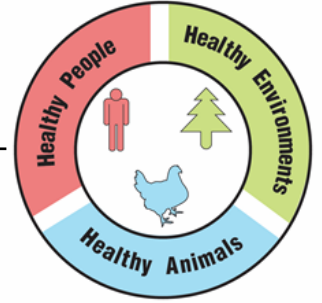


One Health Puzzle



Part 1: The trip of a lifetime!



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In 1993, Kinari Webb was a college student who was provided the opportunity to travel to Borneo, Indonesia to study orangutans. Borneo is the third largest island in the world and is home to one of the oldest rainforests in the world. This would be the trip of a lifetime for Kinari! The Borneo rainforest is one of the few remaining natural habitats for the endangered Bornean Orangutan. Kinari was excited to be able to study the magnificent orangutan in its natural habitat.

Kinari's trip was not without heartache. As soon as she settled in at the research camp, Kinari could hear the hum of chainsaws in the forest. She knew that the orangutans were endangered because the rainforest in Borneo was disappearing at an alarming rate due to logging.

The people at the research camp were concerned for the orangutans. One of the researchers said that the orangutans used to be able to travel from one side of the island to the other without ever touching the ground. Orangutans spend most of their lives in trees, swinging in tree-tops, finding food and building nests for sleep. As more trees are removed from the forest, greater stress is put on the orangutan, decreasing their chance for survival.

1. What is the main reason the rainforest is declining in Borneo?
2. Explain why removing trees from the rainforest puts stress on the orangutan population, decreasing their chances of survival.
3. What do you think will happen to the orangutan population if humans continue logging the Bornean rainforest?

Part 2: Radical Listening – What is the problem?

During her time in Borneo, Kinari realized that the fate of the orangutans was closely tied to the fate of the rainforest. She also realized that saving the rainforest was a complex issue. After graduating from medical school, Dr. Kinari Webb returned to Borneo in 2005 to build a medical clinic in one of the local Bornean villages.

Kinari quickly understood that she was NOT an expert on the complex factors driving the changes in the rainforest. In order to gather as much information as possible, Kinari and her team engaged the local people, whose livelihood and survival depends on the rainforest, in a **radical listening** exercise. Kinari defines radical listening as asking all members of the local community what they need to protect their environment and then working to make their solutions a reality. She thinks this is radical because many times conservation groups come into a community and just make changes without listening to local people about what they actually need. Once Kinari is able to understand the complexity of the issue from a local viewpoint, she and her team could begin to make positive changes.

You will participate in a simulated “radical listening” session to collect information to help Kinari. As part of the radical listening team, each of you will be in charge of collecting a part of the story.

Your teacher will assign you one of the following “radical listening” perspectives:

- An interview with a local farmer, Pat Suphyan
- An interview with a clinic supervisor, Dr. Daeng Faiqh
- An interview with a logger, Yusuf
- Data about Bornean orangutan population prepared by Dr. Gibson, head of “Save the Animals” animal protection group
- Information about Bornean rainforests prepared by Datuk Yen, the government national resources commissioner.

Work individually to prepare for a meeting with others who have read the same information.

1. Read your assigned “radical listening” perspective.
2. Label one of your colored index cards “PROBLEM”.
3. Identify one main problem described in your “radical listening” perspective and write this on one of the **colored index card** provided by your teacher. Be as specific as possible when identifying your problem. Be prepared to share your problem with your classmates.
4. Identify 3-4 facts from your “radical listening” perspective that can be shared with your classmates to support your choice of the main problem. Add these facts to the back of your index card OR highlight the facts on your perspective sheet.

5. Label a white index card, "SOLUTIONS".
6. Identify 3-4 solutions described in your "radical listening" perspective. Write a list of the solutions you identify on the white index card.
7. Be prepared to share your solutions with your classmates.

Share what you learned with others.

8. Your teacher will place you in an expert group with students who reviewed information from the same "radical listening" perspective as you.
9. First, each student should share only their **Problem** index card with the group.
10. The group should then come to a consensus (agreement) about the main problem identified by their "radical listening" perspective source.
11. Each student in the group should write the main problem agreed upon by the team on the colored **Problem** card. Raise your hand if you need a new, clean **Problem** card. Each student will need a completed **Problem** card for the next activity.
12. After every student has shared their "problems", take turns sharing your "solutions" with the group. As students share, place a star next to "solutions" shared by more than one person in your group.
13. The group should then come to a consensus (agreement) about the possible solutions they want to share with the class. The group may share multiple solutions. Have one person write one solution on each white **Solution** card. For example, if you have 3 solutions, there should be three separate cards. Ask your teacher for more **Solution** cards, if needed.
14. To participate in the next activity, you will need your own set of your group's **Solution** cards. Make your own set of **Solution** cards.

