

Climate Change and Food Security: The Legal Aspects with Special Focus on the European Union

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Abstract—Dangerous of climate change is now global problem and as such has a strategic priority also for the European Union. Europe and European citizens try to do their best to cut greenhouse gas emissions, moreover they substantially encourage other nations and regions to follow the same way. The European Commission and a number of Member States have developed adaptation strategies in order to help strengthen EU's resilience to the inevitable impacts of climate change. The EU has long been a driving force in international negotiations on climate change and was instrumental in the development of the UN Framework Convention on Climate Change. As the world's leading donor of development aid, the EU also provides substantial funding to help developing countries tackle climate change problem. Global warming influences human health, biodiversity, ecosystems but also many social and economic sectors. The aim of this paper is to focus on impact of climate change on food security. Food security challenges are directly related to globalization, climate change. It means that current and future food policy is exposed to all cross-cutting and that must be linked with environmental and climate targets, which supposed to be achieved. In the 7th EAP —The new general Union Environment Action Program to 2020, called “Living well, within the limits of our planet” EU has agreed to step up its efforts to protect natural capital, stimulate resource efficient, low carbon growth and innovation, and safeguard people's health and wellbeing—while respecting the Earth's natural limits

Keywords—Climate change, EU law, food policy, food security.

I. INTRODUCTION

ACCORDING to the 5th Assessment Report presented by the Intergovernmental Panel on Climate Change in March 2014, climate change is already having substantial and widespread impacts - such as: droughts, floods, hurricanes - which are being felt on all continents of the world and across the oceans. Global warming is already having serious consequences for human health, biodiversity, ecosystems and the goods and services they provide, as well as for many social and economic sectors, including agriculture, tourism, and energy production. Droughts and heat waves and other extreme climatic events have already affected the crop productivity during the first decade of the 21st century and yield variability is expected to further increase in the future throughout Europe [1]. Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread direct and

indirect impacts on natural and human systems, such as human health, food security and security of societal conditions. In this regard, the mitigation of climate change mainly by the reduction of greenhouse gas emissions is of fundamental significance. The aim of this article is to show that both climate change and food security are global problems to solve which the international cooperation is needed. We assume that the problems nowadays already experienced in tropical and subtropical countries might soon enter into Europe as well and the citizens should be prepared for that. One of the problems to be faced soon is the food security.

II. INTERNATIONAL AND EUROPEAN UNION PERSPECTIVE

The first attempts to combat climate change were taken up at the international level. The United Nations Framework Convention on Climate Change (UNFCCC), called also a “Climate Convention”, entered into force in 1994. It set an overall framework for an intergovernmental effort to tackle the challenge posed by climate change. The UNFCCC recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. Under the Convention, the governments share information, launch strategies for addressing the greenhouse gas emissions and cooperate in preparing for adaptation to the unavoidable impacts of climate change. The ultimate decision-making body of the Convention is the Conference of the Parties (COP), which meets every year to review the implementation of the Convention. The long-term objective of the UNFCCC is to „stabilize atmospheric greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” The Convention is supplemented and strengthened by the Kyoto Protocol.

Adopted in 1997, the Kyoto Protocol is an international agreement linked to the UNFCCC, which commits the participating developed countries by setting internationally binding emission reduction targets. The Kyoto Protocol entered into force in 2005. Its first commitment period ended in 2012.

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The following paper constitutes a part of the research conducted within the framework of the project funded by the grant no. 2014/15/D/HS5/02678, financed by the National Science Centre of Poland.

A number of countries, as well as the European Union (EU), agreed to take on mitigation commitments until 2020 for a second commitment period running from 2013 to 2020. The Kyoto Protocol provides a further framework for action. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities." According to the United Nations, during the first commitment period, thirty-seven industrialized countries and the European Community committed to reduce GHG emissions to an average of five percent against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18 percent below 1990 levels in the eight-year period from 2013 to 2020. Under the Kyoto Protocol, parties must meet their targets primarily through national measures. However, the Protocol also offers them an additional means to meet their targets by way of three market-based mechanisms which are: International Emissions Trading, Clean Development Mechanism (CDM) and Joint Implementation (JI). [2] These mechanisms help to stimulate green investment and help Parties meet their emission targets in a cost-effective way.

In 2015, at the Paris climate conference COP 21, 197 countries finally adopted a universal climate change agreement [3]. The main objective of the Paris agreement was to bind nations together into an effective global effort to reduce emissions rapidly enough to chart humanity's longer-term path out of the danger zone of climate change, while building adaptation capacity. The Parties agreed a long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels. To achieve this goal, they should come together every five years to set more ambitious targets as required by science and to report to each other and the public on how well they are doing to implement their targets.

