

The Tragedy of the Commons

. . . and other sad tales

The Tragedy of the Commons

- **A scarce resource owned in common is overused since no individual pays the full cost of using the resource.**



What are common resources?



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Tragedy of the Commons

Garrett Hardin (biologist) 1968



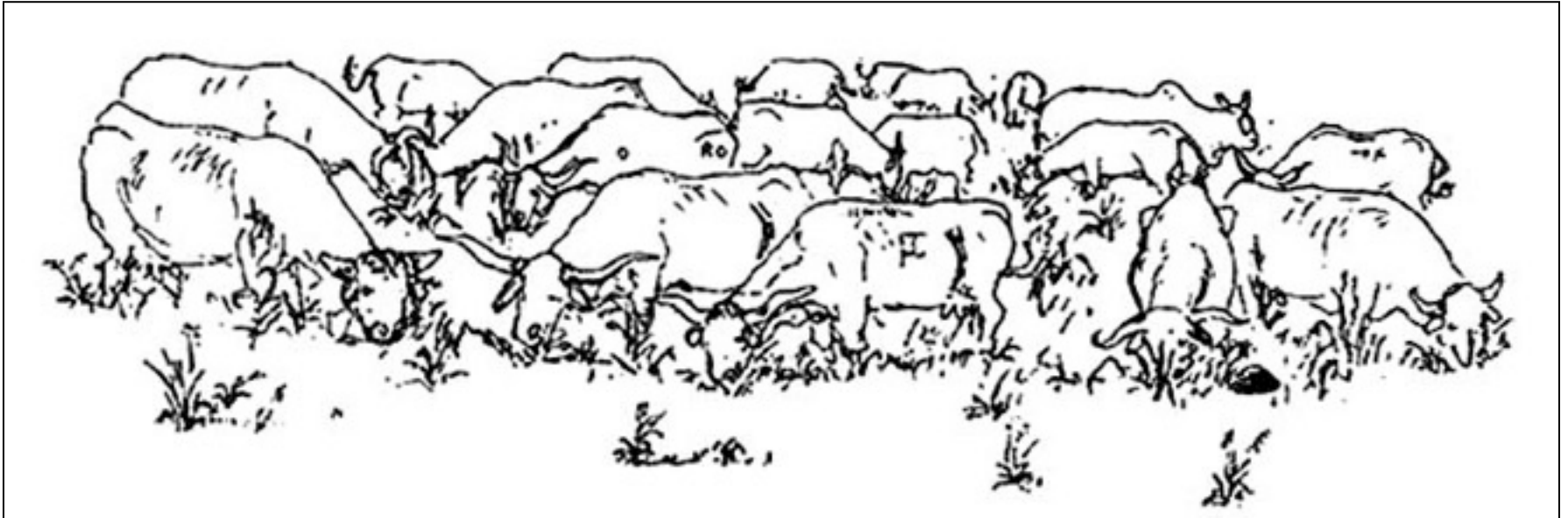
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**Rapi Nui:
Vanished Giants
The collapse of Easter Island**

Easter Island

- Westernmost of the Pacific Islands.
- Small, isolated, and remote.
- It had a large thriving population.
- Abruptly vanished about 1600 AD

