

## CRIMINAL CLIMATOLOGY AS A TOOL FOR IDENTIFYING CIVILIZATIONAL THREATS OF PATHOLOGICAL ORIGIN - FOR EXAMPLE, "WARS FOR WATER"

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### Abstract

The present study is devoted to the problems of climate change forensics. Within its framework, the issue of the so-called wars for water, i.e. various types of problems related to the claims of states, social groups and individuals for access to water intakes, was taken up. This is undoubtedly one of the innovative issues analysed within the framework of ecocriminology. The title issue is analysed from national, regional and global perspectives. The authors of the study analyse and synthesize the existing scientific achievements of ecocriminology, with particular emphasis on criminal problems related to various claims for water. It should be emphasized that research in this area has so far been undertaken almost exclusively within the circle of Anglo-Saxon criminology. The gap in Polish criminological literature is filled by representatives of the Olsztyn School of Ecocriminology. At the same time, the authors of the article try to answer the question of whether there are relations between climatic and weather phenomena and criminal and pathological behaviour.

### INTRODUCTION

Pathological and also often criminal phenomena of climatic origin have been recorded in the area of criminological interest for a long time. Using the terminology proposed, among others, by H. Welzer, it can be described as "climate wars" (Welzer, 2015). In practice, they take the form of competition for land, access to supplies, food and, in particular, to water. It should be remembered that global demand for water has increased significantly. One of the main reasons for this is that the world population has grown from 3 billion in 1960 to almost 7 billion today. According to demographers, by 2050 the Earth will be inhabited by about 9 billion people. The demand for water in industry and households in the growing metropolitan areas, as well as the amount of water needed to irrigate the growing fields, is also growing at a dangerous rate. In addition, long periods of drought linked to climate change are becoming increasingly frequent.

In California, as a result of prolonged droughts, farm owners are forced to draw water from underground sources in order to maintain production continuity. However, increasingly often new water intakes are located in areas under strict environmental protection. As a result of these illegal investments, rivers are drying up and forests are dying out. For example, in the Huelva area, the river has lost almost half of its water in recent years due to illegally excavated wells. Some of these intakes draw water from a depth of 360 metres. This means that the existing underground sources are running out and their uncontrolled exploitation threatens to cause an ecological catastrophe (Becker, 2014). The fires that have caused huge losses in California in recent years have further exposed the problem of access to water intakes, this time associated with extinguishing fires in the affected areas.

### **THE CLIMATIC CONTEXT OF CRIMINOLOGY**

Climate issues can be seen primarily in the research of those criminologists focusing the significant impact of environmental conditions on crime (White, 2008a, Levy & Paz, 2015, Sasaki & Putz, 2009). The clearest evidence of this philosophy of thinking can be found in sociological directions. It should be pointed out, however, that even representatives of criminal anthropology did not question the role of climatic factors in the aetiology of crime. C. Lombroso confirmed their importance, assuming that crime may also have an environmental and, therefore, climatic (weather) basis (Hołyst, 2009).

Undoubtedly, representatives of environmental criminology had a significant influence on the undertaking of criminological research relating to the relationship between climate and crime. The creation and development of this direction in the 1970s is primarily due to C.R. Jeffery and O. Newman. They put particular emphasis on the problem of the darker number and the geography of crime, which in criminology was a break with the existing research views which were oriented exclusively towards the perpetrator and the motives of his actions (Schneider & Kitchen, 2007). Newman considered that certain features of the land-use plan were conducive to committing crimes. According to him, the space should be characterised by territoriality, proper supervision, harmony and order, which ultimately leads to a greater sense of security (Newman, 1972). The increasing infiltration of some species of wild animals into urban space as a result of mass appropriation of habitats by man confirms that violent civilizational (environmental) and climatic changes imply new threats.

New Orleans, among others, became an intense area of research for criminologists related to the disorganization of social relations in large cities caused by a climate-based disaster. After the severe losses suffered by the city and its inhabitants as a result of Hurricane "Katrina", not only Americans, but also the entire international community, was forced to reassess their perception of the problem of global warming (White, 2008a).

The above facts confirm that Newman may also be of particular importance for the development of research into so-called "climate crime". Abstracting from its "urban" context, of course, the author points to a number of mechanisms giving rise to pathology, which can be successfully applied to the problem of so-called environmental crime. To some extent, the theoretical achievements of environmental criminology fit the new research direction: "green criminology" (South, 1998).

