

## Lab #8 – Environment and Adaptation

Group member Names:

### **Instructions**

This is Part I of a two-part activity that will go along with the final lab of the semester. In this lab, you will need to use the knowledge of human evolution, migration, and adaptation that you have learned over the course of the semester to think about ways to adapt to a harsh environment.

It is the future. Oil, gas, and coal reserves have been completely depleted, and, as a result, civilization has collapsed. After a long period of war, disease and hunger, only a few million people are left on the entire earth. Some technology remains, but it is for the most part useless without electricity to run it. Unfortunately, your ancestors were unable to fully develop renewable energy technology before the crash, but you might find a working solar panel or small wind turbine lying around if you're lucky.

As a result of climate change resulting from the burning of fossil fuels, the environment has changed dramatically. Globally, storms and other natural disasters are more frequent, temperatures are warmer, and the climate is less predictable. Locally, the changes vary depending on where you live. You will be given a set of characteristics that describe your environment and the population of your group. Your first task is to select the cultural traits that enable you to survive in this landscape.

Select (circle) one of each of the following cultural traits – you will need to justify your decisions in the next section:

#### **1) Subsistence**

- a. Hunter/Gatherer
- b. Horticulture (gardening)
- c. Pastoralism (herding)
- d. Agriculture

#### **2) Political Structure**

- a. Egalitarian – everyone is equal (can't be agricultural)
- b. Democratic – everyone votes for the leader(s)
- c. Aristocratic – ruled by a group of elites (can't be hunter/gatherer)
- d. Authoritarian – ruled by an individual (can't be hunter/gatherer)

#### **3) Economic Structure**

- a. Reciprocal – Goods are exchanged as gifts with the expectation that gifts will be returned or repaid eventually (Only egalitarian)
- b. Socialist – Everyone gives to the government, and government redistributes resources (Can't be egalitarian)
- c. Capitalist – People buy and sell goods in a market (Can't be egalitarian)

#### **4) Religious Structure**

- a. Non-organized – everyone believes and practices what/how they want
- b. Informal – One religion, everyone participates in individualized ways
- c. Organized – One religion, everyone participates in defined ways, professional religious class (i.e. priests, pope, etc.)

Explain why you selected the above traits. For each trait you've chosen, discuss in detail how it helps your group adapt to the environmental conditions described. What advantages do your choices provide in this environment? What are potential drawbacks to your selections?

Subsistence:

Political Structure:

Economic Structure:

Religious Structure:

Discuss your choices with another group. What did they do differently? How do your cultures differ, and how are they similar?

## **Building Resilience**

Using your selections above and the environmental information provided, describe your culture in detail. Think about subsistence practices – how do your people get food and other resources, how do they distribute it to the rest of the group? Do your people have any rituals or ceremonies, celebrations, holidays, etc.? How are leaders selected or how do they acquire power – are there rituals, elections or other practices that are involved?

Use additional paper if necessary. The information you develop here and in the previous sections will be used in the final lab. Your goal is to develop a resilient community, meaning that it can survive environmental and social challenges. In the final lab, the resilience of your community will be tested – based on your descriptions here, I will give you points that will help in that lab, so be as detailed as possible, and make sure your descriptions match up to the choices you made above. For example, if you chose an “egalitarian” political structure above, then don’t say you have a king and queen here – or if you do, explain their role in an egalitarian political structure.

**Be creative, but believable. You can make your culture anything you want, and the more you tell me about it, the better off your group will be in the final lab!**

## **Changing Climate**

Even though it has been a long time since the last drop of oil was burned, the climate is still changing as a result of the CO<sub>2</sub> that was introduced into the atmosphere and due to the complex feedbacks that have resulted. Based on your knowledge of climate change and the environmental conditions provided in this lab, describe at least three environmental changes you and your culture can expect to see in the future. What are the major threats to your culture – what would impact your community the most? How might you adapt to these unforeseeable changes?