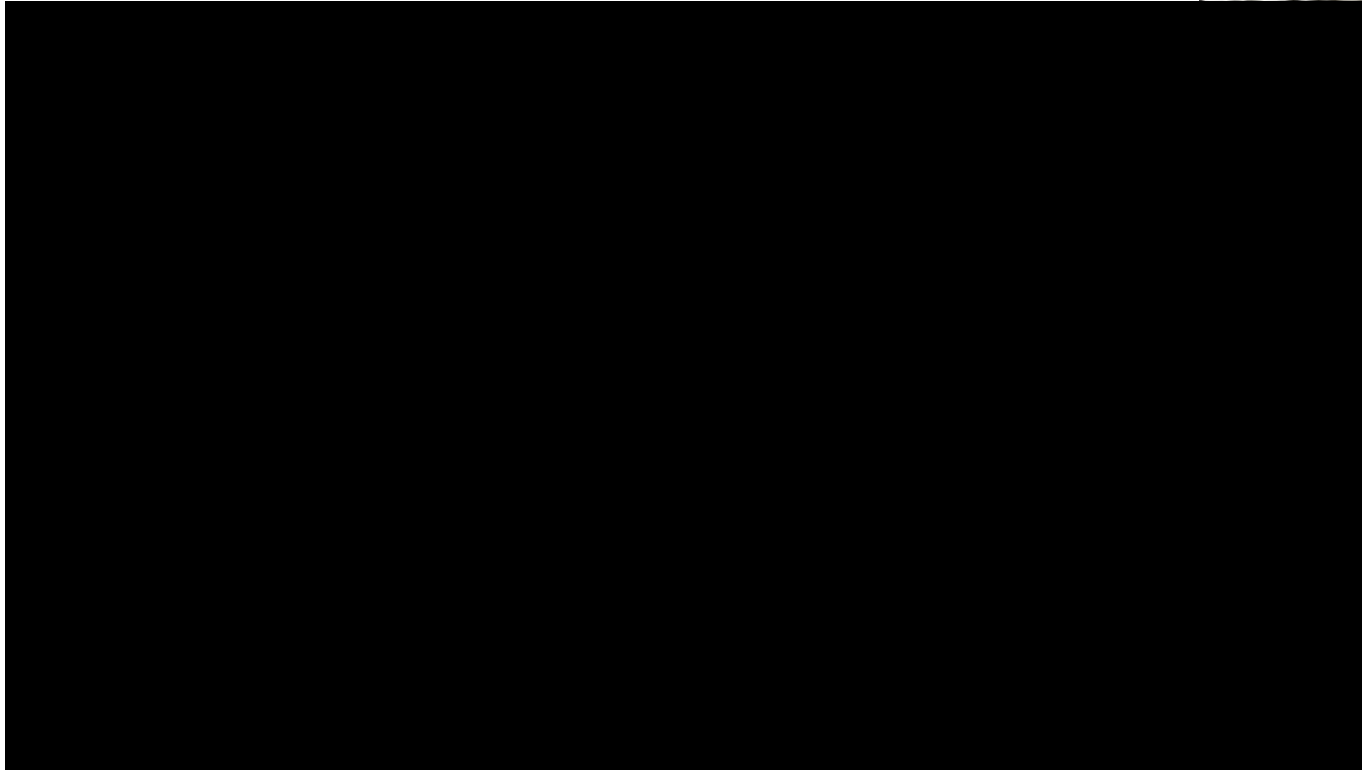


Moai

- Easter Island has hundreds of large stone statues (moai).
 - 13-32 feet tall
 - 10-87 tons in weight



- How were they moved?



Thriving Population

- Evidence suggests that Easter Island had a large and rich thriving society.
 - Many house foundations
 - Agricultural Intensification
 - Society was broken into 11-12 territories or clans



- Society ended abruptly about 1600 A.D.
- – Housing stock, and agricultural implements
- abandoned
- – Incomplete statues still embedded in quarry
- – Stone carving tools left to lie
- – Roads left in disrepair



