

The Tragedy of the Commons: Use it or Lose it

In 1968, Garrett Hardin produced an article named 'The Tragedy of the Commons.' This article would go on to be a profound thesis within Global Environmental Politics and debates on the environmental degradation and crisis we face today. This essay will introduce the concept of the tragedy and will analyse its usefulness as a theory applied to global environmental politics. It will also introduce the game, 'Use it or Lose it', and explain how this links to the tragedy of the commons as either an accurate or inaccurate thesis.

The concept of 'the Tragedy of the Commons' sparks a discussion surrounding population growth and the future of the Earth's, and its resources, sustainability. To illustrate his idea of this tragedy of the commons, Hardin used his parable like story of the 'reasonable farmer' and his cattle production. Using the ideas first noted by English economist William Forster Lloyd in the 19th century, Hardin demonstrates how traditionally private land for cattle grazing had evidently been more sustainable for production than the shared land, the commons (Stevenson, 2018). This was due to the overgrazing experienced on the shared land compared to the private plots. The Tragedy of the Commons essentially highlights the moral dilemma faced when people hope to make a profit using shared resources. Hardin argues that on a shared plot, a farmer does not need to be aware of the consequences of adding more pressure on the land compared to a farmer with a private plot. Hardin explains that a herdsman may ask the question, 'what is the utility to me of adding one more animal to my herd?' (Hardin, 1968). Rationally, a herdsman would benefit by adding one more cattle to their cattle count on a shared plot because if the cattle being bought is relatively cheap, then this will create profit rather than a deficit. However, the tragedy occurs when each herdsman thinks the same and continues to add to their cattle count. If each herdsman continues to buy another cattle than the capacity of cattle on the shared plot will be exploited leaving the land to suffer from overgrazing. 'Each man is locked into a system that compels him to increase his herd without limit- in a world that is limited' (Hardin, 1968). The tragedy is then that the commons has experienced environmental degradation and is no longer beneficial to anyone. 'Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all' (Hardin, 1968). In his article, Hardin applies this to a few modern commons; rivers, parklands, oceans, and air (Stevenson, 2018). Essentially however, his main principle has since been applied to the general resources of the planet and the fight and exploitation that occurs between countries and organisations. The tragedy is also a key player in over population debates

regarding that as humans, if we overpopulate the earth, then we will experience the environmental consequences and degradation as we use up the resources provided.

Hardin's illustration of the tragedy of the commons holds the assumption that humans are self-regarded and short-sighted (Stevenson, 2018). The assumption that each herdsman will continue to add more cattle to the commons without giving any thought to the capacity of the land or the other herdsman suggests that all herdsman are self-centered and leaves little room for an argument of a collective good. By disregarding the idea that perhaps not all herdsman would think in this manner creates a moral debate regarding the general human condition when it comes to shared resources. It assumes that naturally as humans we are driven by greed of the self and disputes any reasoning that the herdsman can think as a collective rather than fuelling their own self-interests; 'the tragedy is an aggregative problem because it is the result of the aggregation of a number of independent actions' (Kahn, 2014, p.226). Hardin created only two solutions for the tragedy of the commons; privatisation and socialism (Stevenson, 2018). Both of these solutions suggests an outside agent or rules and regulations working to avoid the tragedy but the philosophical argument that can be made here is, can humans not do this alone as active independent agents? Can humans not partake solely in sharing and thinking collectively as to what is the best for everyone alone without strategies put in place to do so? Hardin's parable only merely suggests that it is almost inevitable that the tragedy would occur because one will not and would not think of the collective good but would only push for satisfying their own self-interests. 'It is too simplistic to say that humans are either inherently selfish or inherently cooperative... at different times and in different places humans have cooperated in diverse and extensive ways' (Stevenson, 2018, p.25). Studies such as the 'prison dilemma' proves just this. Some people will be inherently selfish and will only work towards their own gains whereas some people will inherently cooperative towards an altruistic good and form bonds with even strangers to work towards the collective group, and others will be mixed and work cooperatively to ensure their own gains (Stevenson, 2018). Peter Richardson et al concluded just this; 'People behave in experiments and in the field as if they have strong- perhaps innate-dispositions to cooperate' and 'our ability to organize cooperation on a scale considerably larger than predicted by theory based on unconstrained selfish rationality, or by most evolutionary mechanisms, is one of the most striking features of our species' (Richardson et al, 2009, p.432).

