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Evaluating the use of “free market” policies to protect the environment in Peru: plastic bags, civil liability, and urban planning

Evaluando el uso de políticas de “libre mercado” para proteger el medio ambiente en el Perú: bolsas de plástico, responsabilidad civil y urbanismo

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ABSTRACT

This paper discusses the concept of free-market environmentalism and its implementation in Peru. The article starts by explaining the two competing ways of understanding humanity's role in preserving the

RESUMEN:

Este documento discute el concepto del ambientalismo de libre mercado y su implementación en Perú. El artículo comienza explicando las dos formas competidoras de entender el papel de la humanidad en la preservación del medio

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environment-the Malthusian and Promethean approaches. Then, the trend of leftist policies depending on prohibitions and the state of human rights in environmental issues is discussed. The paper also argues the importance of the objective of environmental protection which is not necessarily related to the specific tools to reach it. Authors suggest that free-market environmentalism, which advocates for the use of mechanisms based on the market, such as property rights and price systems, may be an effective alternative to the traditional command-and-control regulations. It also analyzed three examples of free-market environmentalism in Peru: the use of plastic bags, civil responsibility for environmental damages, and the transferable construction rights for environmental protection on urban planning. The authors also make a regulatory impact assessment to determine the compatibility of each case with the economic principles concluding that they are not perfect but note the necessity of incorporating a free-market mentality on the formulation of public policies in Peru, particularly the ones related to environmental protection.

ambiente: los enfoques maltusiano y prometeico. Luego, se discute la tendencia de las políticas de izquierda que dependen de prohibiciones y el estado de los derechos humanos en temas ambientales. El documento también argumenta la importancia del objetivo de la protección ambiental, que no necesariamente está relacionado con las herramientas específicas para alcanzarlo. Los autores sugieren que el ambientalismo de libre mercado, que aboga por el uso de mecanismos basados en el mercado, como los derechos de propiedad y los sistemas de precios, puede ser una alternativa efectiva a las tradicionales regulaciones de mando y control. También se analizan tres ejemplos de ambientalismo de libre mercado en Perú: el uso de bolsas de plástico, la responsabilidad civil por daños ambientales y los derechos de construcción transferibles para la protección ambiental en la planificación urbana. Los autores también realizan una evaluación del impacto regulatorio para determinar la compatibilidad de cada caso con los principios económicos, concluyendo que no son perfectos, pero notan la necesidad de incorporar una mentalidad de libre mercado en la formulación de políticas públicas en Perú, particularmente aquellas relacionadas con la protección ambiental.

Keywords: environmental law; environment protection; free market; regulatory law; Peru.

Palabras clave: environmental law; environment protection; free market; regulatory law; Perú.

CONTENTS:

1. Introduction; **2.** What is free market environmentalism? **3.** Free-market oriented policies; **3.1.** Plastic bag use; **3.2.** Environmental damages; **3.3.** Urban planning; **4.** Rules of thumb for free-market friendly environmental policies; **5.** Methodology; **6.** Market-oriented environmental policies in Peru; **6.1** Plastic bag use; **6.2.** Environmental damages; **6.3.** Urban planning; **7.** Conclusion. **8.** References

1. INTRODUCTION

There is a global consensus about the need for environmental protection and also some agreement -although lesser¹- about the way the environment should be protected. Most of the literature and policy proposals are from leftist authors, who believe that it should rely on prohibitions -in the form of standards²; and in given “environmental” related issues the status of human rights. This tendency is supported by a given conception of the role of humanity in preserving the planet.

¹ PERCIVAL, Roberto. Environmental legislation and the problem of collective action. **Duke Environmental Law & Policy Forum**, Durham, v. 9, n. 28, p. 9-27, 2008.

² BÖHMELT, Tobias. Environmental-agreement design and political ideology in democracies. **International Environmental Agreements: Politics, Law and Economics**, Rotterdam, v. 22, n. 1, p. 507-525, 2022.



There are two competing ways of understanding the humans’ role in preserving our habitat³ The first has been called “Malthusian” which relies on the idea of human beings as some sort of plague for the planet with the thought that the more the population grows, the more activities that endeavor, the more industrialization occurs, the worse for the planet. On the other hand, the competitive approach - “Promethean”- asserts that human progress is increasing and correlated with improving the environment. In their extreme formulations, the Malthusian approach is alarmist and anti-market, whereas the Promethean one is negationist and anti-government intervention.

In liberal democracies, the Malthusian narrative has taken precedence over the Promethean one. The ideas behind this approach can be categorized -at turn- in two ways. First, there is a general distrust in markets to allocate certain goods. In this case, the environment is understood as a “good” outside the market, so any amount of money is enough to justify a perceived detriment in the environment. Also, there is another distrust in how technology and progress can improve the environment. On a second level, there is the belief that the environment is something like a “public good”, so the state must be involved in its protection; therefore, it is thought that environmental-related activities are externalities that must be dealt with. As externalities are “market failures”, the obvious consequence of this is that we need government intervention to fix the failure since the market is not understood to have a self-corrected mechanism nor government intervention is deemed costly itself.

