



## The 30-minute Vulnerability Assessment

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**Objective:** Participants become familiar with the components of vulnerability – exposure, sensitivity and adaptive capacity – by conducting a very simple vulnerability assessment that quantifies the vulnerability of 3 villages to increasing floods and landslides.

**When to use:** This exercise is useful in the context of longer discussions about vulnerability and vulnerability assessments and can be used as a warm up exercise for stakeholders at the beginning of vulnerability assessment process.


**Time required:** This activity requires about 30 minutes.


**What you will need:**

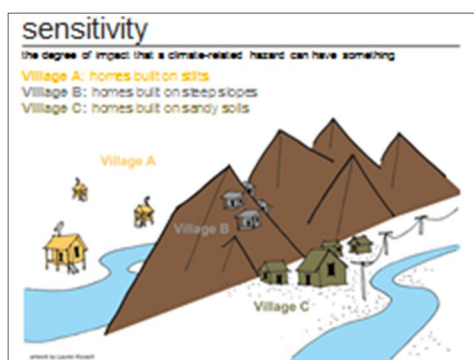
- Printed copies of the vulnerability assessment handout and vulnerability assessment worksheet. You may print copies for each individual, pair or small group.
- The 30-minute Vulnerability Assessment PowerPoint presentation, screen and projector.

**Instructions**

1. Participants can conduct the assessment individually, in pairs or in groups of 3 or 4. To encourage discussion and better learning, we recommend that participants work with others.
2. Once participants have received copies of the VA handouts and worksheets, begin to use the PowerPoint presentation to explain the exercise using the script below, which also appears in the notes of the PowerPoint presentation.

	<p>Today we are going to conduct a simple vulnerability assessment so you can become familiar with the components of vulnerability. Specifically, we will look at 3 villages that are increasingly exposed to heavy precipitation events.</p> <p>Our purpose is to determine which of these communities is most vulnerable to two hazards that are caused by heavy rainfall - floods and landslides.</p>
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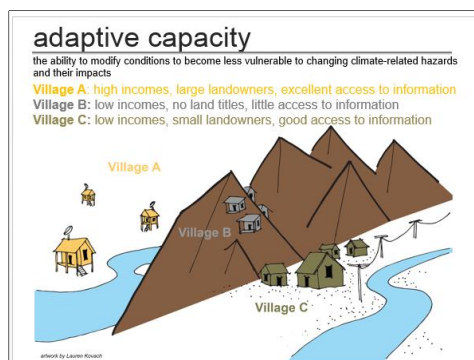
	<p>With this information we may want to prioritize which village to assist in adapting to these hazards and which actions we might want to take to help them.</p>
<div data-bbox="251 535 722 892"> <p><b>vulnerability</b></p> <p><b>f (exposure, sensitivity, adaptive capacity)</b></p> <p><b>exposure</b> = the degree to which something experiences a climate-related hazard</p> <p><b>sensitivity</b> = the degree of impact that a climate-related hazard can have something</p> <p><b>adaptive capacity</b> = the ability to modify circumstances to respond to and prepare for changing climate-related hazards and their impacts</p> </div>	<p>Remember that vulnerability is a function of exposure, sensitivity and adaptive capacity.</p> <p>There are technical definitions for these terms, but for today's exercise we will define them as follows:</p> <p>[CLICK] Exposure is the degree to which something experiences a climate-related hazard.</p> <p>[CLICK] Sensitivity is the degree of impact that a climate related hazard can have on something.</p> <p>[CLICK] Adaptive capacity is the ability to modify circumstances to respond to and prepare for changing climate-related hazards and their impacts.</p>
<div data-bbox="251 1144 722 1501"> <p><b>exposure</b></p> <p>the degree to which something experiences a climate-related hazard</p> <p>Village A: heavy rains once every 3 years</p> <p>Village B: heavy rains 3 times per year</p> <p>Village C: heavy rains 3 times per year</p>  </div>	<p>Each of you has a handout showing three villages and all the information you need to complete the vulnerability assessment.</p> <p>[CLICK] For exposure not that heavy rains fall in Village A once every 3 years.</p> <p>[CLICK] In Villages B and C, heavy rains fall 3 times per year.</p>



Looking at sensitivity, note that the homes in Village A are built on stilts.

[CLICK] In Village B, the homes are built on steep slopes, and

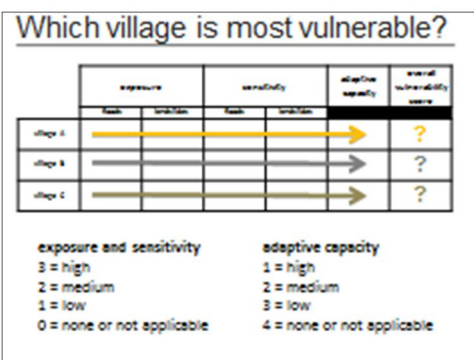
[CLICK] In Village C, homes are built on sandy soils.



