

Whose Rainforest Is It, Anyway?

Essential Questions:

Why is protecting the rainforest important?

Who are the many stakeholders in harvesting and protecting the rainforest? Why may it be difficult for them to work together?

At a Glance:

In this activity, learners will role play a variety of different rainforest interest groups and develop a land use plan for a plot of rainforest. They will discuss conflicting values and human needs and how the effects of all the interest groups collectively impact the rainforest and its people.

Background Information:

Trees provide food, medicine, shelter, erosion control, shade, nutrients for soil, fuel for heating and cooking, air cleaning, oxygen, homes for animals, and they are beautiful for us to look at. Safe, fresh air to breathe is something that we often take for granted. It is primarily trees and other plants that are responsible for providing clean air.

Tropical rainforests, located globally around the equator, are responsible for producing approximately 40% of Earth's oxygen. These forests also are hotspots of biodiversity; with almost half of the world's plants and animal species living in rainforest ecosystems. The cutting of the world's rainforests is a global issue that many people are concerned with, but the problem is not easily solved. There are many different interest groups on both sides of the debate. Local villagers, environmentalists, scientists, and other activists want to protect the rainforest and stop its destruction. On the other side, are people who want to promote development and progress in countries that are usually struggling to keep up with the developed world. The government, large-scale agriculture, ranchers, and many locals support selling of rainforest or cutting it for the purpose of improving social and economic status of the country.

Globally, 40 million acres of rainforest are destroyed each year. That's 76 acres a minute (about the size of 57 football fields put together). With that much habitat being destroyed, four species of plants and animals become extinct every second. Beyond the loss of biodiversity and impacts on other species that relied on these extinct plants and animals, many plants have medicinal properties and could provide cures for diseases.

Trees are also cut for agriculture, mining, oil drilling, and ranching. Many forest crops, like chocolate and coffee, can be grown under the shade of large canopy rainforest trees, however some farmers still believe that sun-growing is better. There is also the issue of pesticides and fertilizers polluting the area where these large-scale agricultural practices are taking place. Ranching consumes a large area of rainforest that must be cleared for

Location: Indoors or outdoor classroom

Objectives: Learners will

- 1) name 5 reasons the rainforest is important.
- 2) explain the difficulty of rainforest protection with many different interest groups.

Skills: communication, problem-solving, listening, analysis

Supplies:

- Rainforest Interest Group cards
- large paper squares (11"x13" or larger)
- crayons, colored pencils, or markers
- chalkboard/whiteboard (optional)

Subjects: science, social studies, art

Time: 45 minutes

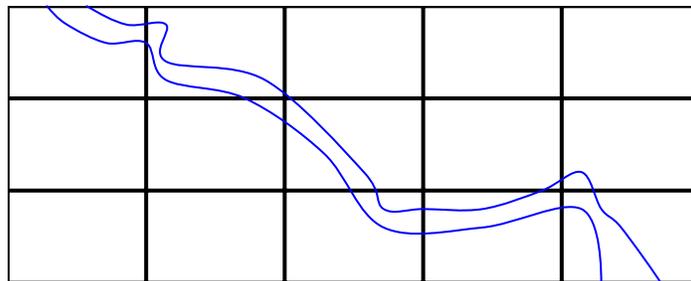
grazing. It takes two acres of land to graze just one steer of cattle. Fast food restaurants are the main consumers of rainforest cattle, as it tends to be of a lower quality meat and is inexpensive.

It seems that it is an open-shut case to not cut down the rainforest; however complex issues of development and economic progress have to be taken in to account. As these countries, such as Brazil and Malaysia, move away from being 3rd world countries, natural resources are used up in the name of progress. Though there still are groups of indigenous people living in traditional ways, much of the country is moving towards a modern lifestyle. With a modern lifestyle, comes the need for economic growth. This often happens through development, industry, and other advancements that use up natural resources. Studies are being conducted to show that destruction of the rainforest is not necessary. Shade-grown coffee and chocolate, harvesting medicinal plants, fruits, nuts and oils, and other sustainable practices can provide the same amount of money or more than clear-cutting an area for wood or subsistence farming.