Of course, all of these ideas are contestable, at least from a Promethean perspective: Humans are not a plague; economic development is correlated with a better environment at some levels⁴; the value of protecting the environment can be measured in dollars⁵; markets can self-correct⁶; and sometimes government intervention is more expensive than market failures.

Everyone can agree that having a good environment is a desired feature. Nevertheless, the relative importance of the goal is not necessarily related to the -choose of specific- tools we use to achieve it⁷. Government intervention is a tool, but markets and economic incentives are also tools, so there is no apparent reason why we should prefer government intervention over market solutions. Since competitive interests and

³ NICHOLSON, Nigel. How Hardwired Is Human Behavior? **Harvard Business Review**, Boston, jul./aug. 1998.

⁴ SMITH, Tony. The case against free market environmentalism. **Journal of Agricultural and Environmental Ethics**, Wageningen, v. 8, n. 2, p. 126-144, 1995.

⁵ NUSSBAUM, Martha. The Costs of Tragedy: Some Moral Limits of Cost-Benefit Analysis. **The Journal of Legal Studies**, Chicago, v. 29, n. 2, p. 1005-1036, 2000. 3

⁶ EPSTEIN, Richard. **Why is Health Care Special?** University of Chicago Law School, Chicago, v. 40, n. 1, p. 307 – 324, 1992.

⁷ EPSTEIN, Richard. **Why is Health Care Special?** University of Chicago Law School, Chicago, v. 40, n. 1, p. 307 – 324, 1992.



groups are dealing with environmental protection, there are also different proposed strategies for dealing with this goal.

In Peru, there is a big government intervention regarding the protection of the environment, although it is not always effective. Even, there exists a *Ministerio del Ambiente* (Ministry of Environment), along with several agencies, including one for foreseen forest protection, environmental certification and projects evaluation and wildfire preservation. However, there are some examples of “free market” oriented policies regarding environmental protection in place but we think these policies are somehow “contaminated” by our tendency to rely on interventionist -state-controlled- policies, as the first -or even the only- way to resolve social issues.

An intriguing question arises: are environmental problems a consequence of market failure or government failure? If individuals are free to pursue their self-interests - to create and consume whatever they desire, however, and whenever they wish - polluted air and waterways, littered streets, and depleted natural resources will likely emerge. Pollution and environmental degradation are often cited as proof that Adam Smith’s theories were either incorrect or too simplistic. The pursuit of individual self-interests does not necessarily lead to the overall well-being of society. As a result, it is not only acceptable but essential for the government to address the shortcomings of the market. This perspective, however, misunderstands the essence of a free society and a free-market economy. Contrary to the prevailing belief, environmental problems are not an inevitable consequence of a free-market economy. Rather, they arise because the required institutional framework - particularly the structure of property rights - for a free market to function effectively is not fully established⁸.

In this paper, an explanation of what is “free market environmentalism” will be explained, centering on the Peruvian context. Then, it will be presented an analysis of three examples of its application in the country: i) the use of plastic bags; ii) civil liability for environmental damages; and iii) transferable construction rights as a way to protect the environment in urban planning. Each example will be part of a regulatory impact assessment to determine its compatibility with a set of economic principles, in order to show that these examples are far from “perfect”, as they are incomplete or incorporate interventionist measures that alter their status as “free market” policies. This illustrates the necessity to incorporate a free-market mindset when making public policies in Peru, especially related to the protection of the environment.

⁸ CORDATO. R. Market-Based Environmentalism and the Free Market: They’re Not the Same. **The Independent Review**, North Carolina, v. 1, n. 3, p. 371-386, 1997



2. WHAT IS FREE MARKET ENVIRONMENTALISM?

As we already stated, there are competitive approaches to public policies intended to protect the environment. The Malthusian approach tends to collective action, *i.e.*, government intervention. On the contrary, The Promethean approach relies on the human ability to progress and find alternatives, thus relying more on individual decision-making. In this sense, the economic or free-market approach to environmental issues is more compatible with the Promethean understanding of environmental issues, at least if economics are defined as the discipline that justifies the existence of a free market⁹.

Free-market environmentalism is a philosophy that advocates for the use of market-based mechanisms, such as property rights and pricing systems, to address environmental issues. The fundamental idea behind free-market environmentalism is that individuals will have an incentive to protect and conserve resources by assigning property rights to those¹⁰. Additionally, by implementing pricing systems, such as taxes or tradable permit mechanisms, the negative externalities associated with environmental degradation can be internalized and the true costs of production can be reflected in the market price.

This approach to environmentalism differs from traditional command-and-control regulations, which rely on government intervention to dictate specific environmental standards. Free-market environmentalists claim that market-based mechanisms are more efficient and effective ways to address environmental problems since they allow for flexibility and innovation in achieving environmental goals, and they align private incentives with societal aims¹¹.

