

## **Analysis on Man's Utilitarian Relationship with Nature: Ethics and Environmental Economics**

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### **Abstract**

*This paper highlights the economic supremacy over environmental problems. Human activities are depleting the so-called "commons" given to us spontaneously by Nature and accessible for the sustainable production and use of earth's wealth. The process driving this degenerative interaction is capitalist development, both constructive and destructive: this dualism has been perpetuated for about two centuries and transforms ethical and social values into mere economic values. For Capital, the sole value is the maximization of profit: this is the great engine of this process leading to disaster. If it does not destroy the environment, it destroys itself. The environment needs care and stewardship of the common resources. I think that in our reasoning, we should rise above a purely economics-orientated approach and reading. Protecting nature means protecting ourselves. This is an awareness paper.*

**Keywords:** Air gun, anthropocene, flaring, gas flaring, fracking

### **1. Introduction**

I doubt there is anything that can express the true meaning to this scientific research better than the masterly pastoral lesson given to us by Pope Francis (2015).

We need only recall how ecosystems interact in dispersing carbon dioxide, purifying water, controlling illnesses and epidemics, forming soil, breaking down waste, and in many other ways which we overlook or simply do not know about. Once they become conscious of this, many people realize that we live and act on the basis of a reality which has previously been given to us, which precedes our existence and our abilities.

#### **1.No respect for the environment**

The starting point is the idea that the earth is not our property and we are only guests. Nevertheless, we claim the right to drill, to build and to deforest; these disgraces do not arise from our needs, but from ephemeral desires and profit. All this depletes the Earth, brutalizes it and jeopardizes the environmental equilibrium. This process goes against the care and protection of Nature. It is an undeserved attack, given the goodness and generosity of Nature itself.

However, the earth can no longer tolerate such treatment, and it in fact threatens to rebel. It is no coincidence that Pope Francis, great sensitizer of people's thoughts, in his second Encyclical "*Laudato si'*" warns "God forgives, but Nature doesn't do the same", and calls for fellowship between man and nature. If this relationship collapses, so-called natural disasters will increase. However, in reality they are not natural, but are caused by man's ill-treatment of nature. Nature is affected by continual human looting. In fact, in the last forty years a persecutory and schizophrenic attitude against nature has emerged, without any precedents. According to some recent resolutions from the UN assembly, nature "has rights", such as not being raped or looted for profit purposes. The "UN Harmony with Nature" program effectively seals this regulatory line and provides suggestions by laws and rulings to recognize these rights, to exist, thrive and evolve. <Rights of Nature is grounded in the recognition that humankind and Nature share a fundamental, non-anthropocentric relationship given our shared existence on this planet, and it creates guidance for actions that respect this relationship> (ONU General Assembly, April 2009). Thus ecosystems which are defined by a web of functional relations between different entities (plants, animals, soil, water and air), fail to conform to discrete units which can be broken into marginal changes for the purpose of economic valuation (O'Neill et al., 2010).

With the signing of the Kyoto Protocol in December 1997, the 170 member nations committed themselves to reducing greenhouse gases of 8% by 2012, but nothing has been done, *vox clamantis in deserto*. Now, to maintain the current sea level and its temperature, scientists say that by 2050 the global temperature should increase by less than 2°C. In the last three conferences COP 21 (Paris 2015), COP 22 (Marrakesh 2016) and COP 23 (Bonn 2017) the 194 Member Nations confirmed that the rise will not exceed 2°C.

Some empirical studies published in Nature Communications (Feng et al.,2015) state that from 2007 to 2013 there was a greenhouse gas (GHG) emissions decrease of 20% globally, due to the socio- economic crisis and the decrease in production, but not due to countries holding their commitments. Most regrettably China has not contributed to this improvement, since it alone emits 29% of the world's CO<sub>2</sub> (IPCC 2014). The WTO (World Trade Organization) allows it to continue undisturbed, producing enormous amounts of poor quality products, because it is still included in the programme for developing countries.