With so many interest groups wanting different things for the rainforest, whether preservation or use, it is no wonder the rainforest debate is ongoing. It is difficult to balance a need or desire for progress and economic stability with protection of the environment. In the long-run, protecting the forest for the many eco-services it provides should take priority. The resolution comes when all the interest groups work together to find a common agreement to protect the rainforest, its people, and the eco-services it provides.

Getting Ready:

Prepare 15 pieces of paper, size 11x13” or larger. Put the pieces together into a large square and draw a river through part of them (see diagram). The plots will be divided up amongst the groups of learners and then put back together later in the activity.



Procedure:

Part A: Development

1. Provide learners with some background on tropical rainforests and the rate at which destruction is occurring. Mention some of the rainforest interest groups, for both cutting and preserving.
2. Tell learners that they will be working in pairs/teams to develop a plot of rainforest according to their interest. For example, they may be an ecologist who wants to protect the land from any human influence, or they may be a rancher who wants to clear-cut the forest to graze cattle.

3. Each group will have a 4 acre plot to develop. To illustrate the size of the plot, tell learners that a full American football field, including end zones, equals 1.32 acres. So 4 acres is just a bit larger than 3 football fields.
4. The activity is written for a group of 30 learners to work in pairs, divide your group accordingly.
5. Give each pair/group a large piece of paper 11"x13" or larger. Tell them that this is their plot of land to develop. Some of the plots will have a river running through them.
6. Distribute a Rainforest Interest Group card to each group and have them read it to themselves. Be available if groups need clarification or an explanation of what their interest group does. Learners are to draw and develop their plot of rainforest according to the interest group they belong to (i.e. if the group are shade-grown coffee farmers, they will draw a coffee plantation with large overstory trees throughout.)
7. Give the groups 10-15 minutes to develop their rainforest acreage.

Part B:

1. Allow each group to present their rainforest land use plan. They are to tell everyone which interest group they represent and how they developed their plot of land.
2. After all the groups have presented their plots, ask them to bring their rainforest plots to a central location. Place all of the plots together to make one large rainforest area. Make sure that the plots are put together so that the river is intact. If possible, try to place the plots where destructive interest groups are next to conservation groups.
3. Ask learners what type of impacts the different developments might have on the environment or people who live in the rainforest villages (pesticides and fertilizers from monoculture farming, feces from ranching, erosion from clear-cutting, moving people off their ancestral lands for development).
4. Tell the learners to look at how the plots are put together. How might some of the negative impacts mentioned affect the other plots and interest groups? (pollutants and erosion leaching into protected areas and going downstream in the river – impacting local villagers' water supply, plants and animal species; habitat fragmentation impacts birds and other species that need larger plots of forested land for survival).

Part C:

1. Now that the learners have seen the impact of various land uses and how it affects conservation, discuss the necessity for economic stability and growth. It is easy for us, in a developed country, to tell them not to allow any development or industry. However, these countries want progress too, and natural resources are often used up in the name of progress. But isn't there a way for conservation and progress to combine?
2. Open up a discussion with the learners about how these two interests can work together. Some ways that people are working towards environmentally and economically sustainable ventures are eco-tourism (low-impact, environmentally conscious vacations); wild-harvesting of fruits, nuts, and other forest products; shade-grown coffee and chocolate; and fair trade traditional crafts.

3. Allow learners to present some ideas and have an open dialogue presenting both sides. Write ideas on the board or record them on a large piece of paper.
4. See the Rainforest Relief, 'Do I Dare Eat That Banana' list of products to avoid to help aid in rainforest preservation.
http://www.rainforestrelief.org/documents/Do_I_Dare.pdf. There are many other rainforest help groups that present good information and ways to help. See the Air Cleaning Department take-home packet for my websites.

Discussion/Assessment:

Why is protecting the rainforest so important?

Who are some of the interest groups that either want to protect or use the rainforest lands?

How can these groups work together to allow economic progress, yet still preserve rainforest lands for the people and the environment?

Extension: Help promote sustainable rainforest products by using shade-grown coffee as a fundraiser. Visit the following website for more information.

