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Property Rights and Social Norms for Managing the Commons

1. Introduction

In many of the developing countries, dependency on natural resources is significantly high. From peasants to fishermen and farmers, all of them earn their living from the utility of renewable natural resources such as water, air, farming land, forest, plants, animals and grazing areas (Heltberg, 2002). Given the importance of natural resources for many of the developing countries, it is important to address the issues like the tragedy of the commons, climatic change, pollution, and unsustainable usage of natural resources which might lead to rural poverty, food insecurity, and high rural-urban migration (Heltberg, 2002). Among the major factors mentioned above, this essay will focus on the tragedy of the commons, property rights, and natural resource management in developing countries.

2. Tragedy of the Commons

Before elaborating on property rights and natural resources management, it is important to learn about the tragedy of the commons. As said by Hardin (1968), the tragedy of the commons is overexploitation of the common resources that lack ownership. He argues that when everyone owns the resources and there is a lack of defined property rights, nobody will conserve the resources for future use and externalities of the future scarcity will have destructive consequences for the whole ecosystem. His claims were also supported by the collective action theory of Olson (1965), where he describes that the common-pool resources will face the free riders' problem when it comes to their utilization or investment for future preservation.

In the Tragedy of the Commons, Hardin (1968) also stated that as the population grows exponentially, the total amount of available goods per capita would decrease. He recognizes that if the next generations are not aware or deliberately deny the fact that resources available in the world are indeed finite, misery will increase, as spaces shrink, and resources are overexploited. In this sense, the author argues that the world can provide only for a limited number of population and he gives two reasons to prove it: 1) he refers to Neumann and Morgenstern (1947) and their utility theory where it is not possible to maximize for two during the same period; 2) all organisms need a certain amount of energy to survive which requires about 1600 kilocalories per day and anything above that will be defined as work and leisure. Therefore, maximizing the population would mean to bring calories close to zero, to meet everyone's basic needs, without eliminating any kind of enjoyment.

Hardin (1968) in light of Adam Smith's "invisible hand" theory, explains that if humans are making individual rational choices to continue the reproduction and maintaining population growth at its optimum level, then there is no need for government

intervention. However, if this is not the case, then it is important to question our “individual freedoms” and allow some interventions to maintain the population at its optimum rate.

According to Kolb (2019), 15 out of the 20 poorest countries with a GDP per capita below 5,000 USD are considered to have the fastest-growing populations. The top 5 countries whose population is projected to grow by 49% on average during 2018-2030 are Niger, Sao Tome, and Principe, Angola, the Democratic Republic of the Congo and Equatorial Guinea. This effect of growing population *“can increase pressure on the land and natural resources, as evidenced in places such as Chad and Burundi”* (Kolb, 2019).

But the tragedy of the commons does not limit itself to the population problem, it also analyzes how certain individual freedoms—motivated by the self-interest—cause problems of pollution that end up harming the environment and constraining public health. An example of this is the residuals into the air and water that factories release as they produce, without enforcement laws to prevent it or to revert the damage. Hardin (1968) mentions that a person using purely his rationality will decide to discharge polluted waste into the commons instead of removing contaminants first since the cost of the first option is much less than the second one.

What is then the alternative to stop pollution? Since air and water are common goods that are non-excludable but highly rival, it results challenging to define boundaries to limit their usage. In this sense, Hardin (1968) believed that there are other ways to prevent its overexploitation, such as *“coercive laws or taxing devices that make it cheaper for the polluter to treat his pollutants than to discharge them untreated.”* This is the main reason why Hardin (1968) considered that private property is the most effective tool to prevent resources to be exhausted.

3. Property Rights Enforcement to Overcome the Tragedy of the Commons

According to Anderson & Huggins (2003), *“property rights are the rules of the game that determine who gets to do what and who must compensate whom if damages occur.”* They further add that property rights govern access to tangible and intangible assets. It is important to mention that when the property rights are effectively enforced: 1) cooperation will replace conflicts; 2) property owners will start bargaining with each other; 3) gains from trade will increase; 4) and it will eventually encourage civility and economic progress. Some of the key characteristics of the property rights, which might fully or partially apply to different categories of properties are 1) the right to use an asset; 2) the right to exclude others from using it; 3) the right to transfer asset to others; 4) grants the owner full control over the asset.

