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# Public Goods and Common Resource

# “The best things in life are free. . . .”

- Free goods provide a special challenge for economic analysis.
- Most goods in our economy are allocated in markets...

“The best things in life are free. . . .”

- When goods are available free of charge, the market forces that normally allocate resources in our economy are absent.

“The best things in life are free. . . .”

- When a good does not have a price attached to it, private markets cannot ensure that the good is produced and consumed in the proper amounts.

“The best things in life are free. . . .”

- In such cases, government policy can potentially remedy the market failure that results, and raise economic well-being.

# THE DIFFERENT KINDS OF GOODS

- When thinking about the various goods in the economy, it is useful to group them according to two characteristics:
  - *Is the good excludable?*
  - *Is the good rival?*

# THE DIFFERENT KINDS OF GOODS

- Excludability
  - *Excludability* refers to the property of a good whereby a person can be prevented from using it.
- Rivalry
  - *Rivalry* refers to the property of a good whereby one person's use diminishes other people's use.

# THE DIFFERENT KINDS OF GOODS

- Four Types of Goods
  - Private Goods
  - Public Goods
  - Common Resources
  - Natural Monopolies



# THE DIFFERENT KINDS OF GOODS

- Private Goods
  - Are both excludable and rival.
- Public Goods
  - Are neither excludable nor rival.
- Common Resources
  - Are rival but not excludable.
- Natural Monopolies
  - Are excludable but not rival.

# Figure 1 Four Types of Goods

		Rival?	
		Yes	N
Excludable?	Yes	<b>Private Goods</b> <ul style="list-style-type: none"> <li>• Ice-cream cones</li> <li>• Clothing</li> <li>• Congested toll roads</li> </ul>	<b>Natural Monopolies</b> <ul style="list-style-type: none"> <li>• Fire protection</li> <li>• Cable TV</li> <li>• Uncongested toll roads</li> </ul>
	No	<b>Common Resources</b> <ul style="list-style-type: none"> <li>• Fish in the ocean</li> <li>• The environment</li> <li>• Congested nontoll roads</li> </ul>	<b>Public Goods</b> <ul style="list-style-type: none"> <li>• Tornado siren</li> <li>• National defense</li> <li>• Uncongested nontoll roads</li> </ul>

# PUBLIC GOODS

- A *free-rider* is a person who receives the benefit of a good but avoids paying for it.

# The Free-Rider Problem

- Since people cannot be excluded from enjoying the benefits of a public good, individuals may withhold paying for the good hoping that others will pay for it.
- The free-rider problem prevents private markets from supplying public goods.

# The Free-Rider Problem

- Solving the Free-Rider Problem
  - The government can decide to provide the public good if the total benefits exceed the costs.
  - The government can make everyone better off by providing the public good and paying for it with tax revenue.

# Some Important Public Goods

- National Defense
- Basic Research
- Fighting Poverty

# CASE STUDY: Are Lighthouses Public Goods?



# The Difficult Job of Cost-Benefit Analysis

- *Cost benefit analysis* refers to a study that compares the costs and benefits to society of providing a public good.
- In order to decide whether to provide a public good or not, the total benefits of all those who use the good must be compared to the costs of providing and maintaining the public good.



# The Difficult Job of Cost-Benefit Analysis

- A cost-benefit analysis would be used to estimate the total costs and benefits of the project to society as a whole.
  - It is difficult to do because of the absence of prices needed to estimate social benefits and resource costs.
  - The value of life, the consumer's time, and aesthetics are difficult to assess.

# COMMON RESOURCES

- Common resources, like public goods, are not excludable. They are available free of charge to anyone who wishes to use them.

# COMMON RESOURCES

- Common resources are rival goods because one person's use of the common resource reduces other people's use.

# Tragedy of the Commons

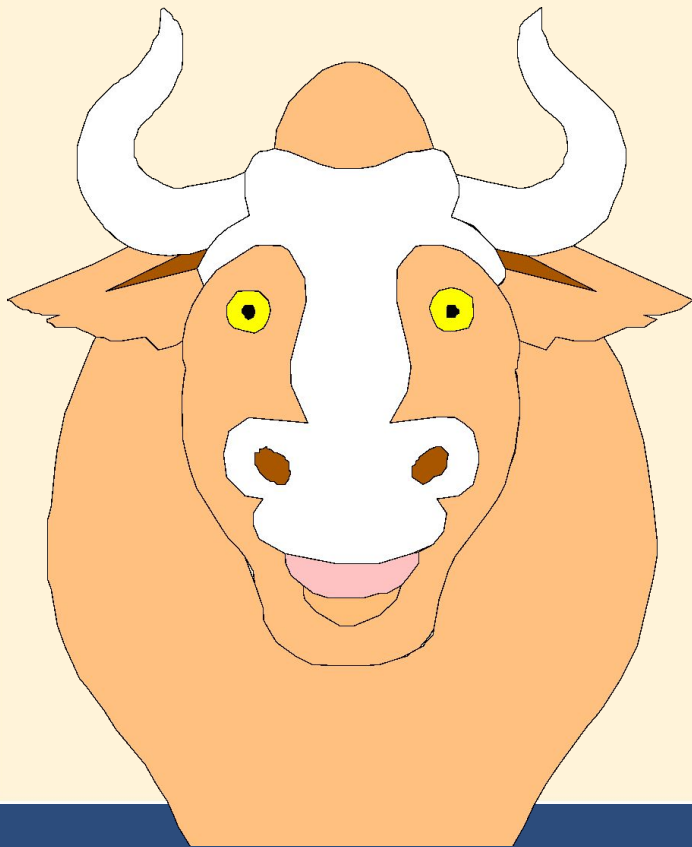
- The *Tragedy of the Commons* is a parable that illustrates why common resources get used more than is desirable from the standpoint of society as a whole.
  - Common resources tend to be used excessively when individuals are not charged for their usage.
  - This is similar to a *negative externality*.

# Some Important Common Resources

- Clean air and water
- Congested roads
- Fish, whales, and other wildlife

# CASE STUDY: Why Isn't the Cow Extinct?

- Will the market protect me?



**Private  
Ownership  
and  
the Profit  
Motive!**

# CONCLUSION: THE IMPORTANCE OF PROPERTY RIGHTS

- The market fails to allocate resources efficiently when property rights are not well-established (i.e. some item of value does not have an owner with the legal authority to control it).

# CONCLUSION: THE IMPORTANCE OF PROPERTY RIGHTS

- When the absence of property rights causes a market failure, the government can potentially solve the problem.



# Summary

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- Goods differ in whether they are excludable and whether they are rival.
  - A good is excludable if it is possible to prevent someone from using it.
  - A good is rival if one person's enjoyment of the good prevents other people from enjoying the same unit of the good.

# Summary

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- Public goods are neither rival nor excludable.
- Because people are not charged for their use of public goods, they have an incentive to free ride when the good is provided privately.
- Governments provide public goods, making quantity decisions based upon cost-benefit analysis.

# Summary

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- Common resources are rival but not excludable.
- Because people are not charged for their use of common resources, they tend to use them excessively.
- Governments tend to try to limit the use of common resources.