for each participant in your group.

Instructions

1. Participants should be seated in small groups. Distribute one copy of the case study handout to each participant.

2. Explain that each group is a philanthropic foundation that supports climate-smart reforestation projects. After reading the case study, they are to answer the questions on their handouts and in the end decide if they will give Peter and the Community Water Users Group a $10,000 grant to support their proposed forest restoration project. The foundation has access only to the information that is available in the case study handout. In making their decision, participants should not make assumptions about things they do not know. Allow about 15-20 minutes for this discussion.

3. After groups have made their decisions, ask the audience which groups (foundations) decided to support the project without further questions or conditions. If a group has decided to support the project as is, ask why they thought it was the "perfect" project. Then proceed by discussing the questions on the handout with the entire group, allowing participants to respond and guiding the discussion using the answers provided below as suggested responses.

Q: Is this project an example of ecosystem-based adaptation? Community-based adaptation?

A: This is an example of ecosystem-based adaptation because the community is using an ecosystem, in this case the forest, to provide adaptation services to reduce the vulnerability of people in the

community to increased fluctuations in rainfall and increased soil erosion, flooding and mudslides due to heavier precipitation events. The project can also be considered an example of community-based adaptation, because the community members themselves determined how they were vulnerable to changes and decided what actions they should take.

Q: What are the strengths and weaknesses of this project?

A: Commonly cited strengths of this project include that its design was participatory and included multiple stakeholder interests; that it uses a natural system, the forest, to reduce vulnerability rather than hard infrastructure or a more technological solution; that it uses native rather than exotic tree species for restoration; and that it included a climate change vulnerability assessment as part of the design process.

Weaknesses may include concerns about the extent of community participation in the vulnerability assessment and project design; and that changes in climate identified in the vulnerability assessment were not fully incorporated into the design of the project. There may be others.

Q: Is the project climate-smart?

A: Without further information, one must conclude that this project is not climate-smart. In fact, this appears to be a business-as-usual conservation project that, while perhaps providing adaptation benefits to the community, is itself vulnerable to changes in climate – increased temperatures, frost, drought and heavy precipitation along with other threats that affect forests in a changing climate such as fires, pests and disease outbreaks. The tell-tale sign that project planners did not consider the vulnerability of the forests to changes in climate is their decision to plant native species that were present 50 years ago when the climate was very different.

Q: What questions would you ask Peter before making your decision to fund the project?

A: There may be many responses from participants. Responses from conservation groups may be about the selection of tree species, if the project is large enough to have sufficient impact or what would prevent community members from cutting down the new trees. Development groups may ask questions about exactly who participated in the design of the project, who will implement it and who will benefit. These questions are valid and should be acknowledged. However, the objective of the exercise is to allow participants to explore what would improve the project in the face of climate change, i.e. what would make the project climate-smart? Pay special attention to questions regarding using climate considerations in the project design. If these questions are not raised by participants you may want to ask these questions yourself. Relevant questions include the following.

- Why weren't the findings of the vulnerability assessment considered in the design of the project?
- How are Peter and CWUG certain that trees species present 50 years ago will be able to survive and live to maturity under the changing climate?

- How will CWUG protect young and vulnerable seedlings from extreme events like heat waves, drought, floods and frost?
- How will seedlings be watered in times of drought, particularly when rivers are dry during certain times of the year?

Q: What recommendations would you make to strengthen the project?

A: Recommendations from the may include improvements to both climate and non-climate related weaknesses. Here we want to focus on suggestions that will make the project more climate-smart. Recommendations might include:

- Give preference to native tree species that appear to have done well in spite of the changing climate over the past 50 years. Species that are particularly vulnerable to heat waves, pests, diseases, frost, drought and floods should be given lesser priority.

- Tree species new to the area that have not been deliberately introduced by people – that is, they are now growing there because of newly favorable climatic conditions – should also be considered for restoration even if they were not present 50 years ago unless they pose significant threats to the ecosystem or livelihoods.

- Consider increasing the genetic diversity of selected tree species by planting seedlings from drier and wetter and hotter areas of the trees' ranges. Doing so may improve chances that the trees will survive into the future.

- Have community members monitor the area, and the planted seedlings especially, for new tree pests and diseases and seek advice on special measures that may be needed to control outbreaks of these pests and diseases.

- Investigate new and improved practices for planting and protecting seedlings from extreme weather events and develop a plan to help young trees survive during times of drought, heat waves, frost, floods, etc.

- Provide community members with access to weather forecasts so they can prepare to take special measures to care for trees and their crops, livestock, etc. during periods of extreme weather.

- Talk to other communities that have tried to restore forests in their areas to learn from their successes and mistakes.

At the conclusion of the exercise, ask participants what they have learned from the exercise, if they would like share lessons learned from reforestation projects they participated in, and if they could use what was learned in their work in the future.