According to Heltberg (2002), property rights can be distinguished into 4 categories:

- Open Access Property: These types of property rights refer to resources that are lacking ownership and control. Hence, they are more prone to overexploitation, especially when the population density increases or the resources are economically valuable. For example, overfishing in the international water.
- Common Property: These types of property rights refer to resources that are under communal ownership and access rules are defined by the community members. Common property has distinct advantages of collective equity and insurance, nevertheless, the problem of the free-rider has to be handled through communal rules and regulations. A good example of common property is ownership of a water well.
- State Property: These types of property rights refer to resources that are under the ownership of state and the government decides on their access and conservation rules. If the government fail to effectively enforce the rules of state property, then they become *de facto* open access or private property. For example, many of the forests are state property, who is responsible for ownership and conservation rules.
- Private Property: These types of property rights refer to resources that are under private ownership. The ideal type of private property rights is the one that gives the right of possession, transfer, usage, change, and destruction of the asset. A good example of private property is the ownership of a land, car, and other assets.

After knowing the alternative to the tragedy of the commons and different types of property rights, we would like to take a look into the provision of property rights and how it was perceived in the past. Given that, this essay will discuss the provisions of property rights from a philosophical, historical, and economic point of view.

3.1 Philosophical Evolution of the Property Rights

Considering the importance of property rights for society, they became more debatable to the scholars on a philosophical level. As Rand (1964) described the right to property in her famous collection of essays: *“the right to life is the source of all rights—and the right to property is their only implementation. Without property rights, no other rights are possible.”* Now that we want to discuss property rights from a philosophical point of view, we would like to travel back in time and see what philosophers reflected on this topic during the course of history. To start with Plato, in his vision of an ideal society, he supported the provision of common property ownership and prohibited the rulers of the city to possess individual property to mitigate conflicts of interest and disputes over the ownership of resources (Anderson, 2003). On the other hand, Aristotle’s *politics* challenged Plato’s vision and he doubted that the society would be in a perfect state if the property was owned by the commons because a property shared by a large number of citizens would have fewer resources granted for their maintenance. That’s why Aristotle preferred private ownership of the property over common.

Aristotle's vision was also followed by early catholic church theorists such as "Thomas Aquinas", who agreed that common ownership neither promotes efficiency nor harmony. He also emphasized that it is important for humans to feel the security that is provided by the self-ownership of property—to reach spiritually (Anderson, 2003).

By the passage of time and rise of Protestantism, enlightenment scholars such as John Locke started to examine the property rights and agreements between the government and other stakeholders. He argued that the concept of property rights existed long ago, with or without government, and that these rights were derived from the natural rights of one's own life and freedom of choices. His definition of property rights included the right to use them and retain their gain. That was mainly the justification for government existence and how it is important to protect these basic rights.

In the early stages of the industrial revolution, Adam Smith introduced "The wealth of Nations" in 1776, where he was highly influenced by Locke's perspective of looking into the property rights within a larger system of natural rights. Adam Smith considered a cycle of rules, where private property created a role for the government to protect them, and in return, new properties would be created in the society. This protective relationship between government and property determines the wealth of nations (Anderson, 2003).

3.2 Historical Evolution of the Property Rights

During the course of history, property rights have been an integral part of existence, because humans were following the desire for orders and ownership. According to Anderson (1994), property rights were truly understood by pre-and-post Columbian Indians, hence, they established institutional rules to define who has the right to own land and possess personal property. These rights became hereditary to the Mahican Indians and helped them to save their rights in the fertile lands among the river. These protection lessons gave the Hopi Tribes the idea to mark their territories by boundary stones to protect their rights.

The concept of property rights gained importance during the agrarian lifestyle that characterized the ancient Greeks. Owning a land became an important asset for obtaining full freedom because farmers would not be bound to pay tribute to their aristocrats. On the other hand, if a Greek lost possession of his land, he would also lose his citizenship (Anderson, 2003).

In the sixteenth century, the idea of property rights became law in Britain and then in the United States constitution, which led to potential trade development and economic growth (Anderson, 2003). Later on, in the nineteenth century, the communist manifesto of 1848 by Frederick Engels and Karl Marx called for the cancellation of private

ownership, as it was perceived as a product of capitalism that was destroying social equality. However, after the collapse of the Soviet Union and the Wall of Berlin, the majority of the countries once again endorsed the importance of private property as the key to growth and prosperity. Since the 1980s, many of the countries directed resources towards the privatization of industries and natural resources (Anderson, 2003).