Critics, however, plead that free-market environmentalism is inadequate in addressing the scale and severity of environmental issues, such as climate change, and that government intervention is necessary to approach the market failures that contribute to environmental degradation¹². Furthermore, they argue that market-based mechanisms can be vulnerable to manipulation and may disproportionately affect marginalized communities. Also, have argued that free-market environmentalism tends to be too simplistic in the delineation and enforcement of property rights¹³.

⁹ KAHN, Alfred. **The economics of regulation: Principles and institutions**. n. 1. Cambridge: The MIT Press. 1998.

¹⁰ ANDERSON, Terry; LEAL, Donald. **Free Market Environmentalism**. Revised edition. New York: Palgrave, 2001.

¹¹ KOCHAN, D. J. Economics-Based Environmentalism in the Fourth Generation of Environmental Law. **Journal of Environmental & Sustainability Law**, Missouri, v. 21, n. 1, p. 47-97, 2015.

¹² SMITH, T. The case against free market environmentalism. **Journal of Agricultural and Environmental Ethics**, Wageningen, v. 8, n. 2, p. 126-144. 1995.

¹³ MENELL, P. S. Institutional Fantasylands: From Scientific Management to Free Market Environmentalism. **Harvard Journal of Law & Public Policy**, Boston, v. 15, n. 2, p. 395-415, 1992.



In academic literature, free-market environmentalism has been widely debated and studied, with both supporters and critics presenting theoretical and empirical arguments for their positions. Overall, free-market environmentalism is a complex and multifaceted philosophy that has been widely discussed in the academic community.

Indeed, Anderson & Leal defends Free Market Environmentalism (FME) as an alternative approach to addressing natural resource and environmental problems. FME focuses on transaction costs, recognizing that human actions require coordination, and this coordination comes with costs, including information, contracting, and third-party costs and benefits. FME asks how different coordination processes, like markets or politics, reflect individual human values and account for the costs of achieving them. Under this anthropocentric viewpoint, the environment's value depends solely on human perception, and decisions regarding the environment should be made based on human values, as no objective value can be attributed to the environment.

In the same line, FME is an approach to addressing environmental issues that emphasizes the role of property rights, markets, and voluntary transactions in promoting environmental conservation and sustainability. It stands in contrast to traditional regulatory approaches, which rely on government intervention and often involve command-and-control measures such as quotas, bans, and strict regulations¹⁴.

Key elements of FME include:

1. **Property Rights:** FME emphasizes the importance of well-defined and secure property rights in environmental resources. By assigning property rights, individuals or communities are incentivized to steward the resource sustainably. For example, assigning property rights to local villagers for elephant populations may incentivize them to protect the elephants and their habitat, as they would have a direct financial interest in doing so.
2. **Markets:** FME relies on market mechanisms to efficiently allocate resources. By allowing trade and voluntary transactions, FME harnesses the power of supply and demand to find the most economically efficient solutions to environmental problems. For example, in the abalone fishery scenario, Individual Transferable Quotas (ITQs) allow fishers to buy and sell rights to catch fish, incentivizing them to fish sustainably.
3. **Voluntary Transactions:** FME emphasizes the role of voluntary transactions between individuals and organizations in addressing environmental challenges. For example, in the case of pollution control in the Greylands industrial region, tradeable emission licenses allow companies to buy and sell pollution rights, encouraging them to find the most cost-effective ways to reduce emissions.

¹⁴ ECKERSLEY, Robyn. Free market environmentalism: Friend or foe? **Environmental Politics**, United Kingdom, v. 2, n.1, p. 1-19, 1993.



According to this author, FME advocates for a decentralized, market-based approach to environmental conservation that relies on the incentives of property rights, market forces, and voluntary transactions to achieve sustainable outcomes.

As we have explored FME, a concept rooted in market mechanisms and property rights to address environmental issues, it becomes clear that this approach extends to broader free-market-oriented policies. Just as FME suggests leveraging market forces and individual incentives for environmental conservation, other aspects of policy-making can also benefit from a market-oriented approach.

3. FREE-MARKET-ORIENTED POLICIES

As we navigate the complex and multifaceted challenges of sustainability and environmental stewardship, one can't help but wonder: What role does the free market play in shaping our policies? This section will explore the concept of free-market-oriented policies, which draw upon the principles of the market economy to tackle various environmental issues. From the reduction of plastic pollution to the sustainable management of natural resources, these policies aim to harness the power of market forces to address some of the most pressing environmental concerns of our time.

3.1. PLASTIC BAG USE

A free-market approach to the plastic use problem would involve the implementation of market-based mechanisms, such as taxes, subsidies, or tradable permit systems, to address the negative externalities associated with plastic pollution.

One example that has been proposed to address plastic pollution is a plastic tax which would be imposed on the production or consumption of plastic products, to internalize the environmental costs of plastic production and encourage companies and consumers to reduce their plastic use.

