



Worksheet – Types of goods, Common resources

Related news article: [This popular snorkeling spot on Maui has been 'overused' from tourists, scientists warn](#) (USA Today, April 14, 2023)

Summary: This worksheet could be used for in-class or homework practice. Students will be asked to read a short article about Molokini Island, a popular snorkeling and diving place that has been “overused.” Then, students will be asked to distinguish between real-world examples of the four types of goods. They will also have to recognize that a described situation illustrates the tragedy of the commons. **Answers are provided at the end of this document.**

Learning objectives:

At the end of this worksheet, students will be able to:

- o Evaluate the characteristics of a good (excludability and rivalry) to determine whether it is a private good, a public good, a club good, or a common resource;
- o Recognize that a given real-world situation exemplifies the tragedy of the commons, and propose solutions;
- o Apply the supply and demand model to analyze the effect of the Covid-19 pandemic on the market for ocean excursions in Molokini Island.

Economics concepts: Common resources, Public goods, Private goods, Club goods, Tragedy of the commons, Supply, Demand, Equilibrium

Suggested excerpts:

“Spanning only 18 acres and situated right off of Maui's southwestern shores and teeming with marine wildlife, Molokini Island is often regarded as one of the world's most popular snorkeling and diving spots. A new study found that the high amount of visitors has left the tiny, crescent-shaped island “overused,” and additional management is needed to protect it.”

“Over 40,000 tourists visited Molokini in 2019 for ocean excursions. When the pandemic shut down tourism to Hawaii in Spring of 2020, the island got some reprieve. However, a 2011 survey of 712 people taking diving and snorkeling trips to Molokini, 67% said the island felt crowded.”

““The COVID-related tourism freeze provided a unique natural experiment to measure the effects of decreased tourism on fish behavior in a high-use, no-take marine protected area...””

Questions

1. The article suggests that Molokini Island is “one of the world's most popular snorkeling and diving spots,” and the large number of visitors “has left the tiny, crescent-shaped island “overused.”” Provided that nobody could be stopped from visiting the island, but the land might not be sufficient to fit everybody if there are more than a certain number of travelers who want to go diving at the same time, Molokini Island provides an example of a:

- a. Private good.
- b. Common resource.
- c. Club good.
- d. Public good.

2. Consider the following goods:

- A beautiful island that is not crowded and the access to which is free;
- A beautiful island the access to which requires paying a visitor fee but is not crowded;
- A beautiful island that visitors can access without paying a fee but is very crowded; and
- A beautiful island the access to which requires paying a visitor fee and is still very crowded.

Which of these goods are rival? Which are excludable? Which of the goods listed above is a private good, a public good, a club good, and a common resource? Use the table below to categorize the listed goods according to their characteristics.

	Excludable	Non-excludable
Rival		
Non-rival		

3. Suppose that everybody can visit Molokini freely, but the space for diving becomes insufficient when there are too many visitors at the same time. In addition, tourists in the area act in their own interest and this has an adverse effect on fish behavior, other tourists and the environment. The described situation in which tourists “overuse” the Molokini Island is an example of:

- a. The tragedy of the commons.
- b. Price discrimination.
- c. Free riding.
- d. External benefit.

4. The article states that “over 40,000 tourists visited Molokini in 2019,” but the Covid-19 “pandemic shut down tourism to Hawaii in Spring of 2020.” What was the effect of the pandemic on the market for ocean excursions in Molokini Island?
- a. Supply shifted to the right.
 - b. Supply shifted to the left.
 - c. Demand shifted to the right.
 - d. Demand shifted to the left.
5. What was the effect of the change identified in Question 4 on the equilibrium price and quantity of ocean excursions in Molokini Island during the Covid-19 pandemic?
- a. The equilibrium price decreased, but the equilibrium quantity increased.
 - b. The equilibrium price decreased, and the equilibrium quantity decreased.
 - c. The equilibrium price increased, but the equilibrium quantity decreased.
 - d. The equilibrium price increased, and the equilibrium quantity increased.
6. The article suggests that the “overuse” of Molokini Island has an impact on fish behavior. Researchers in another area in Hawaii found “increased fish, clearer water and more coral growth within months when it closed to visitors during COVID.” Propose solutions to the “overuse” of Molokini and other areas in Hawaii to “reduce the impacts of human presence.”