3.3 Economic Perspective of the Property Rights

When property rights knowledge gained certain maturity among scholars, further theories and explanations were developed on how property rights fostered productivity and economic growth. Douglass North, who was a Nobel laureate, argues that *“economic growth occurs when secure property rights exist to make it worthwhile to invest in socially productive activity.”*

The modern economic theory analyzes how individuals make choices according to their preferences and describe four main principles for the guidance of property rights, which can be described as follows (Anderson, 2003):

- 1) *“Individuals make choices under conditions of scarcity”*. People make decisions according to the resources available, where the usage of one resource cannot be used for a different purpose.
- 2) *“Individuals act rationally to pursue their self-interests”*. Since individuals try to maximize their well-being, they will only advocate enforcing property rights if the outcomes for doing so are higher than the investment made for their maintenance.
- 3) *“Individuals will compete for control of scarce resources”*. When seeking for their maximization, individuals will try to control as many resources as possible, adapting to the rules of the game.
- 4) *“Well-specified and transferable property rights encourage gains from trade”*. Having private ownership of an asset, will discourage the race of different individuals to obtain it and exploit it and on the contrary, will incentivize the owner to invest in its maintenance and sustainable usage.

4. Critique to the Provision of Property Rights

According to Lynham and Leibbrandt (2018), when property rights solutions are implemented in practice, the government typically tries to allocate the total property rights according to the socially efficient targets. Namely, the total monetary gains from property rights should be socially desirable and efficient. The authors further argue that property rights should be tradable so that they can reach the hands of those who value them most, but they also accept the fact that if the total economic outcome of property rights are equal to its socially desirable target and they are perfectly enforced, then it does not matter if the provision of property rights can be tradable or not.

Lynham and Leibbrandt (2018) also argue that, in practice, property rights are rarely perfectly enforced due to lack of government monitoring and ignorance of the social norms. These norms are unenforced rules of behaviors that are practiced by individuals based on common beliefs in a given situation. Due to a lack of effective monitoring and detection mechanism, individuals are presented with numerous opportunities to breach property rights, nevertheless, social norms can prevent any breach regularly due to the common understanding of the individuals. Given that, the authors refer to the findings of Tyler (1990) and Ellickson (1991), who emphasized that the mixture of government monitoring and social norms enforced property rights effectively and efficiently. Besides, Heltberg (2002) argues that simple interventions by the government and donor agencies cannot achieve the desired outcome and thus, there should be a detailed understanding of social norms and local institutions. This discussion brings up the question if there is a need for government intervention to enforce property rights for common-pool resources, or if it can be possible to follow a system of social norms designed within a community. To elaborate on this, we will discuss the principles of Ostrom as following.

5. Ostrom's Principles to Manage the Commons

According to Ostrom (1990), the term “common-pool resource” can be defined as a system, either natural or fabricated, that provides non-excludable goods -but rival- in a large scale, and its components are the “resource system” and the “flow of resources units”.

Resource system refers to the set of elements that make it possible to produce a good under appropriate conditions and without exhausting “*the stock or the resource system itself*” (Ostrom, 1990). As resource systems, we can identify fishing waters, parking lots, grazing areas, irrigation systems, and any other kind of system where it is not intended to charge a marginal cost for the extra usage, as it would result in inefficient.

On the other hand, resources units are the total amount of units appropriated from the resource system. As examples we can mention the total kilograms of fish harvested, the number of times a car was parked in the parking lot, the food consumed by animals in the grazing areas or the total amount of water used from the irrigation system.

It is important to understand the difference between resource systems and resource units because the first ones can be non-excludable, but the latter ones, once appropriated by one person or firm, can no longer belong to someone else.

In this sense, property rights supporters believe that under a system where no person can be excluded, it is expected that the commons will be heavily harmed. Moreover, individuals are rational and compete over resources, which are scarce and limited (Anderson & Huggins, 2003). Such scarcity presents an issue for the sustainability of the common shared —or common-pool resources— in a community, where depletion or tragedy of the commons is the main threat. In this sense, communities must develop a

system to avoid overexploitation of resources and to protect their long-term sustainability.

In this context, Ostrom (1990), presents a set of eight principles as a suggestion to try to address the issue previously raised suggesting how commons can be governed sustainably and equitably in a community to maximize the use and to avoid potential depletion. These principles are proposed based on her lifetime study on how communities succeed or fail at managing common-pool (finite) resources such as grazing land, forests, and irrigation waters.

