

## ACTIVITY 12.1

### Life on Dismal Lake

#### Part 1

The Smith family owns all of the land around 100-acre Dismal Lake. They built a home on the eastern edge of the lake. Life is very pleasant for the first year. Then, unknown to Mama and Papa Smith, the Smith children begin throwing the family garbage in the lake every week because it's easier than carrying the bags out to the main road for the county trash trucks to pick up. A few months later, the lake begins to stink and Mama and Papa Smith discover where the garbage has been going. The Smith children are now dismal because they have to clean up the lake instead of going out with their friends for the next four weekends.

#### Part 2

When the Smith children go off to college, Mr. and Mrs. Smith sell the land around Dismal Lake—except their one-acre homestead—to Snively Whiplash, an unscrupulous land developer. Whiplash builds a home on the western edge of the lake and immediately starts throwing garbage into the lake instead of taking it out to the road for county trash pick-up service.

#### Part 3

One year later, Whiplash stops throwing trash in Dismal Lake, subdivides the land around the lake, sells homestead plots to 15 families for \$100,000 each, and moves away. The 15 new owners each build large houses on their lots. After a few months, garbage starts to show up in and around Dismal Lake again—this time from at least two families. The Smiths convene a neighborhood meeting to discuss the problem. At the meeting, four of the families accuse five other families of throwing their garbage in the lake. The accused families deny the charges, accuse other families instead, and the meeting breaks up with everyone shouting. Dismal Lake continues to be a smelly, dismal place.

#### Discussion Questions:

1. Was there an externality problem when only the Smith family lived on Dismal Lake? If so, how should this problem be solved?
2. Was there an externality problem when Snively Whiplash and the Smiths were the only people living on the lake? If so, how should this problem be solved?
3. Suppose it is decided that Whiplash has the legal right to keep throwing trash in the lake because he owns most of it or that the lake is too far away from

county enforcement agencies for them to be effective in controlling the behavior that causes the pollution. What can the Smiths do now, if anything?

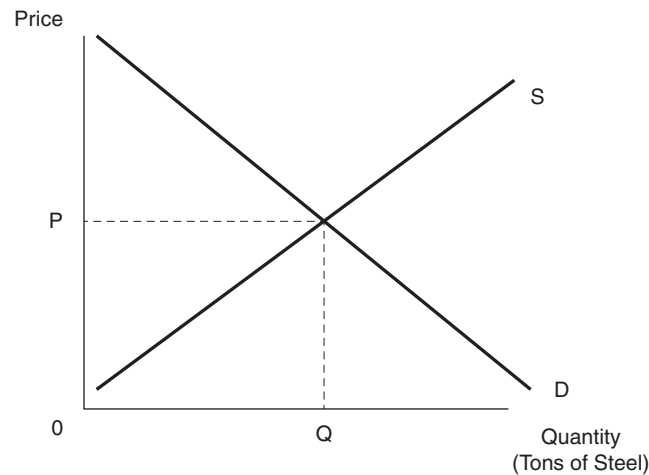
4. What incentives did Whiplash have to stop polluting before he sold the land around Dismal Lake?
5. When the pollution begins with 16 families living on the lake, can the Smiths (and the other non-polluters) deal with the problem the same way they might have when only Whiplash and the Smiths lived on the lake?

## ACTIVITY 12.2

### Externalities Worksheet

#### Part 1

1. Define a negative externality (or third-party cost).
2. Give three examples of third-party costs.
  - (1) \_\_\_\_\_
  - (2) \_\_\_\_\_
  - (3) \_\_\_\_\_
3. In the supply and demand graph below, only private costs and benefits have been accounted for. Draw the new supply curve and show the new equilibrium price and quantity for steel if the external cost of pollution is counted as a cost of production.



4. Would more or less steel be produced according to the new supply curve?
5. Would the price be higher or lower?
6. Why may products that entail third-party costs be overproduced?

## Part 2

1. Define a positive externality (or third-party benefit).

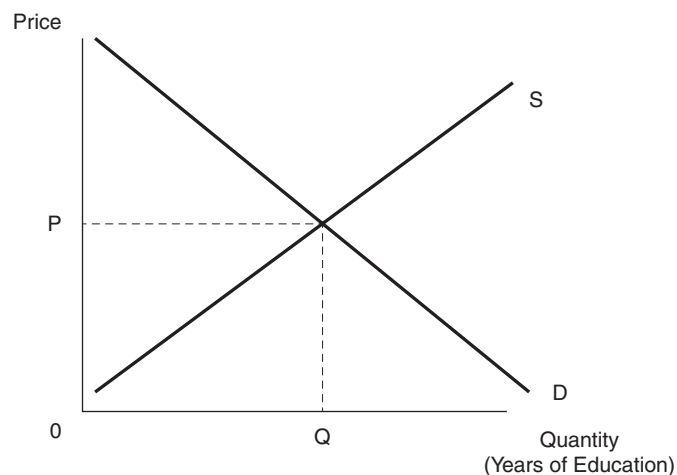
2. Give three examples of third-party benefits.

(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

3. In the supply and demand graph below, only private costs and benefits have been accounted for. Change the graph to show the new demand curve for education if all third-party benefits to the community are counted as part of demand. Show the new equilibrium price and quantity.



4. Would more or less education be purchased, according to the new demand curve?

5. Would the price be higher or lower?

6. Why may products that yield third-party benefits be underproduced?