Another one is the use of subsidies to promote alternatives to plastic products, such as bioplastics or other compostable materials, which would make them more competitive in the market compared to traditional plastics.

A third example is a mandate for stores to charge for plastic bags which would reduce plastic pollution by using a market-based mechanism. This approach is sometimes referred to as a “pay-as-you-throw” or “polluter pays” principle.

The objective of making consumers pay for each plastic bag they use is to make them more likely to bring their own reusable bags and reduce their consumption of single-use plastic bags which can reduce the amount of plastic waste that ends up in landfills and the environment.

This measure has been implemented in several cities and countries around the world, with diverse degrees of success. Some jurisdictions have implemented a



complete ban on plastic bags, while others have implemented a plastic bag fee with exceptions for certain types of products or customers.

Research has shown that a charge on plastic bags can be effective in reducing plastic bag consumption. For instance, a study of the plastic bag fee in Ireland found that it led to a 90% reduction in plastic bag use. Studies in different countries also found similar results, showing a significant reduction in plastic bag consumption after the introduction of a fee.

However, it is important to note that the impact of those policies can be influenced by other factors such as the amount of the fee, the exemptions, and the enforcement of the policy. Additionally, it is important to consider the potential negative impacts on low-income households and small businesses, so that accessible and affordable alternatives can be surely found.

In addition to the traditional market-based mechanisms like taxes and subsidies, innovative approaches such as “bag swaps” and “bag banks” can also be considered in the fight against plastic pollution.

“Bag swaps” involve setting up designated locations where consumers can exchange their plastic bags for reusable alternatives. This initiative not only promotes the use of reusable bags but also encourages community involvement in reducing plastic waste. It’s a practical way to incentivize behavioral change, especially when combined with public education campaigns about the environmental impact of plastic bags.

On the other hand, “bag banks” operate similarly to “bag swaps” but with a twist - consumers are not required to return their bags. Instead, they can simply take a reusable bag from the bank. This model works well in areas where recycling infrastructure is limited or nonexistent, offering an accessible and eco-friendly alternative to disposable plastic bags.

By focusing on consumer behavior and the wider community’s involvement, these innovative solutions go beyond traditional market mechanisms. They complement regulatory measures with practical, community-driven interventions that foster sustainable practices and promote environmental stewardship.

3.2. ENVIRONMENTAL DAMAGES

A free-market approach to environmental damages would involve the use of market-based mechanisms, such as property rights, pricing systems, and liability laws, to address the negative externalities associated with environmental degradation.

One key aspect of a free-market approach to environmental damages is the assignment of property rights to natural resources. By clearly defining and enforcing property rights, individuals and companies will have an incentive to protect and conserve these resources, as they will be able to reap the benefits of their responsible use.



Another important aspect is the implementation of pricing systems, such as taxes or tradable permit systems, to internalize the negative externalities associated with environmental degradation. For example, a carbon tax would establish a price on the emissions of greenhouse gases and create an incentive for companies to reduce their emissions. Similarly, a tradable permit system for water usage would also establish a price on the use of water and encourage its conservation.

Additionally, a free-market approach would involve the enforcement of liability laws that hold individuals and companies responsible for any environmental damages they could cause, creating an incentive for companies to take initiative-taking measures to prevent damages, as they would be financially responsible for any damage they cause.

3.3. URBAN PLANNING

A free-market approach to zoning, specifically transferable construction rights, is a system that allows property owners to buy, sell, or trade the right to develop their land. The objective of this is to create a market for development rights, where the value of the land is determined by the market rather than by government-imposed zoning regulations.

Under transferable construction rights, property owners would be given the right to develop their land up to a certain density or use, and they would be able to sell or trade that right to other owners. This would create an incentive for property owners to protect and conserve their land, as they would be able to earn incomes from selling or trading their rights.

Additionally, transferable construction rights can help to address issues related to affordable housing, by creating a market to develop those rights. Under this system, property owners in areas with high housing demand would be able to sell these rights to developers, who would then use those rights to build affordable housing in areas where land is less expensive.

Critics argue that this approach may lead to gentrification and displacement of low-income residents, as well as to the concentration of development rights in the hands of a few large developers. However, supporters argue that transferable construction rights can be a more efficient and effective way to address zoning and affordable housing issues, as they align private incentives with societal goals and allow for more flexibility in land use planning.

4. RULES OF THUMB FOR FREE-MARKET-FRIENDLY ENVIRONMENTAL POLICIES

Before talking about -supposedly free-market-friendly- environmental regulations in Peru, let's talk about an “economic approach” to social issues. Nobel economist



Thomas Sargent gave a speech to graduates of the University of California, Berkeley, in 2007, talking about 12 points every economist should keep in mind, but this time we will only resort to five of them and comment about the environmental aspects of it.