The Paris Agreement builds upon the Convention. What is worth mentioning, the Agreement brings all parties into a common cause that is to combat climate change and adapt to its effects. It offers support to developing countries in achieving the goals. As such, the Paris Agreement charts a new course in the global effort to combat climate change. The Paris Agreement's central aim is to keep a global temperature rise this century well below 2 degrees Celsius above the pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

Additionally, the Agreement aims to strengthen the ability of all countries to deal with the inevitable impacts of climate change. Obviously, to reach these ambitious goals, several conditions need to be fulfilled. Firstly, appropriate financial flows must be granted. Secondly, it is essential to set a new technology framework. Finally, an enhanced capacity building framework should be put in place, supporting action in the developing countries, in line with their own national objectives. The Paris Agreement entered into force on 4 November 2016.

Undoubtedly, preventing dangerous climate change is one of the key strategic priorities for the European Union as well. The EU has long been a driving force in international negotiations on climate change and was instrumental in the development of the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. Europe is working hard to cut its greenhouse gas emissions substantially while encouraging other nations and regions to do likewise [4]. A comprehensive package of policy measures to reduce greenhouse gas emissions has been initiated through the European Climate Change Programme (ECCP). Each of the EU Member States has also put in place its own domestic actions that build on the ECCP measures or complement them. A set of binding legislation was adopted to ensure that the EU meets its climate and energy obligations. The package sets three key targets: 20% cut in greenhouse gas emissions (from 1990 levels), 20% of EU energy from renewables and 20% improvement in energy efficiency. The EU is taking action in several areas to meet the targets by 2020. The EU's key tool for cutting greenhouse gas emissions from large-scale facilities in the power and industry sectors, as well as the aviation sector, is the EU Emissions Trading System [4]. The ETS covers around 45% of the EU's greenhouse gas emissions. In 2020, the target is for the emissions from these sectors to be 21% lower than in 2005. The EU ETS establishes a scheme for greenhouse gas emission allowance trading within the Community (hereinafter referred to as the 'Community scheme') in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner. The national emission targets are set in the Effort Sharing

Decision [5]: Decision sets the minimum contribution of Member States to fulfil the greenhouse gas emission reduction commitment of the Community for the period from 2013 to 2020. It also rules on making these contributions and for their evaluation. This covers the sectors not in the ETS—accounting for some 55% of total EU emissions—such as: housing, agriculture, waste and transport (excluding aviation). A common framework for the promotion of energy from renewable sources was established by the Renewable Energy Sources Directive [6].

The Directive lays down mandatory national targets for the overall share of energy from renewable sources in gross final consumption of energy and for the share of energy from renewable sources in transport. It also sets rules relating to statistical transfers between Member States, joint projects between Member States and with third countries, guarantees of origin, administrative procedures, information and training, and access to the electricity grid for energy from renewable sources. It establishes sustainability criteria for biofuels and bioliquids [7]. Unfortunately, the number of countries that consistently try to reduce their greenhouse gas emissions is relatively small. International Commitments in the Second Commitment Period of the Kyoto Protocol have been received only from Australia, the European Union and some other European countries. Meanwhile, the time for effective measures is running out. In this respect, taking up adaptation measures is essential.

The EU Strategy on adaptation to climate change was adopted by the European Commission in April 2013. It is supposed to set out a framework and mechanisms for „taking the EU's preparedness for current and future climate impacts" to a modern level. The international community has agreed that global warming must be kept below 2 degrees Celsius compared to the pre-industrial temperature, in order to avoid the most serious risks of climate change.

III. FOOD SECURITY

Food security is associated with a physical access to food and such definition was for the first time advanced during the World Food Conference by FAO in 1975. The conference keynote read "for everyone any time." It was in Rome 1996 during the World Food Summit that another step was taken forward for an appropriate level of food safety to receive its due consideration. The same summit also witnessed commitment to reduce by half the number of starving people till 2015. That objective, unfortunately, was finally not attained. The establishment of FAO strategic framework for the years 2000-2015 involves linking food safety with the rights of future generations (FAO 2000-2015). Studies show that there may exist almost 200 definitions of this term. Yet, FAO's definition is assumed to be the one currently shaping narration in this field [8]. Pursuant to the foregoing, food security builds up on three dimensions: disposability, availability, adequacy [9].

