**The Tragedy of the Commons: Concept Developed by Scientist Garrett Hardin**

Once upon a time there was a small village in a forest. It had a single large pasture that was open to all people to use. It was called "the commons" meaning that everyone could use it. The people of the village had cattle that they kept on the commons for milk and meat. By tradition, each household had only one animal that they released on the commons. When another calf was born, an animal had to be slaughtered for meat. By farming, keeping cattle, and trading among themselves, the villagers stayed alive. Nobody got rich but most of the time everyone had enough to eat. And the grass on the commons was green all summer long.

One day some of the villagers were talking and someone suggested that they do away with the one-household-one-animal rule. "What's the point?" they asked. "There's grass enough for all, and I could certainly use a few more cattle." So the village agreed to allow additional cattle to graze on the commons.

At first the cattle population grew slowly. Each villager, when the opportunity arose to put another animal on the pasture, had to consider the costs and the benefits of doing this. The benefits were easy to imagine - having another cow on the pasture would bring more milk and cheese, and a cow or bull would provide more meat later. But the more cattle on the pasture, the more grass would get used and this would eventually mean difficulties for the entire herd.

But in the beginning the grass was in good shape so everyone felt justified in allowing another animal on the pasture.

As a result, the villagers started growing rich with meat and leather. They always had enough to eat, sometimes more than enough milk and meat. Life was good! But someone noticed that the grass on the commons was not as lush as it used to be. They worried "If we keep on adding cattle to the commons the grass will get overgrazed and then what?" People heard the warning and considered it. But when each householder had a new calf, they considered the pluses and minuses this way:

**The Plus:** "If I keep this calf and add it to my small herd of cattle on the commons, I'll have one whole extra animal for milk, meat, and leather. This is a substantial benefit to me and my household."

**The Minus:** "The cost of adding this calf to the commons will be a decrease in the amount and goodness of the grass. All the cattle will have to forage harder, and all the cattle might not be as fat as a result."

In the end, by simply considering the pluses and minuses, each householder came to the same conclusion - it was better to keep another animal. The cost of one extra animal was distributed across the entire herd of cattle on the commons - a small cost to each person - while the benefit of the extra animal went directly to one household.

And so, the population of cattle on the commons grew and grew until the grass was in very sad shape indeed. The people of the village looked at the bare ground and their bony cattle and wondered what would happen. But at the same time, each person who could add an additional animal to the herd always did so out of self-interest. "Why not?" they would say. "So the grass is looking a little beat up. I get another whole calf which will be good eating on my table later on. And this one calf surely won't make that much difference on the commons."

Then there was a dry summer when the rains didn't come. The small amount of grass remaining on the commons all but disappeared, and the herd of cattle looked terrible. In the old days when a dry year came the small amount of cattle on the commons always found something to eat, but now there was nothing left. Times were very hard in the village for many years after that because when the grass finally came back it was barely able to support the traditional one animal per household that the villagers returned to in desperation to save their way of life.

The villagers now tell this story to their children and they call it the "Tragedy of the Commons". They say that once the decision was made to allow additional cattle on the commons, the stage was set and only time was needed for the situation to work inexorably to a tragedy.

These days "the commons" refers to any resource which is more or less unregulated - each person or group can use it as they wish. And similar considerations are made with every commons. There is the personal benefit of using the resource, and the shared cost which results from damage to the resource. But while the additional cost is distributed across the entire commons, the cost to any individual is much smaller than the taker's benefit from using the resource. (This is sometimes called "externalizing costs"). Because of this arrangement, a group of well - meaning but self-interested people can make decisions that lead ultimately to ruin for all. Therefore, not all resources are used as a commons in our society. Some are regulated.

1. Of the following items, which is a commons and which is not?

Air for breathing

Air for disposal of CO2

The Missouri River

The world's petroleum deposits

Farm produce

Denali National Park

Coal deposits underground

2. List two more resources that are considered “commons” and explain:

3. How can we avoid overusing a commons?

4. Given our current circumstance with COVID-19, we have our own example of this concept: Toilet paper, Lysol spray/Lysol wipes etc. What could have been done differently to have prevented this problem in the first place? List one example and explain!

5. Compare and contrast different approaches to managing “common pool” resources. Include arguments for and against each approach.