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UNLIMITED GROWTH IS UNDESIRABLE

During the entire history of humanity, human beings have sought, consciously or unconsciously, something called happiness, well-being, good living, the "Sumak Kawsay" of our ancestral peoples. Economy is allegedly the science whose goal is the optimal utilization of resources to achieve these ends, that is, the good living of individuals and societies.

Here is a first question we should answer: What is happiness, well-being, good living? Neoclassical economy, starting from the anthropological barbarity that "resources are limited but needs are unlimited" — which means that it is not possible to find a person, a community or a society that can say, "We are happy and we do not need anything more"- tells us that well-being is the satisfaction of needs. But, what are needs? Where do they come from? What is the difference between needs and mere desires?

Neoclassical economy does not answer these fundamental questions, simply defining "needs" as anything a consumer desires, and these desires must be catered to by the economy. This premise is known as the "supremacy of consumers", which leads us to the maximization of consumption and, as corollary, to the production of goods and services as *proxies* of well-being, and to unlimited growth as a way to allegedly increase that well-being.

However, we see more and improved studies that tell us that **unlimited growth is undesirable**. When we try to measure this so-called "happiness" directly, based on people's perceptions, the results shatter the neoclassical theory. Increases of GDP per inhabitant, after

reaching a certain threshold, are not related to a greater perception of happiness among people. This is known as the "Easterlin paradox", proposed more than 30 years ago. [1]

The societies of rich countries are a clear example of the disparity between "economic progress" and happiness. A person living in the U.S. today is almost three times richer than the average U.S. citizen of 1950 was, but in spite of an increase in wealth, those who live in the States now are not any happier than those who lived there half a century ago.

The recent winner of the Nobel Prize for Economics, Professor Angus Deaton (2008), estimates a threshold of income equivalent to 75 thousand dollars per annum above which there is an increase in the happiness of people (Deaton, 2008).

Latin America, a middle income region, is the happiest continent in the world. Paraguay ranks as the happiest country, followed by Ecuador, listed second together with Colombia and Guatemala, according to the coefficient of positive experiences, a Gallup poll of the year 2014 conducted among 143 countries. However, we must remain attentive: in the face of so much inequality, with so much misery still so widespread, that perception of happiness can be the closest thing there is to unconsciousness.

The moral imperative of humanity since the late 20th century is to overcome poverty, as for the first time in history, it is not the result of the scarcity of resources, but of inequality, and this is particularly true in Latin America, the most unequal continent in the planet.

Due to the lack of relationship between economic growth and happiness, many scholars propose an economy without growth. This

[1] See Easterlin, Richard (1974). *Does economic growth improve the human lot? Some empirical evidence,* in Paul A. David and Melvin W. Reder, eds., Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz, New York: Academic press, Inc.

would be reasonable in countries with stabilized populations and satisfied basic needs, but it would be impossible to apply in countries with a growing population and still widespread poverty.

What is clear is that there is no direct relationship between happiness and wealth, and that we are making the terrible mistake– clearly denounced by Pope Francis- of confusing means with ends: sacrificing happiness in the search for higher income.

However, in addition of being undesirable, **unlimited economic growth is - above all - impossible.**

UNLIMITED GROWTH IS IMPOSSIBLE

The traditional economic analysis omits the boundaries of nature and assumes the existence of infinite natural resources and an unlimited capacity of assimilation of the planet, an assumption that goes against fundamental laws of physics.

Technology and efficiency —producing more with fewer resources and materials—push back the boundaries, but do not eliminate them.

In general, in the world there have been improvements in the efficiency of productive processes; that is, fewer energy and material requirements per unit of Gross Domestic Product. This is called the **dematerialization** of the economy. The reduction of global energy intensity (energy consumption divided by GDP in real terms) was on average 0.56% per annum between 1971 and 2012.[2] However, the average annual population growth rate was 1.6% during the same period.

In fact, energy consumption has increased at an average annual growth rate of 2.5% between 1971 and 2012. Energy consumption

[2] See Correa, R. and F. Falconí (2012).

has multiplied 2.7 times in 41 years. If this trend continues, in 30 years the current energy consumption will have doubled.

Beyond population growth, and in spite of technological advances and the dematerialization of the economy, evidence shows that energy consumption and the generation of emissions are directly proportional to the level of income. In other words, the **consumption effect dominates the efficiency effect.**

An example easily illustrates this assertion: this year's average car is more efficient than 10 years ago, but in 2004, there were 700 million cars, and today there are more than 1.1 billion.