Disposability means having appropriate amount of food for the entire population at any time. It is thus to be understood as an unlimited supply of food, and adequacy as a balanced feed. The latter dimension is to a large extent realized in the initiatives adopted to ensure food safety, the concept being of a narrower scope. The food crisis of 2008 made everyone aware how unstable the sense of food security is. Natural disasters, improper political systems and internal conflicts are to blame for the absence of food security.

Literature on this subject shows attempts to define the term of food security by depicting its reverse nature, or for that matter, the absence of such security – food insecurity. Yet, it needs to be expressly emphasized here that famine does not result from an insufficient production of food as there is an adequate amount of food produced to secure food for the whole world community [10]. Famine is in fact a consequence of poverty and natural disasters that affect people specifically from the poor countries of the south. There are approximately 900 mln people who suffer from hunger in the world, majority of them living in Asia and Africa. The overwhelming figures and statistics in this respect may be viewed from a variety of perspectives, with human rights being one of them.

This lead us to the very crucial question; can we speak about right to food in the context of a much broader discussion on the universalism of human rights. How is it plausible that in the global world where food has become a global product and technology has contributed to the increase in the production of plants, animals and their improved resistance to diseases, and when increasingly more food transport possibilities have been appearing, we cannot or are not even able to reduce hunger? It begs the question whether the creation and promotion of such

right that many entities seem currently unable to realise aren't merely a form of utopia, or put more bluntly – a fraud?

IV. RIGHT TO FOOD

It may certainly be highlighted that the right to food was proclaimed in the acts of international law as well as in the constitutions of a number of countries. Discussion should thus open up with the Universal Declaration of Human Rights, which under Art.25 provides that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food/.../". From the normative perspective, the Covenant on Economic, Social and Cultural Rights, which under Art.11 defines the right to food, carries a fundamental significance. It is also worth noting that a closer study shows that the same provision does apparently determine two rights [11]. On the one hand, it stipulates the right to an adequate standard of living, including food, while on the other hand, para 2 of this Article recognizes the right of everyone to be free from hunger. Since the right to food is a very complex term, we might lean towards the determination that both elements in fact make up one right, with the right to be free from hunger seen here as a mini-mum standard and the right to adequate food seen as an elementary standard. References to or definitions of the right to food also appear in other international documents. FAO terms the right to food as an individual, fundamental right of access to adequate food.

In compliance with FAO's interpretation, state governments cannot deprive anybody of such right. They are compelled to protect everyone from its infringement and to support everyone in exercising this right [12]. In 2004, the FAO Council adopted also „voluntary guidelines to support progressive realization of the right to adequate food." During subsequent summit in 2009, in the context of a deteriorating food situation in the world brought about inter alia by noticeable climate changes, FAO's member states once again made a decision to eradicate hunger, specifically by stepping up and increasing assistance to the agriculture of developing countries. Legal analysis places special emphasis on the adopted in May 1999 elaborate commentary to Art.11 of the Covenant- General Comment No.12 on the right to adequate food. Its introduction underlines that its central premise is to establish certain elementary interpretative mechanics pertaining to the right to food. There are a lot of international institutions which have contributed to the development of human right to adequate food. The right to food has been acknowledged and recognised by a significant number of states. Notwithstanding the fact that in a number of states constitutional standards do not correspond directly to the right to food, the right in question derives from other human rights, inter alia, the right to life. This is an example of UE, which has Charter of Fundamental Rights, in which the right to life is one of fundamental one. However, in the EU food security must be view through the lens of EU's aims.

V. FOOD SECURITY IN EU POLICY

Looking from the broad perspective of food security at the types of actions EU undertakes, we may notice certain activity.

Said activity expresses itself through accepting and passing numerous documents that show most appropriately diagnosed reasons for the existent state of affairs as well as formulated postulates to realise. They are, for the most part, acts of so called soft law which in principle are not binding, but through which the institution strives to bring about definite effects. Resolutions adopted by EU institutions, in particular European Parliament enable to take a political stance on an international level. Not binding as they seem to be, they may virtually prove helpful in the interpretation of the EU law. Soft law acts are made up by an array of conclusions, declarations, resolutions, recommendations passed in order to exert an influence on certain attitudes and actions. The foregoing acts address Member States which are expected to step up cooperation, commitment and contribution in and to a concrete field. Similar nature is shown by the Commission's communications where the same institution takes a stand on certain issues, expresses its own opinion or presents its resolution proposals. Other acts coming from the Commission are Green and White Papers: the former issued to start public consultations on important EU matters before the preparation of a legislative proposal, the latter sets forth EU priorities for several years and modes of their realisation.