1. “Many things that are desirable are not feasible”. Of course, we all want to eliminate pollution, but that is impossible, so a realistic goal is to reduce pollution to a level that is optimum (in the economic sense) or reasonable for a given community.
2. “Individuals and communities face trade-offs”. If you take measures to protect the environment, your community will likely sacrifice something else. For instance, if you reduce your ability to produce energy, you will become more dependent on energy produced by someone else.
3. “Other people have more information about their abilities, their efforts, and their preferences than you do”. This is why individual decisions are often more efficient than collective decisions. Prohibitions and standards are collective decisions, whereas contracts, *ex-post* liability, and property rights lead to individual decisions.
4. “Everyone responds to incentives, including people you want to help. That is why social safety nets do not always end up working as intended”. Incentive behavior can (often) have some unintended effects since policy-makers tend to think in a unidimensional way¹⁵, but policies have impacts beyond their formal scope. The Peltzman effect and other risk-compensation effects are good examples of this¹⁶.
5. “Most people want other people to pay for public goods and government transfers (especially transfers to themselves)”. This could be complemented with the idea that regulations are a good way to transfer resources in a given economy. Interest groups -not only environmentalist groups- use regulations -including environmental regulations- to transfer resources to themselves. The boom of electric cars is a clear example of this trend.

Of course, not all “economic thinking” is “free-market thinking”. Market failure is also part of the economic theory and can justify the existence of environmental regulations. Nevertheless, thinking “economically” often contrasts with the rhetoric behind most government interventions, which is better explained when we resort to the more detailed explanation of the economic theory of regulation.

¹⁵ BREYER, S. **Breaking the vicious circle**: Toward effective risk regulation. Harvard University Press, Boston, 1995.

¹⁶ PELTZMAN, Sam. The Effects of Automobile Safety Regulation. **Journal of Political Economy**, Chicago, v. 83, n. 4, p. 677–725, 1975



In addition to these rules of thumb, another key aspect of free-market-friendly environmental policies is the principle of subsidiarity. This principle suggests that decisions should be made at the lowest effective level of government, closest to the people affected. Subsidiarity not only empowers local communities to address their own environmental concerns but also fosters innovation and experimentation as different regions can implement policies tailored to their specific needs and circumstances.

Furthermore, the idea of Pareto efficiency can be useful in understanding the effectiveness of environmental policies. A policy or regulation is Pareto efficient if it improves the well-being of at least one party without making any other party worse off. This criterion helps policymakers evaluate the distributional impacts of their policies and prioritize solutions that maximize overall societal welfare.

In summary, adopting a free-market-friendly approach to environmental policies requires a careful balance of economic principles, local context, and consideration of the broader societal impacts. It encourages innovative solutions, individual responsibility, and a nuanced understanding of the trade-offs involved in achieving environmental sustainability.

5. METHODOLOGY

This paper is based on a study case of three policies related to environmental protection which are analyzed under a modified version of the Regulatory Impact Assessment methodology (RIA). Under RIA, prospective regulations are evaluated in terms of possible beneficiaries and harmed groups, achievement of their objectives, as well as economic overall impact. Under our modified version, policies are evaluated in contrast with five well-established economic principles.

Every policy is judged for its conformability with the principles described in Part 6. The analysis includes three components: first, we describe the sub-policy most related to each principle; second, we acknowledge their results regarding a given principle; and, finally, we recommend a change in the policy to make it more compatible with the economic principle that is being evaluated.

6. MARKET-ORIENTED ENVIRONMENTAL POLICIES IN PERU

6.1. PLASTIC BAG USE

According to the Ministry of the Environment of Peru, on average, approximately 30 kilos of plastic per citizen are used per year, which adds up to about 3 billion plastic bags used in the country; Lima, which is the capital city of Peru and the largest city



in the country, produces 886 tons of plastic per day, representing 46% of this type of waste nationwide¹⁷.

According to Royer, Ferron, Wilson, and Karl plastic not only releases a variety of chemicals during degradation, which hurts biota, but also environmentally aged plastics incubated in water for at least 152 days also produce hydrocarbon gasses such methane and ethylene¹⁸. Thus, these authors sustain that plastics represent a source of climate gasses that are expected to increase as more plastic is produced and accumulated in the environment.

In December 2018, Law 30884 which regulates single-use plastic and disposable containers was enacted. The purpose of this regulation is to establish the regulatory framework on single-use plastic, other non-reusable plastics, and disposable containers or containers of expanded polystyrene (tecnopor) for food and beverages for human consumption in the national territory. A ban on free handing over of plastic bags was created, which meant that markets, supermarkets, and businesses should assign a minimum "market price" for each bag. In addition, businesses should inform the consumer explicitly that a plastic bag has a price.

In August 2019, Supreme Decree No. 006-2019-MINAM was published, a secondary regulation that Law No. 30884. The most relevant regulatory provisions of this regulation can be summarized as i. Definition and classification of types of plastics, ii. Supplementary provisions on the registration of manufacturers, importers, and distributors, iii. determination of enforcement authorities and the scale of fines that can be imposed.