On the other hand, if all the current reserves of fossil fuels were burned, we would exceed the threshold of 2° C of increase in the average global temperature and we would face an environmental catastrophe. The question is not whether we can continue growing, but what will stop economic growth in the world: a concerted decision among the inhabitants of the Earth, or the natural reaction of the planet that will turn the dreams of greed into our worst nightmare.

COMMON BUT DIFFERENTIATED RESPONSIBILITIES

Although it is true that we all play a role in the generation of emissions, our responsibilities are quite different.

The Gini coefficient of CO2 emissions per capita by countries, calculated for the year 2010, was 0.596 (Correa et. al, 2012).[3]

[3] The Gini coefficient moves between the values of 0 and 1. The zero value corresponds to absolute equality. The value of one, in contrast, represents absolute inequality. In this case, the Gini index is a measure of the concentration of emissions. A value of 0 would mean that all nations have an equal level of emissions per capita. A value of 1 would mean that a single nation emits all the CO_2 and nobody else emits.

In other words, 20% of the world population that pollutes the most is responsible for 51% of the planetary emissions of CO2, while the 20% of the world population that pollutes the least is merely responsible for 1.3% of total emissions. This means that an inhabitant of a rich country (the 20% that pollutes the most) emits 38 times more CO_2 than an inhabitant of a poor country (the 20% that pollutes the least).

In terms of concrete countries, six countries or regions are responsible for 66% of all the emissions of CO_2 in our atmosphere: China, USA, the European Union, Russia, Japan and India (The World Bank, 2015).

Global inequalities are reflected not only in the distribution of emissions, but also in the incidence of global warming and climate change.

Countries like Ecuador generate less than 0.1% of total CO2 emissions, but suffer the consequences of climate change. For example, the only penguin that comes to the Equator, *Spheniscus mendiculus,* commonly called the Galápagos penguin, faces extinction due to the warming of superficial marine waters.

This does not mean that there are no environmental damages linked to poverty, such as soil erosion or untreated solid waste. In addition, energy efficiency between rich and poor countries is still abysmal and has increased from 4.2 to 5.1 times between 1971 and 2011 (The World Bank, 2015).

NEW DIVISION OF LABOR

In spite of these common but differentiated responsibilities, and the role played by access to knowledge, science and technology, even to mitigate the impact of climate change in poor countries, paradoxically there exists now a new and unjust international division of labor: rich

countries generate knowledge that they privatize, and many poor or middle-income countries generate environmental goods that are freely accessible.

Knowledge, in general, is a good of free access, that is, exclusion is technically impossible, or very costly. To prevent free access, or, in other words, to privatize the good, institutional barriers are raised, basically in the form of intellectual property rights.

The countries of the amazon basin, the lung of the planet, also produce goods of free access, in this case environmental goods, that regulate the world climate and without which life in the planet would deteriorate considerably. In spite of this, the greatest global polluters pay nothing to consume these environmental goods and services.

The new international division of labor is a total paradox. Common and freely accessible goods must be those with no rivalry in consumption, that is to say, goods that do not have a marginal cost if someone else uses them. As a result, the more the people that uses them, the better. This is normally the case with knowledge, science, and technology.

As George Bernard Shaw rightly noted: "If you have an apple and I have an apple and we exchange these apples, then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas."

A book published in the Internet can be read by everyone, without losing value. That is the central idea of what in Ecuador we have called the **social economy of knowledge**, and which proposes, as we will see later on, new forms of managing knowledge.

The thing that becomes scarce or is destroyed when consumed, like nature and the resulting climate change, is that which ought to be restricted in its consumption, in order to prevent what Garrett Hardin

called "the tragedy of the commons" in his ground-breaking article of 1968.[4]

Why don't we do what is obvious? Even more so, why do we do exactly the opposite? Because the problem is not technical, it's political. The new unjust international division of labor is nothing more than the perverse ethics of "privatizing profits and socializing losses". There is nothing that justifies it, only power. To illustrate this, let us imagine for a moment that the situation were reversed, and that the generators of environmental goods and services were the wealthy nations, and the poor nations were the polluters. Surely, already there would have been invasions to force them to pay a "just compensation" in the name of course of "international law", "justice", "civilization", etc.

As the French proto-economist Frédéric Bastiat, a liberal to be exact, said almost two centuries ago, "When plunder becomes a way of life for a group of men in a society, over the course of time they create for themselves a legal system that authorizes it and a moral code that glorifies it." (Bastiat, 2005)

The extremely high cost paid to access energy efficiency technology prevents most of humanity from contributing to halt the effects of climate change.