In respect of food security, EU's commitment consists in the issuance by its institutions acts of soft law. Singling out the most paramount ones for the purposes of the present subject, it is necessary to point at the White Paper on "Adapting to climate change: Towards a European framework for action" [13], the communication from the Commission to the Council and the European Parliament on "EU policy framework to assist developing countries in addressing food security challenges" [14], European Parliament Resolution of 27 September 2011 on "EU policy framework to assist developing countries in addressing food security challenges" [15], the European Parliament Resolution of 30 April 2015 on "Milano Expo 2015: Feeding the Planet, Energy for Life" [16], the European Parliament Draft Resolution of 4 May 2016 on the next steps towards attaining global goals and EU commitments on nutrition and food security in the world [17]. Unfortunately, a number of adopted solutions are merely soft instruments that for their effectiveness require much deeper contribution on the part of quite a number of entities.

It seems that EU as an international organisation, with its specifically and remarkably integrated law in the underlying field, should take much stronger and more definitive steps in pursuance of the principle of solidarity. Solidarity has been perceived as an idea that should capture and reflect as far as possible the sense behind all integrating actions between the European peoples and states on the institutional and substantive law level, thereby becoming synonymous with 'common interest', or 'common good'. This way of thinking is essential if we wish to take the next step. EU efforts to face up to one of the major challenges of a global world, which is ensuring food security through the application of law instruments probably will start with the reform of agriculture policy.

Agriculture is more vulnerable to climate change than many other sectors. Furthermore, in agriculture, there is an inevitable

time gap between farmers efficiency and consumer demand. The above shows agriculture as a very multidimensional subject.

So far, we can only look at the objectives of the new Common Agriculture Policy (CAP) which provide a coherent set of interventions that address two challenges simultaneously: 'greening the agriculture sector' and ensuring food security [18]. Discussions on the future of the post-2013 CAP had begun in Parliament in the year 2010 with MEPs resolution, where new priorities for the new CAP for the 21st Century were established: food security, fair trade, maintaining farming activity across the whole of Europe, food quality, preserving biodiversity and protecting the environment. Meanwhile EP also adopted the resolution on: Recognition of agriculture as a strategic sector in the context of food security [19].

Take a closer look at what EP was aimed to tell us, we might be positively touched by the institution's awareness of that global issue- food security. Although we speak here only about soft laws, it must be underlined that by said acts EP triggered the discussion on food security in European public sphere. Whereas in its Resolution of 8 July 2010 on the future of the CAP after 2013 the European Parliament (EP) laid the foundations for a sustainable agricultural, the Resolution of July 2011 connected the agricultural sector with climate change. EP has pointed out that the agricultural sector has a crucial role to play in the fight against climate change, in particular by reducing its own greenhouse gas emissions. In the resolution concerning agriculture and food security EP explicate declare that: 'ensuring food security for Europe's citizens, providing consumers with healthy and high-quality food at reasonable prices, and safeguarding farm incomes have been the core objectives of the Common Agricultural Policy [20].

VI. CONCLUSION

Undoubtedly, climate change poses great risks to human health, the natural world and the economic development of the modern societies. More and more regions are vulnerable to climate change and tackle with the problems of food and fresh water scarcity, and what bothers now the tropical and subtropical countries might soon be noticeable in Europe. The above considerations lead us to several conclusions. First of all, we believe that in order to combat climate change, further international co-operation of both the international organizations and the member states is needed. International action to reduce greenhouse gas emissions will therefore be more than needed for the nearest decades. Nevertheless, the negative results of climate change will increase in future due to delays in action of past generations. Secondly, it is clear that the efforts taken to mitigate climate change are not enough. In order to create „climate resilient society”, adaptation strategies are needed at all levels of administration: at the local, regional, national, EU and also the international level. Europe and other parts of the world therefore have no choice but to take adaptation measures in order to deal with the unavoidable climate impacts and their economic, environmental and social costs. Finally, we conclude that the soft law instruments are not enough. In the context of food security, it must be stressed that

climate change may contribute to increasing of food-borne diseases, toxins in food and also in the appearance of new diseases not traditionally associated with the region. Like climate change itself, food security management requires a collaborative approach at international level. The direct climate change risks faced by the agricultural sector are also risks to business and food supply chains. It is therefore necessary to support resilience at all levels - from farm to fork.

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