A second assumption that can be made from Hardin's tragedy of the commons is that in Hardin's parable, the commons was unmanaged and freely accessible (Stevenson, 2018) and therefore can be applied that by the knowledge of the tragedy of the commons, it is assumed that common resources in general may be unmanaged and

free to all; however this is not the case. The 'global commons' or the 'common pool resources' are universally thought of as 'air, rivers, oceans and land that is either collectively owned or set aside for public use' (Stevenson, 2018) as well outer space and celestial bodies. Hardin's assumption of the commons as being general free resources is flawed by the way that for the global commons, international laws manage these resources into two categories. *Res nullius* is no one's property and includes resources that are free to all states, whereas, *res communis* is common property in which no one has ownership but there are rules and regulations to manage them (Stevenson, 2018). In effect, Hardin's generalisation of the commons being unregulated and unmanaged is simply wrong. In general the common pool resources both share excludability and subtractability. Excludability of the common resources means that 'it is difficult or costly to control access to the resource; it is difficult to exclude any potential users or even limit their access' (Stevenson, 2018, p.23). Subtractability means 'when one person uses the resources it reduces the quantity or quality for others' (Stevenson, 2018, p.23). This can be applied to the problem of pollution. For example, if a person or business is producing toxic waste into the oceans or into the air, then this degrades the quality of the common resource for others. Therefore applying agency to the resource as it can be argued that this exploitory relationship creates power over the commons from a singular source; arguably making the resource less 'common.' Hardin also addresses the issue of pollution in regards of common resources in his article. He writes, 'the rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of purifying his wastes before releasing them' (Hardin, 1968). This links again Hardin's illustration of the tragedy of the commons to the importance of environmental degradation however is flawed in the way that there are regulations and management over the commons as 'Hardin implicitly assumed that joint ownership entails a complete absence of regulation' (Stevenson, 2018, p.23).

Another assumption made by Hardin is that privatization and socialism are the only solutions to avoiding the tragedy and environmental degradation. Hardin's ideas of socialism revolved around the common pool resources being under the ownership of a centralised government who would then determine the rules and regulations in how the land should be managed, used, shared and protected (Stevenson, 2018). These rules can include permits and fines as well through local district regulations. Hardin also argues that privatization is a solution. He argues that if resources were sub-plotted and individuals had private ownership then the conservation and environmental responsibility would be in the hands of the owner which would be more beneficial since the owner would need to steward the resources in order to generate the best profits. Privatization also then allows for the owner to have responsibility over any damage as well which would increase the standards of conservation as the owner would have an

efficient incentive. This is also known as 'free market environmentalism' (Stevenson, 2018). However further research suggests that these are not the only possible solutions to the tragedy of the commons. Ostrom argues an alternative strategy in which in order to maintain a common resource, one needs to control access as well as regulating those with permitted access (Ostrom, 1999). The alternative being 'communal property.' This is when a resource is owned and managed by a group of people rather than a government or private ownership. These communal properties can be legally recognised but this isn't always necessary in order to work efficiently. An example of this is the Indigenous Cree community in Quebec who sustainably managed their fishing and hunting resources for hundreds of years without legal recognition or causing a tragedy of the commons (Stevenson, 2018). Ostrom also found other examples of communal property through her research, for example, she found 'cases of communal tenure of meadows and forests in Switzerland and Japan; and communal irrigation institutions in Spain and the Philippines' (Stevenson, 2018, p.28). She found that communal property worked within communities that had a collective interest and a sense of trust; those 'who have shared a past and expect to share a future' (Ostrom, 2015, p.88-89). Communal property as a whole had not been regarded by Hardin when solving the tragedy and therefore it can be argued that Hardin's tragedy of the commons does not critically engage with all concepts of resource ownership and therefore cannot be applied generally.