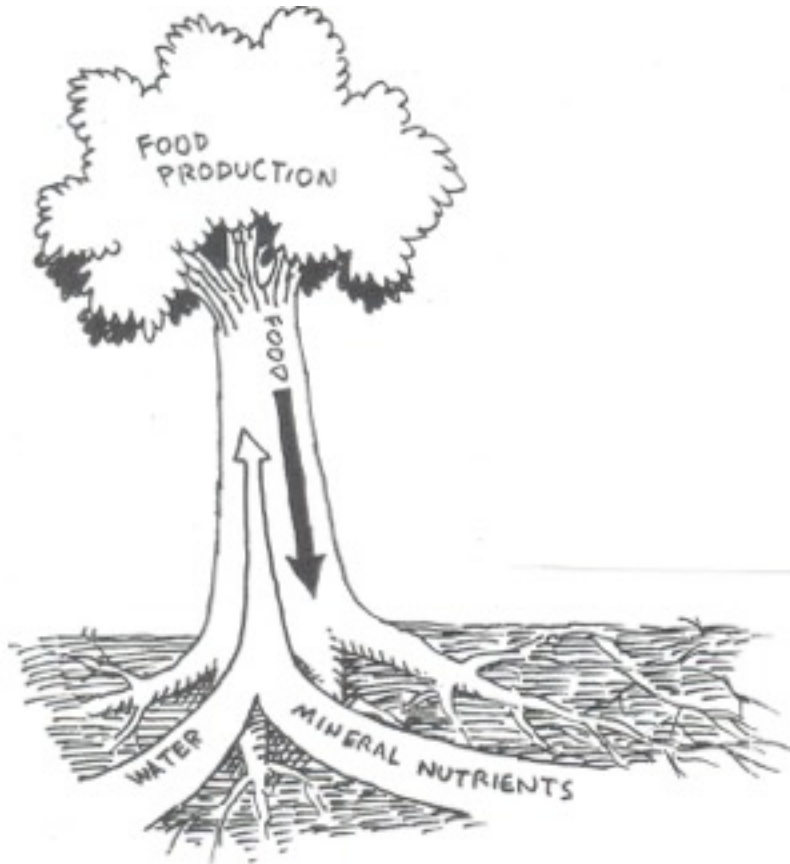
What happened? Collapse!

- Chiefs did not gain stature by trading, raiding, exploration, or colonization
- Society was directed inward in a game of statue one-upmanship

- Statue-building was more important than survival
 - Statue-building led to deforestation and unchecked resource consumption in non-survival areas
 - Food supply became limited
 - Fuel supply limited
 - Unrest



Marvelous thing, a tree!!



- Underground, hundreds of miles of tree roots anchor the tree to the ground and hold the soil in place.

What happened on Easter Island? The Tragedy of the Common

- When a tree is cut down and its roots die, the topsoil loses its anchor.
- 4 to 5 feet of soil may eventually be washed away, and there is no quick way to replace it.



Without forests to absorb rain and replenish groundwater...

- The streams and springs dried up.
- The air became less humid, and rainfall diminished.
- Fertile topsoil eroded, crop yields fell.
- No wood for houses.
- No fibers for fishing nets or sailcloth.
- No logs for canoes.

- Our planet, while much larger, is still finite. Like the islanders we have no means of escape. Is it still possible that we can take stock of our resources and change our habits in time to avoid the fate of Easter Island.



- Easter Island is very small. From its summit you can see the whole thing. The person who cut down the last tree must have known there were no more—and still he cut it down!