The principles are as follows:

1. Clearly define boundaries: To determine who has the right to withdraw resource units from the common-pool resources. This is the first step to exclude from outsiders and secure that benefits are not reaped by others who have not contributed.
2. Congruence between appropriation and provision rules and local conditions: The rules must be in congruence with local conditions restricting time, place, technology, and/or quantity of resource units, required labor, material, and/or money. This helps to account for the perseverance of these common-pool resources.
3. Most individuals affected by the operational rules can participate: Individuals who result affected by the operational rules should be able to participate in modifying them based on local circumstances, to better fit them to the specific characteristics of their setting.
4. Develop a community-based monitoring system: To monitors and actively audit common-pool resources conditions and appropriators' behavior.
5. Graduated sanctions: Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both.
6. Conflict-resolution mechanisms: Low-cost mechanism for discussing and resolving conflicts that constitute an infraction. These can be quite informal.
7. Minimal recognition of rights to organize: The rights of appropriators and the rules should not be challenged by external governmental authorities to sustain rule-governed common-pool resources over the long-run.
8. Nested enterprises: Additional principle for common-pool resources that form part of larger systems. Ensure appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities in multiple layers of nested enterprises.

Establishing rules at one level, without rules at the other levels, will produce an incomplete system that may not endure over the long run.

As Ostrom mentions in her book, this proposal is not a set of rules or “necessary” conditions to achieve the success of a common-pool resource, but rather a suggestion is given that these principles are still quite speculative. They are based on two assumptions: (1) that the individuals live side by side and say farm plots year after year; and (2) they expect their children and grandchildren to inherit the lands.

The idea behind these principles lays in the concept that human beings are “*beings of habits*”. If communities do not establish rules to develop a “proper” behavior, then families are likely to reap the benefits. Without different rules, appropriators could not take advantage of the positive features of a local CPR or avoid potential pitfalls that might be encountered.

6. Conclusion

As we learned, developing countries are highly dependent on natural resources, and thus, the utility and maintenance of those resources are vital for the sustainability of the ecosystem and economic development. We have also discussed that in developing countries, social norms are dominant for the provision of common goods and this puts them prone to the tragedy of commons. Nevertheless, we elaborate on alternative strategies like property rights and the provision of government intervention to overcome the tragedy of commons, but strong dominance of social norms and lack of government monitoring often lead to failure of private property rights laws. Given that, we discussed Ostrom’s (1990) principles which provide a set of recommendations that go beyond property rights provision. This list of recommendations should be developed within communities, taking into account the different stakeholders involved in the process of managing the commons, providing monitoring systems, conflict resolution spaces and adaptability of the rules according to the local conditions to guarantee an efficient and inclusive governability of common-pool resources.

7. References

Anderson, T. L., & Huggins, L. E. (2003). *Property rights: a practical guide to freedom and prosperity*. Hoover Press.

Anderson, Terry L. and Fred McChesney (1994). "Raid or Trade: An Economic Model of Indian-White Relations," *Journal of Law and Economics* 37, 39–74.

Ellickson, R.C., 1991. *Order without Law: How Neighbors Settle Disputes*. Harvard

Hardin, G. (1968). *The tragedy of the commons*. *Science*, 162(3859), 1243-1248.

Heltberg, R. (2002). *Property rights and natural resource management in developing countries*. *Journal of Economic Surveys*, 16(2), 189-214.

Kolb, E. (2019, July 10). *Countries with the top 20 fastest-growing populations*. USA Today. Retrieved February 1st from <https://eu.usatoday.com/story/money/2019/07/10/world-population-day-fastest-growing-countries-guinea-chad-mali/39584997/>

Leibbrandt, A., & Lynham, J. (2018). Does the allocation of property rights matter in the commons?. *Journal of Environmental Economics and Management*, 89, 201-217.

Olson, M. Jr. (1965). *The Logic of Collective Action: Public Goods and the Theory of Groups*. New York: Schocken Books

Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.

Rand, A. (1964). *The Virtue of Selfishness: A New Concept of Egoism*. New York: Penguin Books.

Tietenberg, T., & Lewis, L. (2014). *Environmental & natural resource economics*. Global edition.

Tyler, T.R., 1990. *Why People Obey the Law*. Yale University Press, New Haven. University Press, Cambridge.