That is not enough: in December 2013 in Bali (Indonesia) agreement was reached on "Trade liberalization" by the 159 member-states of the WTO, after Cuba desisted from its threatened veto, to the delight of the region lately called "Chindia" (China and India). This trade liberalization and deregulation is facilitated by the lack of rules on the repeated, devastating drilling, overbuilding and deforestation in many parts of the planet. All these forms of exploitation are found in the poorer or rather "impoverished" countries, which are rich in resources but seeing their natural assets depleted by supranational companies through agreements, sometimes illegal, with local governments and Heads of State. This often occurs through land-grabbing, displacing previously self-sufficient farmers, impoverishing them further, not only economically, but also depriving them of the ability to start legal proceedings against such abuses.

Land grabbing is the economic phenomenon that for over a decade has been perpetuated against the poorest communities of the South in the area of neoliberal globalization. This has been denounced by "Global Justice Now"<sup>1</sup>. Big corporations, with the complicity of the World Bank, through deregulation policies, bought large areas of land – about 31 million hectares in South America, Africa and Asia – for the natural resources, but also for intensive and monoculture crops. In fact multinationals induce indigenous peoples, with no consideration of their nutritional needs, to specialize in monocultures such as the wide-scale cultivation of cocoa in the Ivory Coast, coffee in Ethiopia, tea in Kenya, peanuts in Senegal, soy and biofuel in Madagascar, rice in Tanzania, etc., at the same time manipulating the prices of agricultural products on world markets. Every four days, an area larger than the city of Rome is sold to foreign capital<sup>2</sup>.

However, returning to the problem of global warming, good policies would be those designed to eliminate the barriers to the development of renewable energy sources and to repeal subsidies for oil and gas drilling. Moreover, for areas affected by serious events, it is necessary to strengthen their resilience and secure them; but also, it is imperative to change the paradigm in agriculture. It is essential, for example, to implement precise rules on the use of pesticides, chemical fertilizers and intensive farming practices. We must promote sustainable development and also allow third and fourth world countries to participate in global economic events. Finally, soil impermeability and overbuilding prevent the appropriate organization of territory and have an irreversible effect on ecosystems, causing the recent environmental disasters that we know all too well.

All this cannot be explained by the phenomenon of farmers leaving agricultural land to move to urban areas. A striking example of the abandonment of the countryside was provided by Deng Xiao Ping's China in the early 1980s, when with the opening of foreign markets, there was an economic boom. For a five-year period we have been witnessing the opposite phenomenon: the movement from cities to the countryside, caused by environmental pollution and by the industrialized metropolis. Because employment levels have decreased, from 2010 to 2011 Chinese exports fell by half. But the government is introducing countermeasures with large public investments in infrastructure and affordable housing. Pollution in China is mainly due to sulphur dioxide, SO<sub>2</sub>, emitted by coal industries and by energy production. The country burns coal to obtain 70% of the energy produced, and it consumes about 50% of the world's total production of coal (Alcorn, 2013). Because of the concentration of PM2.5, fine dust present at levels 35 times higher than the levels permitted by the WHO, in 2013 the British journal Lancet estimated 1.2 million deaths a year, in addition to the 20% deterioration in quality of life. That's why the 11th Chinese Five Year Plan of 2006 laid down the installation of desulphurization plants in many power stations, those considered the most dangerous: The Chinese government actively follows the low-carbon development pattern and has set definite targets of reducing carbon emissions by 2030 ...