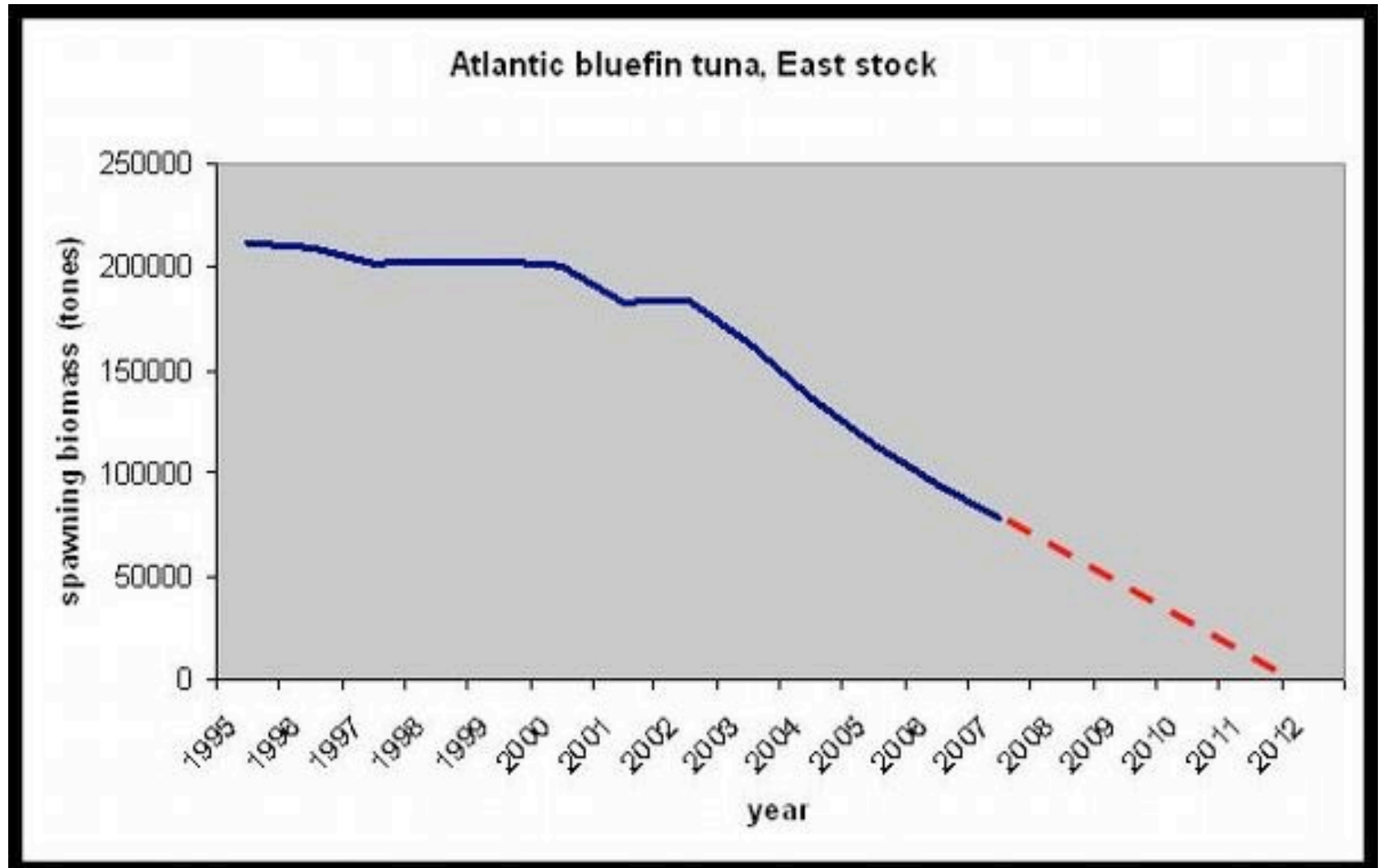
- The point of this story is not that the people of Easter Island were somehow strange, silly, or different from anyone else...Quite the contrary...Like the rest of us, they were creatures of habit, and their way of life (farming, forestry, building, and display) was hard to change.



