

TRAGEDY OF THE COMMONS SIMULATION

INTRODUCTION:

The purpose of this simulation is to explore how resources are used and exploited when they are available to multiple parties. The "tragedy of the commons" is the situation in which individuals use a common resource for their own personal gain and degradation of the common resources results, leading to a decrease in yield for both the group and the individual. The use of common resources is a tricky issue...who has rights to it? How are responsibilities shared?

MATERIALS:

Gold Fish

Plastic Cups (lakes)

Straws (fishing gear)

PROCEDURE:

- Divide into groups of 4-6. Each group should sit in a circle around the "lake". The goal of this activity is to see how each of you will behave when resources are not privately owned.
- Each one of you represents the head of a family that is starving. In order for your family to survive, you must catch enough **fish** for them to eat. The only food source is a small local lake which can accommodate 16 fish. You must fish by sucking up the "fish" from the "lake" with straws.
- You will get a chance to fish once a year (which lasts one minute) and each time you fish you may take 0, 1, 2, 3 or 4 fish from the lake. You should rotate your fishing order every year so that everyone has a chance to go first. **It is your choice of how many fish you take, however, if you only take one fish, your family will starve.** If you take more than 2 fish, you can sell them for a profit.
- The fish in your lake will reproduce once a year. [See your teacher at the end of each year (round) - each remaining fish is able to spontaneously reproduce and make one new fish (4 fish become 8, i.e., to a maximum of 16)]. Keep the fish that you "catch" in front of you. They do not go back into the lake.
- When your group runs out of fish, the game is over for you.
- **No talking during Part 1.**

Tragedy of the Commons Simulation

Data: Record all data in the following tables

Part 1: Commons Pond

| Round # | # of fish at beginning of round | # of fish taken by 1 st fisher | # of fish taken by 2 nd fisher | # of fish taken by 3 rd fisher | # of fish taken by 4 th fisher | Total fish left at end of round |
|--------------|---------------------------------|---|---|---|---|---------------------------------|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| TOTAL | XXXXXX | | | | | XXXXXXX |

- You may talk during Part 2

Part 2: Commons Pond

| Round # | # of fish at beginning of round | # of fish taken by 1 st fisher | # of fish taken by 2 nd fisher | # of fish taken by 3 rd fisher | # of fish taken by 4 th fisher | Total fish left at end of round |
|--------------|---------------------------------|---|---|---|---|---------------------------------|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| TOTAL | XXXXXX | | | | | XXXXXXX |

Tragedy of the Commons

Discussion Questions

1. Did anyone in your group take too many fish? How did that make you feel? Did everyone try to take as many as possible? Why or Why not? Does society reward those with the "most"?
2. Did anyone sacrifice the # of fish, for the good of the community? Why or why not? Does society ever reward that type of person?
3. In Game Two... **how** did your strategy change, if at all? Does it make a difference to know what the rewards are?
4. Is it possible to maximize the number of fish caught/person **AND** the number of fish remaining in the pond **at the same time**? Why or Why not?

5. Think of a **local commons** that you are familiar with. [parking lots, dorm social rooms, bathrooms, bookstalls, etc.] Do similar situations arise? Explain. HOW might those problems be solved?

6. What are the **global commons**? Are these being used wisely? Why or why not?

7. What can people do to use these resources most wisely?