The planetary emergency demands a **global treaty that declares technologies that mitigate climate change and their respective effects as global public goods**, guaranteeing free access to them. (Ramírez, 2014).

This knowledge is not confiscated from the inventors, since innovations ought to be recognized and inventors should be

[4] See Hardin, Garrett (1968), *The Tragedy of the Commons*, Science, Vol. 162, No. 3859, pages 1243-1248.

compensated with a royalty. This royalty, as we will see later on, could be financed with the same compensations resulting from ENE: with global resources allocated to the fight against climate change, like the various funds of the United Nations; and with the creation of global taxes, such as the Daly tax.

COMPLETING KYOTO: NET AVOIDED EMISSIONS

The Kyoto Protocol could be interpreted as an institutional barrier to prevent the consumption of these environmental assets, but the large polluters will not sign Kyoto, while in most of our countries you can go to jail if you copy an idea protected by a patent. These rules are imposed by international treaties, such as those of the World trade Organization (WTO).

Furthermore, the incentives given by Kyoto for the protection of the environment were insufficient, inefficient, and unjust. For example, in the area of reforestation, the system rewarded those nations that reforested, but prevented compensating those nations that had not de-forested and whose forests already were contributing to the reduction of carbon. Kyoto lacked a concept that comprehensively defined what had to be compensated. This comprehensive concept is **Net Avoided Emissions** (ENE, in Spanish).

ENE are emissions that the economy of a country could produce, but does not, or emissions that already exist in the economy of a country, but are reduced. This concept reconciles the initial compensations of Kyoto and the REDD mechanism (reducing emissions from deforestation and forest degradation), a UN program. The REDD mechanism adds an important idea: compensation for abstention, in other words, for not doing something that you have the right to do. However, the problem is that it only compensates for conserving carbon on the surface of the earth, -like abstaining from cutting down

a forest- omitting, for example, compensating for keeping carbon underground, as in the case of the exploitation of fossil fuels.

ENE is the comprehensive concept that Kyoto needs, because it implies compensations for actions and abstentions, and it encompasses all the economic activities that involve the exploitation, use and development of renewable and non-renewable natural resources.

If Kyoto becomes a binding agreement and its incentives are expanded to include Net Avoided Emissions, in addition to the objectives of climate change, it would mean a revolutionary transformation in international trade, as it would allow many nations – especially developing ones – to convert their economies based on the extraction of highly polluting fossil fuels into economies that are exporters of environmental services.

Here is a core idea for any debate about sustainability: **conservation, in poor nations, will not be possible if it does not result in clear and direct improvements in the standard of living of the population.**

No one can ask a poor family living next to a forest, without jobs or a source of income, not to cut down the trees: they must feel the direct benefit of keeping the trees standing. In Ecuador, we have a program called "Forest Partner" (Socio Bosque), which pays the communities for taking care of approximately a million and a half hectares of forests.

As ENE is a comprehensive concept that significantly expands the possibilities for compensation, we should limit the possibilities of using these funds, mainly for more prevention, mitigation, and adaptation. In other words, to make less vulnerable those nations

that are facing the consequences of climate change. In addition, if the compensation is always lower than the financial yield produced by the action or abstention, restrictions should be put in place to ensure that only those nations truly committed to the fight against climate change receive compensations.

A concrete example was the Yasuní-ITT initiative, which sought to leave underground the largest confirmed petroleum reserves in Ecuador. It asked for compensation for not exploiting this reserve and to prevent sending 400 million metric tons of CO2 into the atmosphere. The compensation requested amounted to barely half the financial yield that would have resulted from exploiting the petroleum, and the funds would be used for further conservation. Miguel d'Escoto, former President of the General Assembly of the United Nations, called the initiative "the most important and concrete proposal for moving from rhetoric to deeds related to climate change". Unfortunately, the initiative failed because it was greatly misunderstood and because of questions of power: if polluting countries are wealthier and stronger, and if environmental goods, generated by "others", are freely accessible, why should they pay anything for them?