Other tragedies of the commons: Ocean fishing



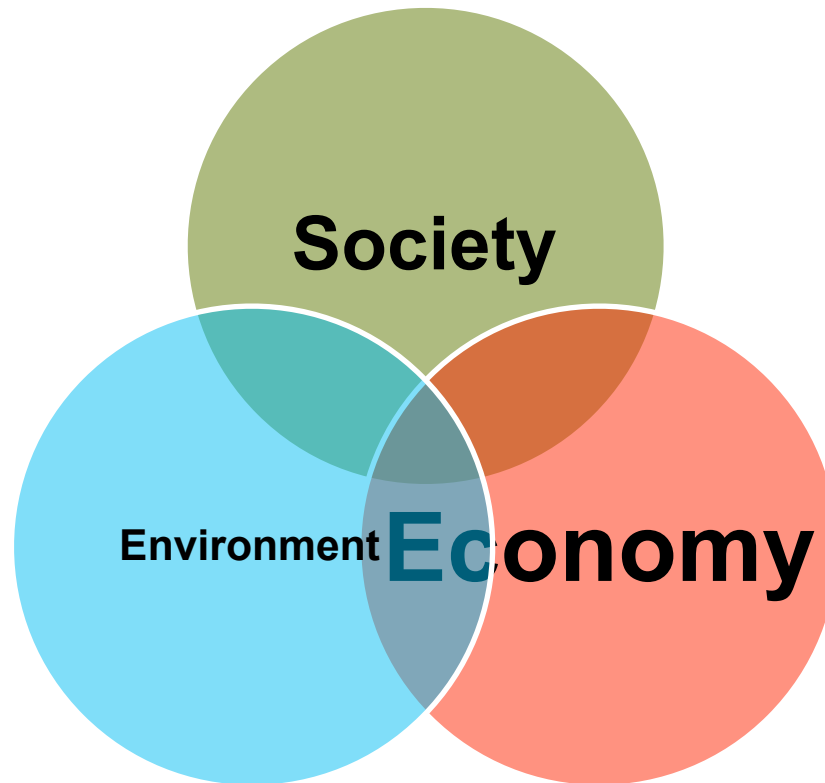
Bluefin Tuna Decline 1995 – 2012 (projected)



Sustainability...

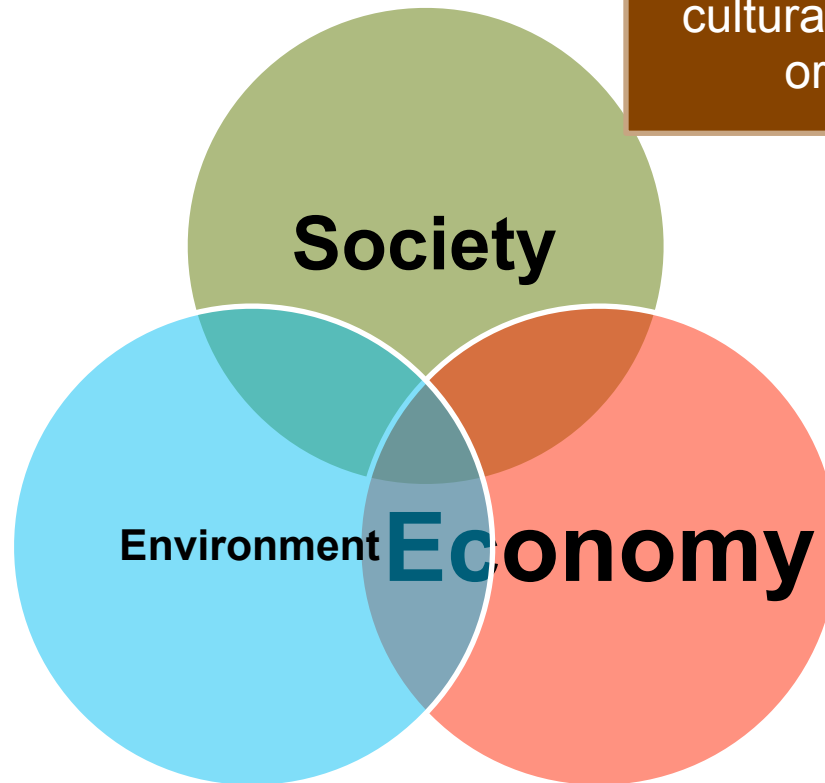
Meeting **present needs of today's populations** without compromising the **needs of future generations.**

Standards of Sustainability= “SEE”