Part 3: Radical Listening – How do the puzzle pieces connect?

Kinari thought the problem was simply a decrease in the orangutan population. However, after radical listening, she realized that many problems contributed to the decrease in orangutans. The goal of radical listening is to use the information provided by local people to enact real solutions to the problems they identified. Up to this point, you have only heard about this problem from the perspective (point of view) of one person. You will now work with a team of students that represent five different perspectives.

1. Your teacher will place you in a team with all five of the “radical listening” perspectives. You will work as a team to develop a plan to help the people, the orangutans, and the Bornean rainforest.
2. Each team member should take turns doing the following:
 - a. Identify the source of their “radical listening” information.
 - b. Read the main problem on your **Problem** card.
 - c. Share any supporting information that you wrote on the card or highlighted on your radical listening perspective sheet.
 - d. Place the **Problem** card on the table for the team.
3. As each person shares the **Problem** from their perspective, decide if each problem is:
 - A human health problem – write “H” on the **Problem** card.
 - An animal health problem – write “A” on the **Problem** card.
 - An environment health problem – write “E” on the **Problem** card.
4. Notice that there are many, complex problems identified by the team. Your team’s goal is to find solutions that could solve multiple problems!
5. To do this, team members should take turns sharing the solutions identified from their radical listening perspective. Place all the team’s **Solutions** cards on the table.
6. As a team, work to create a solutions web using the following procedure:
 - a. Lay out all the team’s **Problem** cards on your large chart paper.
 - b. Group or stack any problems that are similar. Place these “stacks” in a row across the top of your chart paper.
 - c. Notice that each **Problem** is a color.
 - d. Group or stack any solutions that are similar. You may want to paper clip similar solution cards together.
 - e. Lay out all the **Solutions** stacks in a row under your **Problem** card stacks.
 - f. Using a marker, draw a line connecting the problem stack to each solution stack that would fix the problem.
 - g. Continue drawing lines so that each problem stack is associated with solutions. It is OK to have multiple lines going to each solution stack.

7. Look at the lines connecting your problem and solution stacks. Which one of the solutions do you feel would have the greatest impact on solving the problems in Borneo? Support your choice.

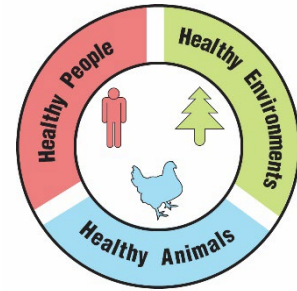
8. Explain how the solution you selected might affect the health of the rain forest.

9. Explain how the solution you selected might lead to an increase in the orangutan population.

10. Explain how the solution you selected might improve the health of the people in Borneo.

Part 4: One Health

A One Health approach embraces the idea that the health of animals, people and the environment are closely linked. Complex, One Health problems must be solved through improved communication, cooperation, and collaboration by experts in human health, animal health, and environmental health. One Health professionals work locally, nationally, and globally – to attain optimal health for people, domestic farm and food animals, wildlife, plants, and our environment.



The loss of orangutans in Borneo is a good example of a complex problem that can be solved following the **One Health** approach. You worked on this problem as a One Health team. Use what you learned from Parts 1 through 3 to complete the following questions.

1. Why is the PROBLEM in Borneo a good example of a One Health problem?

Dr. Webb founded a conservation organization called **Health in Harmony** that brings together professionals in many different disciplines to solve the complex problem in Borneo using the One Health model. Your team has been hired to create a slide to answer the question, “**How does Health in Harmony offer One Health solutions for the loss of orangutans in Borneo?**”

Remember how the CDC video used images with captions to help people understand what One Health problems and solutions involve. Using pictures and captions will help people understand and remember how Health in Harmony uses a One Health approach.

2. Use the Health in Harmony website at <https://healthinharmony.org/results/> to identify how the Health in Harmony organization offers SOLUTIONS that fit a One Health approach. Use the following template to organize your slide:

How does Health in Harmony offer One Health solutions for the loss of orangutans in Borneo?		
Picture and a caption to identify one positive impact on the environment	Picture and a caption to identify one positive impact on humans health	Picture and a caption to identify one positive impact on animals

3. The Borneo example illustrates how local decisions may have global impacts. Explain how the local decision to build a medical clinic can have an impact on the global environment.