However, the achievement of the 2030 emission-reduction target is uncertain, because of existing policies, and the need for extra efforts in efficiency improvement and structural adjustment (Zang et al., 2017). In order, “To reduce these emission, we need technologies are first created in high-income countries. Thus, the challenge for climate policy is to encourage the transfer of these climate-friendly technologies to the developing world (Popp, 2011) Clean Development Mechanism (CDM). In fact, China was unwilling to commit to emissions reductions that might limit their growing energy sector, arguing that the term control should be used (Leah et al. 2016). In environmental negotiations, scholars have documented divergence in the Southern group on climate policy between OPEC and the G77, and between emerging economies and least developed countries (Barnett, 2008). At the DOHA COP in 2013 has been faced the problem of environmental loss and damage through the establishment of an international mechanism for compensation and rehabilitation under the UNFCCC (Vanhala and Hestbaek, 2016). The government enshrined the principle of loss and damage, for the first time, associated with the impacts of climate change in developing countries that are particularly vulnerable to the adverse effects of climate change (UNFCCC 2013). Moreover, on a global scale, NASA asserts that in 2015 the CO<sub>2</sub> concentration in the planet’s atmosphere exceeded the limit of 400 ppm, which led to increased migration and higher safety risks<sup>3</sup>.

## **2. Nature as a profit-producing factor**

The concept of “profit” is static in its structure and it is historically irreversible: as Karl Marx said, it represents the remunerative capacity of the owner of the means of production, but it can also take the form of shares or land profit, and even profit coming from activities based on social relations (everything is commodified), but also from various forms of relationship with Nature. The concept of environment is dynamic because the environment is inevitably dynamic in its meaning, its forms and its smells. The incessant manipulation of the environment is an easy source of earnings, but because of the greed for profit, people pay little attention to nature and seldom take care of the environment. This is an unequal relationship where one obtains an advantage from the vulnerability of the other, but inexorably, when inner mechanisms reach bursting point, such vulnerability becomes an inevitable power that develops against the manipulator and destroyer, man. To justify such devastation, the disasters generated are given the title “natural”. Nevertheless, decision-makers and political architects supporting large capital interests can deliberately continue with the extraction and burning of fossil fuels to give life to man’s frenzied activities, ready to sacrifice the delicate balance of nature in the name of profit. What is the breaking-point of earth’s resilience? It is the one we are approaching, which will give us no possibility of getting back into balance. The planet earth, in the long term, has the ability to regenerate itself, but mankind cannot. In actual fact, in the mining of fossil fuels, the pressure of highly polluting fluids used in drilling produces great environmental damage, including the risk of aquifer contamination, with repercussions on human health. A good example is what is happening in the island of Java in Indonesia. Since 2006 the Lusi volcano has been emitting large amounts of mud, resulting in the evacuation of thousands of families<sup>4</sup>. The cause may be the pressure of fluids used during drilling which causes the hydraulic fracturing of the rocks and releases the fluid contained in their pores. This practice is called “fracking”. Such practices are common especially in the US, even if they are sometimes the cause of the sinking of the Earth’s crust, so-called “subsidence”, which, in turn, can cause the opening of other volcanic vents<sup>5</sup>. These forms of extraction also cause the combustion of fossil fuel with the release of gas, flaring from oil burning towers, with the consequent production of carbon dioxide CO<sub>2</sub>, sulfur dioxide SO<sub>2</sub> and nitrous oxide N<sub>2</sub>O. It is well known that this gas, among other things, is harmful to the human peripheral nervous system and it strongly affects the development of dementia and Alzheimer’s disease. In addition, researchers from the journal “Scientific American” say that there are strong links between seismic motion and drilling activities for oil and gas and they mention several sensational cases in many parts of the world. Various government bodies, driven by the interests of large lobbies, are not far-sighted enough to choose policies supporting the use of renewable natural resources, and extract more resources than nature has to offer. Today with fossil fuels ... we take what has been built up over millions of years and we destroy it in a geological instant (Zachos, 2011). Fossil fuels are limited, but there are renewable resources that nature gives us in abundance, and their use and consumption is well integrated with human activities. Part of the debate resides in the fact that the most significant sources of conflict around natural resource management arise from the multiple managements (uses) of ecosystems, rather than from the multiple uses of ecosystem services. If the ecosystem approach or the ecosystem service paradigm is to be implemented at national levels, there is an urgent need to disentangle what are often semantic issues, revise the notion of cultural services, and more broadly, practically define the less tangible ecosystem services on which we depend.