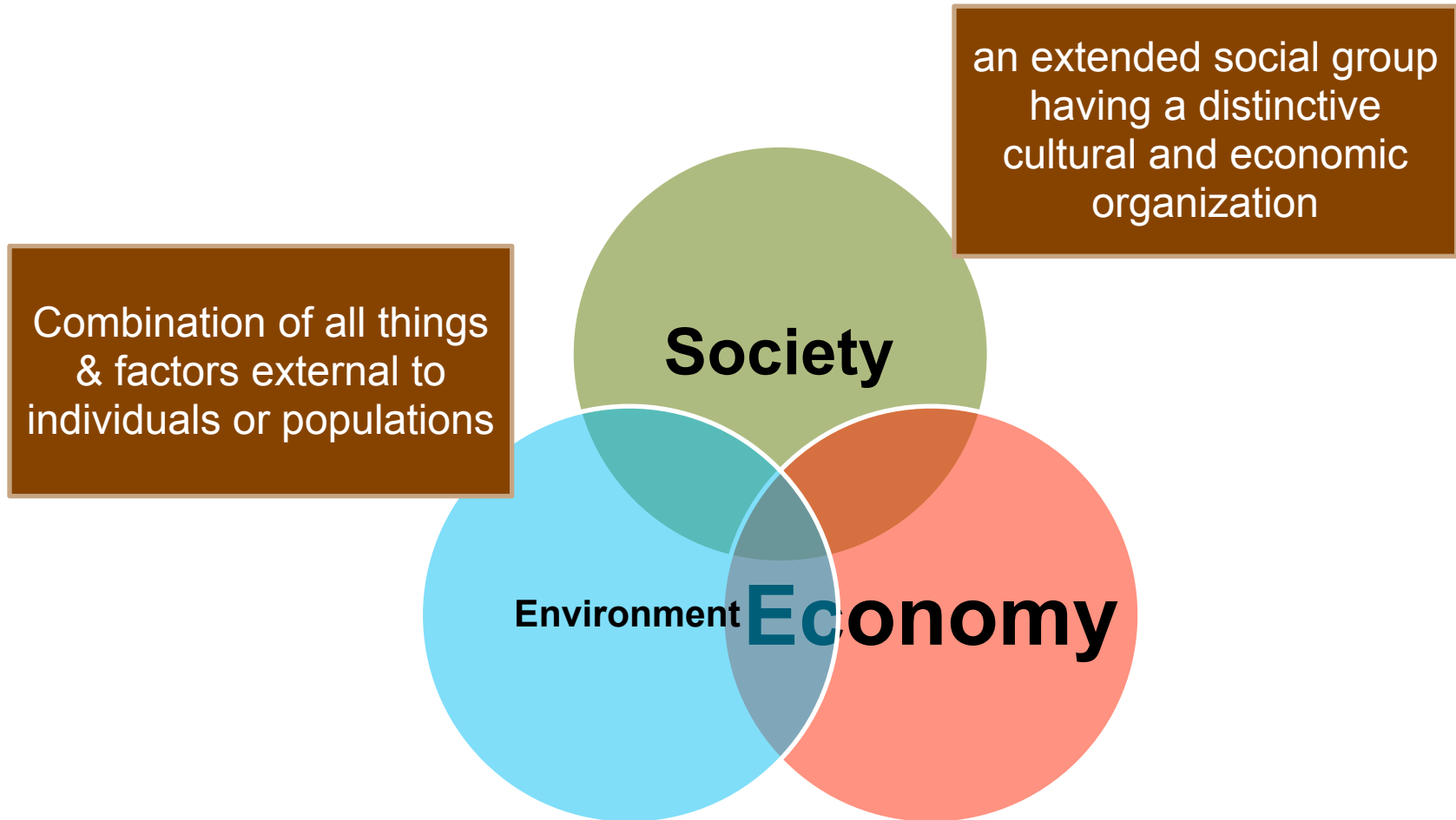


Standards of Sustainability= “SEE”

an extended social group
having a distinctive
cultural and economic
organization



Standards of Sustainability= “SEE”



Standards of Sustainability= “SEE”