The game, 'Use it or Lose it', which was created in class, illustrates the concepts expressed in Hardin's tragedy of the commons. The game includes 6 piles of cards; 5 are resources while the 6th pile are 'situation cards.' The resources are wood, cattle, fish, water and oil. Each pile of cards represents the number needed to be rolled on the dice and the equivalent points. For example, wood as the first pile is 1 point each whilst oil is worth 5 points. Therefore oil is the most useful and wanted resource. When a 1 is rolled on the dice, the player who rolled picks up a wood, when 2 is rolled, the player picks up a cattle and the rule continues to apply for each pile. When a 6 is rolled, the player is then required to pick up a situation card. Each situation card has a scenario applied to environmental degradation and the tragedy of the commons and asks of the player playing the card to either lose or gain resources depending on the situation on the card. For example, one situation card says 'Forest fire, climate change has dried out forests causing fires, lose all of your wood.' An example of a gain card is, 'Palm Oil ban, a ban on palm oil trade has allowed the rainforest to recover, pick up a wood.' Each player takes it in turns to roll the dice and the game goes from there. The winner of the game is the one who has collected the most points from their resources. To begin the game each player starts out with 1 of each resource and a situation card. The situation card that is dealt to the player at the beginning of the game can be played at any point

of the game depending on when it is of an advantage to the player. Other situation cards that are dealt during the game must be played within that turn. If the situation card that is dealt at the beginning of the game is a lose card then the player can play it onto another player during the game causing the other player to lose their resources. When cards are lost they are returned to the original piles; the commons. If the situation card that is dealt at the beginning of the game is a gain card then the player can play it at any point of the game in order to pick up the resources labeled on the card. This is of use to the player usually when they lack a certain resource. During the game resource piles will begin to run out and will fluctuate in number causing players to sometimes miss out on resource opportunities. This represents the degradation that occurs and the tragedy of the commons. The game is played for 20 minutes before points are added up revealing the winner.

This game illustrates the problems that occur when agents act to accumulate resources of their own self interests and gain and reflects Hardin's ideas for the tragedy of the commons. The resources in their piles essentially acts as the commons would within the tragedy and within real life and the players represent the countries, businesses, organisations and individuals and their desires to grow their resource count as much as possible. In the tragedy of the commons, the tragedy occurs when resources begin to run out in quantity or are limited in quality. Similarly when playing the game, players begin to experience this sense of the tragedy as the resource piles begin to fluctuate and run out and players find themselves in positions where overall environmental degradation overrules them as they compete for resources. These situations are outside of the players control and cause them to gain or lose resources and this reflects the real tragedy in that when agents compete to accumulate as many resources as possible without regarding other players, the environmental degradation they are causing will eventually overtake them. Furthermore, during gameplay, players begin to see how the tragedy of the commons is in fact a moral debate among the individual. Players can decide when to cause a tragedy on another player with their initial situation card and are found to be driven by their own desires throughout the game. Just as Hardin argues that each herdsman wants maximum profit but not the responsibility of the degrading commons, this game also drives players to want as many resources as possible as this is the aim of the game and will at the end determine the winner. Hardin argues that within the tragedy of the commons, individuals are competitive and led by their own greed and will eventually be faced with the problems of environmental degradation. This game reflects and proves just that. During gameplay it was evident that towards the end of the game, as resources began to run low, players became more competitive and more greedy despite the tragedies and consequences they were facing from the dealt situation cards. Use it or Lose it reflects the overall human condition of which Hardin

surrounded his concept of the tragedy of the commons. To conclude it can be argued that as humans we have an innate need for survival and evolution and therefore are naturally driven towards greed and satisfying our own selfish interests in order to survive. Therefore in a world that is limited, this causes us individually to have an unlimited attitude in our desires as it can be argued that as humans, we naturally perceive having more as being better. In *Use it or Lose it*, the aim is to have as many valuable resources as possible; the same can be said for humans which can eventually lead to Hardin's idea of the tragedy of the commons.

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