The idea of compensating ENE is based on valid environmental, economic, and efficiency principles. In the environmental aspect, in net terms, not polluting the environment is the equivalent of cleaning it. In the area of economic logic, the compensations for creating or maintaining environmental goods, which, because they are freely accessible, do not have explicit market prices, are based on the need to pay for the generation of value, and not only for the generation of merchandise. Regarding efficiency, it is fair to compensate a nation for not performing an action it has the right to perform, when this

individual action is not desirable for the planet; in other words, when it has negative externalities. In the same way, if a nation does not have an obligation to perform an action that is not desirable individually, but is ultimately good for the planet, in other words, produces positive externalities, it is fair that it should be compensated for performing that action.[5]

THE DALY TAX

The Daly tax is an **ad-valorem tax on the price of a barrel of petroleum** (Daly, 2007), which could be administered by the Organization of the Petroleum Exporting Countries (OPEC). This eco-tax should also be applied to other fuel exports, in proportion to their environmental impact. The effect would be a reduction in the demand for petroleum – and consequently, less production of CO_2, and the generation of income with which a fund could be created to pursue three objectives: first, to compensate poor oil importing nations, which must also pay this tax, by financing programs to eradicate poverty. Second, to finance the reduction of greenhouse gases through research, technological development, and the diversification of the energy matrix; and third, to finance poor nations in their efforts to prevent, mitigate, and adapt to the consequences of climate change.

The power of OPEC gives it immense opportunities to have a positive influence on the history of humanity. With the administration of this tax, OPEC could transform itself into the great world coordinator in the fight against CO2 emissions and climate change, something that, unfortunately, the UN has failed to do so far.

[5] See the seminal work and Nobel in Economics: Coase, Ronald (1960). *The Problem of Social Cost*. 3 Journal of Law and Economics: 1-44.

THE ENVIRONMENTAL DEBT

However, there is also **an environmental debt that must be paid**, although, and most importantly, we must prevent it from continuing to grow.

Here is another key idea for any debate on sustainability: **conservation, in poor countries, will not be possible if it does not create clear and direct improvements in the standard of living of the population.**

In his latest encyclical, *Laudato Si*, Pope Francis reminds us that developing countries, where the most important reserves of the biosphere are found, continue to fuel the development of richer countries, sacrificing their present and their future.

The rich world owes a debt to the countries of the South for the plundering of natural resources, bio-piracy, climate change and environmental services provided by our Amazon forest.

In turn, the nations of the South have a financial debt with the rich world. The need of foreign currency to service the financial debt increases the extraction of natural resources, to turn them into exports, generating huge social and environmental costs. The environmental debt, in the meantime, continues, not only in emissions of CO2, but also in the continued production of technological waste, due to programmed obsolescence.

Srinivasan et al., in an article published in the *Proceedings of the National Academy of Science* 2008, show that the net present value of the environmental debt that rich and middle-income countries have with poor countries is greater than the external financial debt. However, unlike the latter, the creditor of the former cannot sue the debtor to get him to pay this debt.

A condition to solve the crisis is then to have more justice in the world. There is an environmental debt that must be paid.

We must go even further and draft a Universal Declaration of the Rights of Nature, as Ecuador has already done in its new constitution. The main universal right of nature should be that it continues to exist, because it is a source of life, but also, that it can continue to offer the necessary means for our societies to achieve good living.

Here we have another key idea to avoid certain fundamentalisms: **humans are not the only important beings in nature, but they continue to be the most important ones.**

Therefore, our main response in the fight against climate change is to create the **International Court of Environmental Justice,** which should penalize all attacks against the rights of nature and establish obligations regarding the environmental debt and the consumption of environmental goods.

Nothing justifies the fact that we have courts that protect investments and force us to pay financial debts, but not to protect nature and force those who violate it to pay environmental debts. This is just the perverse logic of "privatizing the benefits and socializing the losses", but the planet cannot take it anymore.

CONCLUSION

Dear colleagues from around the world:

If in this conference we fail to achieve binding agreements as those proposed in this presentation, this could mean the beginning of the end of our civilization.

We have spoken of a world treaty that declares climate change mitigating technologies and their effects as global public goods; of

completing Kyoto, making it binding, and assuming compensations for ENE; of the Daly tax; and of the payment of the environmental debt, of the Universal Declaration of the Rights of Nature and the need of an International Court.

All this can be summarized in a magical phrase: environmental justice. Why then is it so hard to achieve? Because, as Thrasymachus said over two thousand years ago in his dialogue with Socrates, "justice is nothing but the advantage of the stronger".

But if in this summit we succeed, we will hold COP 22 with a canticle that is the first environmental manifesto, written in the year 1225 by Saint Francis of Assisi, praising the Lord, through Brother Wind and air and cloud and serene sky and all time".

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