This is a critical step to identifying suitable ways to manage trade-off and promote adaptive management (Zang et al., 2017).

On this subject, mention must inevitably be made of another form of violence perpetrated against the environment: the reduction of forests. The FAO defines a “forest” a large patch of trees with three characteristics: (a) it must cover at least 10% of the land on which it stands, (b) it must have a minimum area of 0.5 hectares, (c) the height of the trees should be a minimum of 5 meters. We know that forests absorb CO<sub>2</sub>, so they are vital for our planet. They also protect from flooding, which would otherwise be devastating, and they protect the soil from erosion. But when forests are cut down (deforestation) for speculative purposes for the precious wood or for intensive monocultures or to produce biofuel as raw material for industry, or for urban expansion or infrastructure, there is an increase in CO<sub>2</sub> in the atmosphere and as a result there is an increase in greenhouse gases (GHG) and the global warming phenomenon, therefore a decrease in the levels of biodiversity. To make matters worse, the current reforestation practices are inadequate.

Deforestation causes the release of carbon that is responsible for 15% of global pollution<sup>6</sup>. To stop deforestation it is necessary to contain the growth in demand for raw materials, which is its main cause. For this reason it is necessary to increase the productivity of already ploughed land and to steer the expansion of agriculture towards degraded areas, rather than towards forests. In the last twenty years, an area equal to France, Germany, Spain and Portugal together has been deforested (WWF).

Environmental depletion may trigger economic transition, but the structural change is likely to result regressive (Antoci et al., 2009). It's necessary a cultural business structural change. According to FAO (Food and Agriculture Organization), in the beginning forests covered 6.2 billion hectares, while today they take up only 4 billion hectares. That is about 30% less, an irrecoverable loss. When you plant a tree, you plant the seeds of peace and hope (Maathai, 2011). As regards the management and devastation of the territory, it is important not to forget the large-scale works financed by the World Bank for the construction of dams and river weirs that have cost billions of dollars in the last twenty years. For example in 1981 the dams built in India, which holds 50% of the dams planned in the world, about 22,000, of which the most expensive, “the three gorges”, cost 28 billion dollars and was completed in 2006 after 13 years. As a result thousands of villages disappeared with 1 million people transferred.

The “World Commission on Dams” has calculated that globally, there are between 40 and 80 million displaced persons due to the construction of dams, often with the intervention of bulldozers and police. The costs for the ecological and social environmental impact exceeded the benefits. Most of the advantages were inflated to adapt to the logic of profits on the capital invested by the World Bank (Shiva, 2004) which funds the majority of project. Most of these great projects have not brought any economic improvement. The energy produced is destined to great industries, there has been an increase in the burden of public debt and, in a period of hydrogeological frailty, large dams increase the climate vulnerability of poor countries<sup>7</sup>.

Every man has a specific purpose in life and the means to achieve it, but the environment must be managed carefully in order to preserve the future of our generation. The relationship between man and nature should be considered a “common good” in the sense that each of us must act with responsibility towards others and not with indifference and individualism for the “god of profit,” succumbing to the rules of money.

“Man can be happy as much as he can make others happy”, Raoul Follereau, French poet. Man, placed at the center of the universe, cannot presume to have the right to damage everything and everyone; indeed he has the duty to give and to give himself for the good of the universe in order to improve it. People talk of development and progress, but how can you conceive of this concept if you do not hand down to the coming generations a world developed from an economic, social and ethical point of view? Anthropocentrism has been supplanted by moneycentrism. The Ice Age of the soul aims to revive the art of “degenerate chrematistics”, which Aristotle called “unnatural chrematistics”, that is the art of monetizing everything, even our lives.

### ***3. Rising temperatures***

Since 1997, with the Kyoto Protocol (COP3), summits with 150 – 160 representatives from various countries around the world have been organized to discuss global warming. The initiative is laudable, but is there a real intention to save the planet before it comes to a point of no return?

