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CONCERNS AND PERSPECTIVES ON COMBATING AND MITIGATING CLIMATE CHANGE

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Abstract
Climate change is an imminent threat to the entire world and represents a change in the properties of the climate system.
The threats of climate change affect both the environment and the social and economic framework.
,,Climate change is the biggest and most massive failure to date"[1].
Climate change at the global level causes climate disturbances, the erosion of biodiversity and amplifies the effects on people's health, therefore, the climate crisis is increasingly the subject of legal regulations and correlative theoretical reflection.
We thus find the theme of climate change in numerous international documents: the United Nations Convention on Climate Change, the Kyoto Protocol, the Paris Agreement.
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1. Climate and climate change – common concern of humanity

The term ,,climate" has its origin in Greek antiquity. The word ,,climate" has been used since the 6th century BC by the disciple of Pythagoras, to differentiate five terrestrial zones, depending on the inclination of the Sun's rays on the Earth's surface.

In the 2nd century CE, Ptolemy expanded to seven climate zones based on latitude.

In modern times, the concept of climate is viewed differently. Today, climate is considered a holistic system, functioning globally through synergistic feed-back interactions.

Climate is made up of the atmosphere, hydrosphere, cryosphere and biosphere, together with all the component processes and activities.

Throughout time, the climate has been the target of many attempts at conquest, out of humanity's desire to subdue and control it. [2]

Since the climate represents a global public good, an all-encompassing legal regulation appropriate to the present is required.

Currently, taking into account the fact that climate disruption is global and its impact is highly localized, the problem of proper perception and adequate capacity to formulate reactions, on the part of all states, through the implementation of legal – legislative regulations more concrete, regarding the challenges of climate change.

The notions of ,,climate" and ,,climate changes" can be said to have several elements in common, on the one hand the cause of globality to which they refer, and on the other hand, even if the climate represents the prevailing meteorogical conditions, calculated in average for several years, a notion that belongs to the vocabulary of the natural sciences, it is also analyzed from a legal point of view, as it is subject to an increasingly relevant legal regime, at an international level, a fact that emphasizes its common conection with climate change.

The notions of ,,climate" and ,,climate changes" remain an object still imperceptible to law. [3]

Climate change tend to become the structuring factor of today's world.[4]

The problem of global warming, but also the impact of human activities on the climate is becoming more and more pronounced in the daily life of society, their consequences becoming more frequent and more intense.

In a vast and interdependent ecosystem like Earth's, any radical change in climate triggers a ripple effect on all life forms.

Global warming has its own history.[5] So, climate change is a complex issue or our time. The responsibility for protecting the climate belongs equally to all countries. Only through the construction of a non-uniform law was it possible to establish a multilateral system of action against climate change.

The qualification of the climate as a ,,global public good" allows the legal approach of the problems of its defense and conservation in the general interest.[6]

We must take responsability and accelerate change by establishing an appropriate institutional regulatory regime.

2. Legal regulations in the matter

a. The 1992 United Nations Framework Convention on Climate Change represents the fundamental tool for managing this issue. This Convention was adopted

with the aim of reducing greenhouse gas concentrations in the atmosphere to a level that would interfere with the climate system and have less disastrous consequences.

The convention was signed by 154 states who agreed that the alarming state of the planet is ,,a common concern of mankind."

In 1992 Framework Convention (UNFCCC) operated on the concept of shared but differentiated responsibility, meaning that some states had more to do than others.

The burden of responsibility for climate change rested with developed countries, as they became rich as a result of using fossil fuels and thus are already in a better economic situation with the resources and technology avaible to take action.

The basic collective obligations of all countries were: promotion of education, public awareness of climate change and cooperation between states.

b. The Kyoto Protocol [7]

Through the Kyoto Protocol of 1997, legal steps were taken to continue and implement the United Nations Framework Convention. Under this Protocol, obligations to reduce greenhouse gas emissions over a specified period have been established for developing countries.

Developing countries at the time (China, India, Brazil) still had no emission reduction obligations.

Through the Kyoto Protocol, two new elements were introduced: the collective goal of reducing carbon dioxide gases by 5% compared to the level of emissions in 1990 and an international carbon market where gas certificates with greenhouse effect.

In 2009, the Copenhagen Summit determined that the target of reducing emissions by 5% compared to 1990 was low, as China's increased technological and industrial globalization displeased the US, wich no longer wanted to be part of a treaty in which developing countries such as China had no obligations to reduce greenhouse gas emissions.

Thus, the two states, through the Copenhagen Agreement of December 19, 2009, left the previous formula, the newly assumed objective being ,,strengthening long-term concerted action" to act against climate change. [8]

We can notice a large gap between the commitments of the States Parties and the IPCC assessments (reduction, in 2050, by 50% of GHG emissions), the difficulties related

to the refusal of China and India to impose responsibility on them by the US, to reduce much more gas emissions.

The Kyoto Protocol was considered a failure, but two important things were foreshadowed: taking the initiative of global action on the US – China axis and changing the approach persepective.

c. The Paris Agreement [9] was concluded on 12 December 2015 by 195 participating States Parties at the XXI Conference of Parties (COP 21) to the UN Framework Convention on Climate Change.[10] (Decision EU 2016.1841 of Paris Ageement adopted under the United Nations Framework Convention on Climate Change).

As a structure, the Paris Agreement starts with a 16 – paragraph with 29 articles that can be divided into three parts: principles and objectives, action strategies and implementation techniques.