Answer Key

1. The article suggests that Molokini Island is “one of the world's most popular snorkeling and diving spots,” and the large number of visitors “has left the tiny, crescent-shaped island “overused.”” Provided that nobody could be stopped from visiting the island, but the land might not be sufficient to fit everybody if there are more than a certain number of travelers who want to go diving at the same time, Molokini Island provides an example of a:

- a. Private good.
- b. Common resource.
- c. Club good.
- d. Public good.

Answer: B. Common resources are not excludable, but rival. Private goods are both rival and excludable. Club goods are excludable but not rival. Public goods are neither excludable, nor rival. If nobody could be stopped from visiting the island, this means that it is non-excludable. The fact the land might not be sufficient to fit everybody if there are more than a certain number of travelers who want to go diving at the same time implies that Molokini Island is rival. Because the island is not excludable, but rival, it provides an example of a common resource.

2. Consider the following goods:

- A beautiful island that is not crowded and the access to which is free;
- A beautiful island the access to which requires paying a visitor fee but is not crowded;
- A beautiful island that visitors can access without paying a fee but is very crowded; and
- A beautiful island the access to which requires paying a visitor fee and is still very crowded.

Which of these goods are rival? Which are excludable? Which of the goods listed above is a private good, a public good, a club good, and a common resource? Use the table below to categorize the listed goods according to their characteristics.

	Excludable	Non-excludable
Rival		
Non-rival		

Answer:

	Excludable	Non-excludable
Rival	<i>Private good</i> : a beautiful island the access to which requires paying a visitor fee and is still very crowded	<i>Common resource</i> : a beautiful island that visitors can access without paying a fee but is very crowded
Non-rival	<i>Club good</i> : a beautiful island the access to which requires paying a visitor fee but is not crowded	<i>Public good</i> : a beautiful island that is not crowded and the access to which is free

3. Suppose that everybody can visit Molokini freely, but the space for diving becomes insufficient when there are too many visitors at the same time. In addition, tourists in the area act in their own interest and this has an adverse effect on fish behavior, other tourists and the environment. The described situation in which tourists “overuse” the Molokini Island is an example of:

- a. The tragedy of the commons.
- b. Price discrimination.
- c. Free riding.
- d. External benefit.

Answer: A. The overuse of a public resource is referred to as the tragedy of the commons.

4. The article states that “over 40,000 tourists visited Molokini in 2019,” but the Covid-19 “pandemic shut down tourism to Hawaii in Spring of 2020.” What was the effect of the pandemic on the market for ocean excursions in Molokini Island?

- a. Supply shifted to the right.
- b. Supply shifted to the left.
- c. Demand shifted to the right.
- d. Demand shifted to the left.

Answer: D.

5. What was the effect of the change identified in Question 4 on the equilibrium price and quantity of ocean excursions in Molokini Island during the Covid-19 pandemic?

- a. The equilibrium price decreased, but the equilibrium quantity increased.
- b. The equilibrium price decreased, and the equilibrium quantity decreased.

- c. The equilibrium price increased, but the equilibrium quantity decreased.
- d. The equilibrium price increased, and the equilibrium quantity increased.

Answer: B. A shift of the demand curve to the left leads to a lower equilibrium price and quantity.

6. The article suggests that the “overuse” of Molokini Island has an impact on fish behavior. Researchers in another area in Hawaii found “increased fish, clearer water and more coral growth within months when it closed to visitors during COVID.” Propose solutions to the “overuse” of Molokini and other areas in Hawaii to “reduce the impacts of human presence.”

Answer: Answers will vary. Students might suggest government intervention, collective agreements, and private property rights.