During the subsequent conferences, 195 countries, those mainly responsible for global warming, agreed to reduce greenhouse gases, to avoid increasing temperatures by more than 1.5 ° C in comparison to pre-industrial levels. The agreement will come into effect in 2020 and to respect it, developing countries will receive funding of \$100 billion/yr from developed countries (climate finance) as negotiated in Copenhagen in 2009, to adapt their cities to sustainable development.

There remains a great deal of uncertainty: which political authorities will be entrusted with the transparent scientific assessment about cuts in gas emissions? And this is the problem: rich donor countries, in establishing the fund, want to control the spending of the recipient states, but the latter are in principle reluctant to accept foreign interference. This is especially true of China.

From 2007 to 2013 there was a 20% reduction in greenhouse gas emissions, but this was due to the reduction in industrial production as a result of the global financial crisis, certainly not to the initiative of States to reduce pollution and improve quality of life. The latest estimate in 2016 implemented by the European Environment Agency must make us reflect: Italy is at the forefront in premature deaths due to pollution. All states must be unanimously in favour of the agreements that are made for the reduction of greenhouse gases, otherwise these agreements will be merely “written in the sand”.

Moreover, the Italian Environment Ministry has authorized oil exploration using the “air gun” technique across the Adriatic Sea. The guns used shoot compressed air which sends reflected waves to reveal the composition of the seabed. This technique, in addition to being harmful to the feeding and reproduction of marine fauna, reducing fishing by 50% and causing the beaching of whales and dolphins, Madagascar in 2008, Australia and Apulia in 2009, Peru in 2012, violates the obligations included in the 1991 Espoo Convention (Finland) on Environmental Impact Assessment (EIA) on neighbour countries. An air-gun shot every 10-15 seconds, emits a measurable noise of 255 decibels, a billion times greater than that of a rock concert. It is interesting to know the extent of sea noise, ranging from 74 to 100 dB. Decibels are measured on a logarithmic scale, different from the metric one, that is, a factor 20 corresponds to an intensity factor of 100. Additionally, the extraction of hydrocarbons causes cavities and the seabed tends to decrease, the “subsidence” phenomenon, with catastrophic and irreversible consequences, like the loss of large coastal areas and therefore floods. Furthermore, we can foresee that large supranational companies in the extractive industry may impose diktats to continue using fossils. Considering that: (a) 81.6% of the energy consumed in the world is produced by gas, oil and coal <sup>8</sup>, (b) only 13.3% of the energy consumed worldwide is produced from renewable sources, (c) 5% is nuclear energy.

Will the planet increase its own resilience?

Rising sea levels pose a further threat. For a 1°C increase in temperature, the sea level increases by about 2 meters <sup>9</sup>, even covering large cities and fabulous atolls, the wonders of the world! It is expected that by 2050, most of the world’s population will live in large cities at sea level, with great risks. In fact over the past 100 years the sea level has risen by 20 cm and up to 2100 it is expected to rise by up to one meter (Giorgi, 2017). Furthermore, an increase in temperature also triggers an increase in the energy present in the atmosphere, which then leads to extreme weather events. Every year, 25 billion tons of CO<sub>2</sub> are released into the atmosphere, but our planet absorbs about half of it, through photosynthesis <sup>10</sup>.

It is necessary after the climate change conferences to work to remove the barriers that hinder the development of renewable sources, to abolish the funding for gas and oil drilling and to promote sustainable development, because uncontrollable growth producing only substandard goods has become unsustainable for the planet earth and above all for humanity. The earth has the capacity to regenerate itself, but humanity has not. The planet earth needs decarbonisation: the use of fossil fuels should give way to processes that use renewable energy sources.

#### **4. Anthropocenic age**

The term “anthropocene” was created in the 1980s by the biologist Eugene Stoermer at the University of Michigan, Iowa State (USA) and it means the age we live in, specifically referring to the conditions of the earth, characterized by man’s continuous and destructive manipulations. By focusing on the following literal equation, <Food: life = ecology: economy> we see the imperative that, as there is no life without food, there can be no economy without ecology; ecology embodying respect for the environment and the protection of biodiversity is an integral part of a sustainable economy.