Charging for the use of plastic is a policy aligned with the free market but banning some kinds of plastic bags is not. Overall, the policy is not free-market oriented and is not compatible with the economic principles detailed in Part 3.

¹⁷ MINISTRY OF ENVIRONMENT-PERU. **Cifras del mundo y el Perú. Menos Plástico Más Vida.** 2017.

¹⁸ ROYER, Sarah-Jeanne., FERRÓN, Sara, WILSON, Samuel, KARL, David. Production of methane and ethylene from plastic in the environment. **PLoS ONE**, Delhi, v. 13, n. 8, 2018.



Table 1: Plastic use under the economic principles test

Economic principle	Policy	Result	Recommendation
Principle 1: “Desirability is not the same as feasibility”	Try to reduce plastic consumption to zero. The Act has a disposition aimed to incorporate the “informal market” with “non-economic incentives,” but this is clearly not enough.	Informal markets will continue using plastic bags.	Instead of banning certain types of plastic, the state should “economically” incentivize the use of other materials. Informal merchants could even get paid for recycling.
Principle 2: “Individuals and communities face trade-offs”	The use of plastic bags as the primary form of waste collection is not addressed by the act.	It will be more difficult to collect waste with fewer plastic bags.	To regulate the use of plastic bags for waste recollection.
Principle 3: “Other people have more information about their preferences”	The Act is an imposition based on the idea that plastic bags generate externalities.	People with a preference for environmental protection will demand companies to promote the use of environmentally friendly bags.	Since environmental protection is deemed a “public goods” problem, the solution tends to replace individual decisions with collective ones. Nevertheless, collective decisions have many costs associated with them, thus making individual decisions an alternative even when facing a public good scenario.
Principle 4: “People have incentives”	The Act does not consider the different consequences that it would generate, especially regarding the use of different materials that are substitutes for plastic, like paper.	The consumption of paper bags will increase, although their use is not necessarily better for the environment than the use of plastic.	The use of different materials should be addressed holistically, creating incentives to reduce the environmental impact in general, not just regarding one type of material
Principle 5: “Most people want other people to pay”	This policy has strong redistributive effects, regarding the makers of substitutes of plastic and advocates contrary to the use of plastic.	This is a policy with strong lobby incentives.	A less stringent policy will tend to have less redistributive effects and fewer incentives for lobbying.

About the result of the application of principle 4, an article by the National Geographic Society¹⁹ stated that for a paper bag to offset its environmental footprint when compared to plastic, it would need to be utilized anywhere from three to 43 times. However, given that paper bags are the least durable among bagging alternatives, it’s improbable that any single bag would be used frequently enough to balance out its environmental impact.

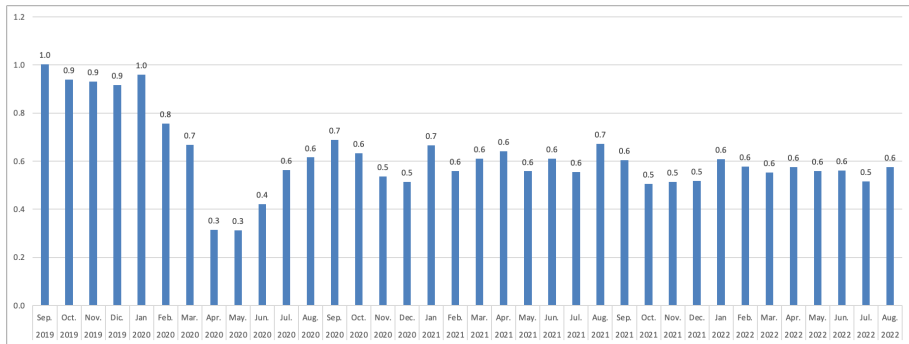
¹⁹ National Geographic Society. **Sustainable Shopping - Which Bag is Best?**, National Geographic, 2023.



As you can tell, the Plastic of-one-use-only Act fails in the application of every major microeconomic principle, because this is a policy with little economic sense, even when we can admit that some government intervention is convenient or reasonable. A policy more focused on incentives could also have positive redistributive effects since the collection of contaminant materials by informal merchants or people could be rewarded.

According to the report on the progress and achievements in the implementation of Law No. 30884, there is a long way for the country to fulfill the objectives set by the regulation. Nevertheless, the report indicates that the amount collected by the collection of the tax on bags of plastic consumption, from September 2019 to December 2021, is S/. 17.8 millions. Based on the amounts collected, it is estimated that in 2021 there was a 33% reduction in the consumption of bags compared to 2020, which is equivalent to a reduction of 11.53 million plastic bags²⁰. However, a deeper look at the amounts collected by the National Superintendence of Customs and Tax Administration - SUNAT since the collection of the tax, reflects a constant drop in collection up until May 2020 (due to Covid 19 Pandemic). After that month, the collection started to increase again and has been constant between 0.5 and 0.7 million soles collection per month.