<http://www.1000facescoffee.com/fundraising/>

Rainforest Interest Group Cards

<p>Indigenous tribal leader wants to protect ancestral lands that his people have lived on for hundreds of years. Their culture and way of life is rooted in these rainforest lands. Many of their religious and healing ceremonies rely on plants of the rainforest. The tribal leader hopes to hold on to traditional ways rather than modernize.</p>	<p>Young native wants to modernize and will cut rainforest for progress. He has grown up in a traditional indigenous village, but sees the enticing modern lifestyle as the cities encroach into the village. He feels that cutting some of the rainforest is worth it so the country can have modern material goods and services.</p>
<p>The Government wants economic progress and will cut rainforest for progress. They tend to bring in outside corporations for development and industry, rather than hiring locals. Japan is one of the top importers of tropical wood for furniture, disposable chopsticks, and plywood.</p>	<p>The Ecologist's main goal is to protect the rainforest and its biodiversity. Though rainforests cover only 6-7% of the globe's land surface, they contain approximately 50% of the world's plant and animal species. Four species of plants and animals go extinct every second due to rainforest destruction.</p>
<p>Medical researcher works for a pharmaceutical company and wants to preserve the rainforest for the many medicines that have been found in rainforest plants. There are approximately 120 prescription drugs sold worldwide that come from plant-derived sources. It is possible that a cure for cancer, diabetes, and other diseases could be found among rainforest plants.</p>	<p>Indigenous Crafts Spokesperson sells fair-trade artwork and crafts for profit rather than cutting rainforest. Selling these crafts allow families to hold on to their traditional ways while earning income, and protecting their lands. It also gives people around the world a glimpse into their culture. Examples include jewelry, carved wood, and basketry.</p>

<p>Alternative Harvesting Spokesperson promotes harvesting non-wood forest products (NWFPs). These include foods (nuts, fruits, mushrooms, honey, game, gums); food additives (spices, herbs, flavorings, sweeteners); fodder; fibers (furniture, clothing, construction); fragrances for perfumes; ornamental pods and seeds; resins; oils; plant and animal products with medicinal value.</p>	<p>Climate Change Scientist works to protect the rainforest in effort to slow the effects of climate change and to aid in air cleaning. Rainforests, specifically the Amazon, have been described as the "Lungs of our Planet" because they provide the eco-service of recycling carbon dioxide into oxygen. More than 40 percent of the world's oxygen is produced in the rainforest. If we reduce the trees that perform this service, we are greatly impacting climate change.</p>
<p>Native farmer's wife would like to preserve the forest around her, but needs firewood and charcoal to cook for her family of eight. She harvests wood around her home for her family's needs. She also wants her husband to find work with one of the large logging or ranching companies to help improve the livelihood of the family.</p>	<p>Native villager is against harvesting rainforest trees and clear-cutting for ranching and agriculture because it's polluting the local river. This river is the village's only water source. Fish are dying due to the pollution and erosion, which is impacting the village's food source. Many children in the village have started getting sick from drinking the water. There is fear that the water is unsafe due to pollution.</p>
<p>Ranchers cut or burn trees to clear land to graze cattle. The fast food industry buys the majority of cheap beef from rainforest ranchers. It takes 2 acres of land to graze just one head of cattle. Ranching is one of the main forces of rainforest destruction.</p>	<p>Shade-grown coffee farmer grows coffee in the understory of rainforest trees. This agricultural practice has little impact on the rainforest and biodiversity, while still profiting from coffee farming. Shade-grown coffee plantations are also wonderful for migratory birds.</p>

<p>Monoculture cacao (chocolate) farmer cuts down large plots of rainforest to plant cacao trees. He feels that plants grow faster with more sun, so won't grow shade-grown chocolate. This destroys many rainforest plants, as well as reducing habitat for birds and other animal species. Erosion and pollution are often impacts of monoculture farming.</p>	<p>Birders want to protect the rainforest for the sake of the birds that live there. These habitats are particularly important for migratory birds that overwinter in Central and South America. Birders also support shade-grown coffee and chocolate to provide habitat for the birds.</p>
	<p>Mine Companies destroy rainforest lands through mining. Gold, copper, diamonds, and other precious metals and gemstones are heavily mined in the world's rainforests. Besides destruction of the mined area, toxic compounds often leach into the environment and affect locals who work in the mines or live downstream.</p>