Our planet has a well-defined function to create a habitat for complex life forms. The pulsation of the forests creates a stable balance among living beings. But while in the forests the various forms of life collaborate to keep planet earth healthy, man works to change this mechanism without caring about the consequences. According to the world's largest forest certification organization<sup>11</sup>, in order to contribute to the world economy, forests must be managed in a legal way, by observing the following parameters: (a) sustainable timber production; (b) regulation of water resources; (c) carbon absorption calculation; (d) definition of private or community boundaries of ownership on forest areas.

Researcher Brian Ficher, from the Academy of Sciences in California, is studying the change in the ecosystem, the way we are changing the forest sounds, their colors, the various life forms, even those of the undergrowth.

Basically, forests are vital to the entire planet because they absorb 25% of carbon dioxide via their leaves adjusting the climate. Since man is committed to the continuous emission of greenhouse gases (methane CH<sub>4</sub>, CO<sub>2</sub>, N<sub>2</sub>O nitrogen, water vapor), we are witnessing an extraordinary phenomenon: the biggest plants absorb more CO<sub>2</sub> and they grow faster, fixing inside their wood, large amounts of carbon compared to smaller plants. We know that 2014 was the year when the highest amount of carbon dioxide in the last 800,000 years was emitted into the air, about 40 billion tons. In 2012 it was 34.5 billion<sup>12</sup>.

Human activities that dominate ecosystems, industrialization, deforestation, combustion of various elements, as well as cementing, not only increase the amount of greenhouse gases in the atmosphere, but mainly reduce the ability of the planet to deal with this problem. We destroy more than the planet manages to produce, to the order of 6 to 4. In fact, limiting nature's regular balance is a true "environmental restraint": an anthropic oppression that, by changing the climate, turns it against man himself, who is the main culprit.

The radioactive forcing of greenhouse gases, that produces global warming, increased by 32% over the period 1990 – 2012<sup>13</sup>. The global temperature has risen by 0.8 ° C since the Industrial Revolution, glaciers and polar caps have been reduced, increasing sea level by 3 mm/yr and many cities and islands are destined to disappear. According to international agreements, the increase should not exceed 2 ° C compared to the pre-industrial age. Furthermore, the increase of CO<sub>2</sub> acidifies sea water, destroying the coral reef and the complex food chain it supports.

In Siberia, the permafrost (icy soil from the last glaciation which occurred between 18,000 and 11,000 years ago)<sup>14</sup>, occupying 1/5 of the earth's area, is beginning to melt, releasing other greenhouse gases into the atmosphere and reducing available fresh water. In 1979 the Arctic Glaciers occupied an area of 7.2 million km<sup>2</sup>, in 2016 they occupied only 4.7 million km<sup>2</sup><sup>15</sup>.

The warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased<sup>16</sup>. For millions of years, life on the planet earth has been an integral part of a single large system, in which everything works in a coordinated manner to support the various forms of life. Our planet, by a physical and natural law, is not destined to change, even if we cause disasters, and in the long term it regenerates itself and with it also its existing creatures, perhaps transformed by the "magic of evolution." Instead, we have evolved in a short time and in a short time we are destroying ourselves. Nature acts on a different time scale from ours: the earth has lived for 4.5 billion years, man for 300,000 years (Darwin).

Scientists and the few responsible governments warn us that the planet earth needs to be saved: perhaps it is not Earth that will be in danger, but mankind. We cannot seize the power to master the earth, our only duty is to preserve it and take care of it, as a guarantee of our own future.

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## **Footnotes**

- 1 . Global Justice Now, 2016, British Association that fights for social justice. In its report of 28.11.2016 this practice was called <The new scramble for Africa>.
2. International Land Coalition, report of 18.11.2012. It is an international research organization based at the agency of the United Nations, and it aims to reduce poverty and inequality for dignity and inclusion.

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