Figure 1 Tax collection on bags of plastic consumption - Peru (2019-2022)



6.2. ENVIRONMENTAL DAMAGES

In Peru, there are mechanisms of collective action against environmental damages, but they fail in two senses: on one hand, the “constitutional” adjudication does not allow judges to award damages. In the case of “regular” civil procedures, judges are capable of awarding damages, but only some actors can make claims and there is not a clear proceeding for distributing damages. On top of this, civil damages tend to be under-compensatory in the country. These problems explain the little use of civil liability

²⁰ SUNAT. **Tax Revenues collected by SUNAT - Internal Taxes**, 2024.



in Peru. The substitute for civil liability is economic regulations, which typically are a less efficient way to deal with risky activities.

In the case of the oil spill at the La Pampilla Refinery, owned by Repsol, both administrative and criminal processes are underway. Additionally, there is the potential for civil proceedings to seek compensation for damages to fishermen, artisans, business owners, residents, and others affected, as well as the state itself²¹.

While civil actions for environmental damage compensation have not been commonly pursued in Peru, they are appropriate for obtaining financial compensations that directly benefit an undetermined number of individuals during the damage period. Civil liability functions, as outlined by Guido Alpa, include reacting to unlawful harm to compensate victims, restoring victims to their pre-damage status, reaffirming state punitive power, and deterring harmful actions²².

In Peru, environmental damage liability is primarily governed by the General Environmental Law, the Civil Code, and the Civil Procedure Code. Article 142 of the General Environmental Law mandates that anyone who could harm the environment through their activities must cover all associated prevention, mitigation, monitoring, and surveillance costs. Article 144 adds that liability for using environmentally risky goods or conducting hazardous activities is strict and requires compensation for damages incurred, environmental recovery, and mitigation measures to prevent further damage.

Civil liability for environmental damage is further detailed in Articles 1969 and 1970 of the Civil Code concerning tort liability, specifying compensation for actions or omissions including lost profits, personal injury, and moral damage, with a need for a direct causal link. Compensation amounts accrue legal interest from the date the damage occurred²³.

The legitimacy to initiate such legal actions is provided under Article 82 of the Civil Procedure Code, allowing communities, associations, and non-profit institutions to start or join as necessary co-parties in these proceedings, contributing evidence and ensuring proper follow-up.

Authors such Garcia consider that administrative procedures in the case of La Pampilla refinery have not solved cases of animal cruelty and death of marine wildlife specimens. The author states that “principle of typicity for the exercise of the administrative

²¹ AQUINO, Marco. **Repsol faces second lawsuit in Peru over oil spill**. Reuters, 2024. <https://www.reuters.com/markets/commodities/repsol-faces-second-lawsuit-peru-over-oil-spill-2024-01-15/>

²² QUINTANILLA, V. **Community of la Oroya wins landmark ruling to stop environmental damage in Latin America**. Asociación Interamericana para la Defensa del Medio Ambiente, 2024.

²³ OECD. **Liability for Environmental Damage in Eastern Europe, Caucasus and Central Asia (EECA): Implementation of good international practices**. Organization for Economic Co-Operation and Development, 2020.



sanctioning power and the legislation on wildlife reveals that it may not have adequately regulated events such as those triggered by the oil spill”²⁴.

Table 2: The lack of use of civil liability under the economic principles test.

Economic principle	Policy	Result	Recommendation
Principle 1: “Desirability is not the same as feasibility”	The policy can be defined as a preference for economic regulations (banning damaging behavior) over general deterrence through civil liability.	There is a wide range of environmental regulations, but damages continue happening.	To assume that the number of damaging activities will not be zero (nor zero is the optimal), civil liability is a good way to optimally deter environmental damages.
Principle 2: “Individuals and communities face trade-offs”	To strictly regulate potentially damaging activities.	There is a risk of reducing the number of activities more than optimal.	To give more space to civil liability to optimally regulate activities with environmental impact
Principle 3: “Other people have more information about their preferences”	Regulations are based on collective (political or bureaucratic) decisions.	Civil liability -as an ex-post solution- allows firms to regulate their behavior.	Collective decisions have a lot of costs associated with them, thus making individual decisions an alternative even when facing a public good scenario
Principle 4: “People have incentives”	Regulations create incentives for regulatory capture and other kinds of opportunistic behavior	Environmental agencies could be captured by firms. Also, firms can surpass or subvert inconvenient regulations, even when they officially support them	Civil liability is typically less susceptible to capture due to its case-by-case nature.
Principle 5: “Most people want other people to pay”	Regulations have strong redistributive effects, making them susceptible to lobby.	Firms can support more stringent regulations only to reduce competition.	Once more, the use of civil liability reduces the incentives to regulatory captures.