Looking at adaptive capacity, residents in Village A have high incomes, own large plots of land and have excellent access to information.

[CLICK] In Village B, residents have low incomes, they do not own their land and they have little access to information.

[CLICK] In Village C, residents have low incomes, but they own small plots of land and have good access to information.



Each of you has also received a vulnerability assessment worksheet. Use the information to rate exposure and sensitivity of each village to floods and landslides using this rating system.

[CLICK]  
3 for high exposure or sensitivity  
2 for medium  
1 for low and  
0 when there is no exposure to floods or landslides and therefore sensitivity to these hazards is not applicable

[CLICK]  
Then rate each village for their adaptive capacity. Note that the rating system for adaptive capacity is the inverse for exposure and sensitivity.  
1 for high adaptive capacity

	<p>2 for medium 3 for low and 4 for no adaptive capacity</p> <p>[CLICK]</p> <p>When you have rated exposure, sensitivity and adaptive capacity for each village, add the scores in each row to learn the overall vulnerability for each village. The village with the highest score is most vulnerable.</p> <p>You have about 15 minutes to complete the vulnerability assessment.</p>
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3. Allow participants about 15 minutes to complete the assessment. Many people “over-think” the exercise, trying to interpret visual the information in the handout to fill in information gaps they do not have. If you notice this happening, reassure participants that it is easy to come to the correct answer without additional information they want and that they should move through the assessment quickly.
4. After participants have completed the assessment, ask the audience which village they believe is most vulnerable. The correct answer is “Village C”. Sometimes participants will rate Village B as equally or more vulnerable. If this is the case, use this to discuss differences of opinion and explain that vulnerability assessments can be highly subjective depending on what information is available and who is interpreting that information.

Here is an analysis of vulnerability for each village that you may want to use in your debriefing.

#### Village A

Village A is clearly the least vulnerable of the 3 communities. It is exposed to potential flooding only once every 3 years and trends for heavy rains are expected to decrease. It has no exposure to landslides. Because homes are on stilts, they are less sensitive to flooding than homes built at ground level. Finally, Village A seems to have fairly large adaptive capacity with high incomes, large plots of land that residents own and excellent access to information. With these resources, Village A can do much to prepare itself for the increasing number of floods.

#### Village B

By simply looking at the handout, participants may believe that Village B is most vulnerable. With low incomes, no titles to land and little access to information, it certainly has the least adaptive capacity of the 3 communities. But because it exposed to landslides only and not to floods, Village B is less vulnerable than Village C.

### Village C

Village C is the most vulnerable of the 3 communities. Since heavy rains occur 3 times per year and the projections indicate an increase in heavy rainfall events. Furthermore, the community is wedged between the river and the steep mountains, it is highly exposed to both floods and landslides. Because homes are built at ground level on soft, sandy soils, they are highly sensitive to floods. And since they are at the bottom of the mountains, one may conclude that they are also more sensitive to landslides than Village B since homes would be buried under mud and debris. Even though adaptive capacity is higher in Village C than in Village B, exposure and sensitivity to both floods and mudslides make Village C vulnerable to more hazards and thus ultimately more vulnerable.

### Debriefing

Here are some questions you might want to ask your audience when debriefing this activity.

1. In the end, was it important that everyone gave each village the same vulnerability score? No. It is much more important that you correctly identified the most vulnerable community, not which score it received.
2. Vulnerability assessments can be used to prioritize targets – communities, households, species, ecosystems, etc. – for adaptation. They can also be used to learn how different targets are vulnerable in different ways. In this exercise we learned that Village C was most vulnerable and therefor might be a priority for adaptation. If instead we used the VA to learn how to best help each community adapt to increasing floods and landslides, what would be some actions we could take to help residents in each of the three communities?

Possible responses:

- Build homes in Village C on stilts.
  - Provide Village B with better access to information.
  - Install early warning systems in all 3 villages.
3. Think about the places where you live or work.
    - a. What climate-related hazards are these places increasingly exposed to? Possible responses are drought, wildfires, storms and storm surge, floods, landslides, avalanches, sea level rise, etc.
    - b. What groups, livelihoods, assets, species or ecosystems are particularly sensitive to these increasing hazards?
    - c. Which groups have the least adaptive capacity to prepare for these hazards? What can we do to increase their adaptive capacity?