Through the Paris Agreement [11] , individual reduction targets were no longer imposed, separate obligations were no longer created for the different categories of states. A transparency mechanism has been establidhed [12] to ,,create mutual trust and to promote an effective implementation" of Agreement, thus it was decided that each signatory state would assume a part of the reduction (voluntarily, as it considers).

Romania is represented by the EU in the Paris Agreement. The Eu has committed to reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990.

Romania generates 3% of the total EU greenhouse gas emissions.

There is an intense global race between countries, states and companies, at the declarative level, on the urgency with which climate change warnings must be treated.

Each of these aims to reduce gas emissions as much as possible to 0. But what are the consequences of these commitments?

Article 15 of the Paris Agreement provides for the existence of an Evaluation and Implementation Committee with the role of evaluating the performance of states, warning and formulating recommendations.

To date, none of the biggest emitters of greenhouse gasess – China, India, the US, the EU – have reduced their emissions enough to meet the targets of the Paris Agreement.

Therefore, there are no clear consequences for non-compliante with obligations, no fines, embargoes or other coercive forces to ensure the correct implementation of the commitments assumed, so emit greenhouse gases at alarming trates knowing that there are no clear sanctions against them.

3. The need to adopt measures to adapt to the inevitable consequences of climate change

All of humanity is already living under the effect of climate change, a change that will increasingly affect all socio-economic sectors in the future.

The pace of change is very fast and, in addition to efforts to reduce greenhouse gas emissions, efforts to adapt to the changes already produced are also necessary.

Already, globally, human-made climate change has caused widespread negative effects and significant damage to nature and human society (IPCC, 2022).

Ecosystems are close to the limits of their natural adaptive capacity, and many more will soon reach their limits due to intensification of global warming.

The scientific community in the field of studying climate and assessing its impact on natural and human systems has the responsanbility to generate and transfer scientific knowledge as quickly as possible, so that society is informed in time, to be able to plan and assume a socio-economic development, in order to reduce the potential costs of the effects of climate change.

In February 2021, a new EU adaptation strategy was presented. This strategy pursues three main objectives and proposes a series of actions to achieve them.

The first objective concerns smart adaptation by improving knowledge and managing associated uncertainties and strengthening and expanding Climate – ADAPT as a European platform for scientific knowledge of adaptation.

The second objective aims at systemic adaptation by supporting policy development at all levels and all relevant sectors.

The third objective of the EU strategy concerns the speed of adaptation.

In the futur, climate change will influence the frequency and intensity of natural phenomena (floods, heat waves, droughts, etc), increasingly affecting the dynamics and services of ecosystems, people’s lives and their material goods.

Therefore, the consequences of climate change will become more and more serious both at the socio-economic level and on the environment.

In order to protect ourselves to some extent from the effects of climate change, we need an adaptation to them. Adaptation to the effects of climate change is the ability of natural and anthropogenic systems to respond to the effects of current or future climate change, including climate variability and extreme weather events.[13]

The first step in the adaptation process is to assess current and future climatic and socio-economic conditions. For this stage, climate monitoring systems are need to permanently collect observations, which will later be used in the analysis of the current state of the climate and the estimation of future ones, not only globally, but also regionally or locally.

There is also a need for the development of databases that can be coupled with climate information to assess risks and opportunities related to climate variability and change.

The goal of adapting to climate impacts is to reduce potential damage, take advantage of opportunities, and react appropriately and concretely to them.

The severity of the effects of climate change varies from one region to another, depending on exposure, socio-economic development, natural and human adaptive capacity, health services and disaster monitoring mechanisms. Adapting to the consequences of climate change is a complex process.

The measures that humanity will take to adapt to climate change will maximum benefit from the positive effects generated by the global warming process.

A Climate Change Adaptation Mission has been established at EU level, which focuses on supporting EU regions, cities and local authorities in their efforts to build resilience against the impact of climate change (Climate – ADAPT). [14]

For effective adaptation, it is necessary to take measures to prepare and adapt both to the current effects of climate change and to the impact they will have in the future.

Our way of life must change, we must step up action to reduce greenhouse gas emissions, but we must also strengthen our resilience.

Even if measures were taken by the countries of the world to reduce the effects of greenhouse gas emissions, according to the Paris Agreement, we still remain on an

upward trend of global temperature increase (increase of more than 2 degrees) until the end of this century.

Adaptation actions will take decades to be implemented, so it is vital that regional and local authorities and communities act now with maximum urgency and responsibility to prepare for the inevitable effects of climate change.

Romania will also have to adapt to a new climate order, along with the whole world. It is a challenge, but also a chance we have in the fight against climate change.

According to recent studies, the climate changes that affected Africa several million years ago may have influenced the evolution of our ancestors.

Evidence of very rainy episodes have been identified in the sediments of African lakes in the east of the continent, episodes that concide with key stages in the evolution of hominids.

Only by looking into the past of our species can we better intuit the paths of success in the future. In the conditions of the new climate changes, communication and cooperation can be adaptation mechanisms to ensure our evolution.

Adapting to life in a changing climate involves reducing risks related to the harmful effects of current or future climate change.

People can adapt to climate change by reducing their vulnerability to its impacts, such as moving to higher ground to avoid flooding, planting new crops that will thrive in yhe new climate, planting trees in cities and on deforested land or the use construction technologies, represent adaptation strategies.

Conclusions

Climate change is no longer a future scenario, it is happening now, all over the world.

We can say that climate changes is no longer harmless statistics of scientists, it represents a real danger to our life and health.

The climate crisis is the defining challenge of our generation. So the challenges are immense, but we also have reason to hope for a better future in terms of combating climate changes.

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