As we have seen, the enhancement of the use of civil liability could help us to achieve a more efficient way to reduce the risk of environmental damages, in the sense that it could reduce the need for economic regulation. This also could have a positive redistributive effect, since civil liability typically compensates victims, instead of fines, that are collected by the government. However, to achieve that goal in Peru changes to the legitimacy to initiate damages litigation should be proposed, in order to amplify the possibilities to prevent environmental degradation.

²⁴ GARCIA CERRÓN, Erick. Las limitaciones de la tipificación de infracciones en materia de fauna silvestre, a propósito del procedimiento administrativo sancionador iniciado contra la refinería La Pampilla. **Revista Kawsaypacha: Sociedad Y Medio Ambiente**, n. 10, A-009, p. 1-33, 2022.



6.3. URBAN PLANNING AND ZONING

Urban planning or zoning typically involves a very direct way of intervention, which is generally admitted, even when theoretically is very problematic, since zoning decisions are excluded from the market to a great extent. This kind of policy is usually justified in searching for non-economic objectives, like protecting the environment or cultural heritage buildings.

Even if we admit this strong type of intervention, there are ways to reduce its impact on efficiency. One of these ways is to allow agents to transfer construction rights from protected areas to non-protected ones so that we can introduce market incentives to otherwise planned solutions.

In the Peruvian case, even when this type of market solution is already part of the urban planning legislation, its scope is very limited since the transfer of rights is only allowed in the case of buildings with cultural heritage interests. The limits on these tools make it secondary and marginal in the overall impact of zoning regulations.

Table 3: The limited scope of transferable rights under the economic principles test.

Economic principle	Policy	Result	Recommendation
Principle 1: “Desirability is not the same as feasibility”	This is an absolutist way of planning, with almost no exceptions or market incentives.	There is a wide range of informal constructions and inflexibility in formal projects.	Formal projects should be treated with flexibility and the focus should be on incorporating informal projects.
Principle 2: “Individuals and communities face trade-offs”	Urban planning non-economic interest are the only considered as valid.	Urban planning deters innovation and growth.	A more flexible approach to zoning would make a better trade-off between the urban interests and economic growth.
Principle 3: “Other people have more information about their preferences”	Urban planning is typically a collective decision.	There is inefficiency in the allocation of constructions rights.	Even when we admit that some planning is necessary, transferable rights will allow people to make more efficient decisions.
Principle 4: “People have incentives”	Stringent urban planning regulations call for lobbying to subvert zoning rules or to keep inefficient zoning rules in place.	There is corruption in zoning planning, specially at a local level.	Transferable rights reduce the incentives to subvert zoning rules.
Principle 5: “Most people want other people to pay”	Zoning rules have distributive effects.	Neighbors have incentives to block socially desirable projects and construction companies to subvert zoning rules in their favor.	Transferable rights reduce the incentives to block or subvert zoning rules, making the market of zoning more socially efficient.



As shown, this is also a policy that is not compatible with basic economic principles. In general, urban planning should be more flexible and compatible with market incentives that could also allow the creation of incentives for formalization, since owners would acquire transferable rights that would increase the value of their properties.

An example of the application of this trend is private conservation areas: the Natural Protected Areas Act in Peru allows the owner of a private property to allocate its area to biodiversity conservation through the constitution of a private conservation area, which are an instrument that allows the direct involvement of individuals, families, communities, organizations, companies and/or any private entity that holds a property right, in the conservation of biological diversity²⁵. In these cases, the landowner can decide whether to use all or only part of the property for conservation activities. The benefit for the landowner can be achieved by applying for funds for the conservation of the area. However, the law is restrictive because it imposes a minimum amount of time that the landowner must dedicate to conservation (10 years).

7. CONCLUSION

The use of free-market mechanisms will remain marginal, given the cultural paradigm and nature of the regulatory state in Peru. Nevertheless, efforts have been made to create policies aligned with the free-market approach. The analyzed examples in this paper are part of the use of this type of market-friendly approach, although not perfect. At the end, they are opportunities to perfect and expand their use. The free-market approach will not replace more strict government intervention but can temper them and be a good complement.

In the case of plastic, the government needs to consider the incentives that a prohibition will create and the socioeconomic context in which such a policy is introduced. A policy based on positive reinforcement -instead of prohibitions- could align better with the overall objective of protecting the environment. In the matter of civil liability, the spread of its use can reduce the need for more stringent regulations, reducing the social costs of regulatory capture or compliance. Finally, when talking about transferable rights, its use can make urban planning more efficient, given that this type of planning is *per se* inefficient. The increase in the use of these policies could have not only a positive impact in efficiency, but also equitable redistributive effects and in non-economic goals like the formalization of market agents.

²⁵ SERVICIO DE ÁREAS NATURALES PROTEGIDAS POR EL ESTADO. **Documento de trabajo 10:** Áreas de Conservación Privada. Servicio Nacional de Áreas Naturales Protegidas por el Estado – SERNANP, Lima, 2014.



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