The contribution of green criminologists to an in-depth understanding of the climate-crime relationship is extremely valuable. It should be remembered that the term “green criminology” is associated primarily with the achievements of the British criminologist M. J. Lynch, who used it for the first time in 1990 (Lynch, 1990, Lynch & Stretesky, 2003). The achievements of the pioneers of green criminology made it possible to formulate basic tasks for this newly emerging sub-discipline of criminology. These include:

- confirming the existence of green crimes in any form, developing their typologies and identifying the differences between them,
- defining the framework for the different areas of interest of the new sub-discipline,
- exposing the problems of social diversity against the background of green crimes,
- evaluating the participation of the so-called green social movement in the implementation of social changes.

In the area of research interests in green criminology, there are four main categories of crimes related to human interference in natural land resources. These are: air pollution, deforestation, violation of rights and destruction of animal habitats threatened with extinction (Pływaczewski, 2010) and water pollution (Narodowska & Duda, 2013).

Undoubtedly, the most dangerous phenomena which threaten the natural resources of the environment and have a negative impact on the climate should be included:

- commercial logging of forests (especially primary forests),
- pollution of land, water and air through the activities of international corporations, as well as privatisation of these areas,
- poaching of endangered animals and unrestricted acquisition of protected species of fauna and flora and their derivatives, including industrial fishing,
- wars and armed conflicts in areas considered to be of particular natural value,
- unlawful use of valuable natural areas for investment purposes;
- mass tourism oriented towards the acquisition of rare animal species or their derivatives,
- established stereotypes related to the traditional perception of the environment as a space with unlimited resources,
- corruption among police officers, border services, nature park guards and health inspection staff,
- international conflicts between companies with rich natural land resources, leading to environmental crime,
- animal abuse,
- illegal trade in waste and other waste products (Pływaczewski, 2011).

Most of the presented criminal phenomena definitely have a transnational dimension, and thus fall within the framework of the eco-global criminology proposed by R. White (White, 2008b).

The presented list of research interests is systematically enriched with new categories of “green” crime. These include the problem (raised by R. Walters) of genetic modification of particular edible plants species (Walters, 2011).

A. Brisman and N. South propose a slightly modified perspective on green crimes. In their opinion, cultural aspects are extremely important for understanding the essence of these crimes, as well as the inclusion of green criminology as a separate field of research. These criminologists refer to this research perspective as “green cultural criminology” (Brisman & South, 2014).

It is also undeniable that in the area of criminological interests, especially in the area of green criminology, climate issues are beginning to play a significant role, which inevitably leads to the emergence in criminology of a new sub-discipline called “criminal climatology” or “climacriminology” (Pływaczewski, 2017).

In addition, the global sourcing of food products by large multinationals often takes on the character of so-called “white collar crime” (Frank & Lynch, 1992, Salinger 2005).

Green criminology research is supported by the Green Criminology Working Group. Criminologists in this field focus, among others, on the problem of environmental damage perceived from the perspective of multinational industrial concerns. Undoubtedly, this damage, which often takes the form of major environmental disasters, is the main cause of forced migration.

One of the leading research problems in the field of green criminology is the issue of climate and ecological (environmental) refugees (Wortley & Mazerolle, 2008). This phenomenon, among others, is an effect of global warming, which is inextricably linked to the protection of the world’s natural and cultural heritage (Pływaczewski & Gadecki, 2015).

In 2008, experts in green criminology pointed out that global temperature increases, rising sea and ocean levels and weather changes can lead to: wars over water resources, escalation of environmental refugees, increased tensions and ethnic conflicts, border closures and aggressive protests against the biggest polluters (Abbot, 2008).

## **CLIMATE CHANGE AND MIGRATION**

According to the Intergovernmental Panel on Climate Change (IPCC), the number of climate refugees will exceed 250 million by 2050. This means that the international community must speed up work on determining the legal status of international climate refugees. Although this problem was raised at the Paris 2015 Climate Summit, this category of refugee has not yet been covered by the 1951 Geneva Convention. Another challenge for international law researchers will be to address a new issue arising from climate change, namely, the need to define a legal framework for territorial and state continuity. The problem is particularly acute for those countries that will cease to exist as a result of rising sea and ocean levels (de-territoriality). A second consequence of these processes will be the problem of the nationality of victims of climate change. For residents of some archipelagic countries, it is possible to accept passports from neighbouring countries. Such a fate probably awaits, among others, the citizens of Nauru, to whom Australia has guaranteed humanitarian and legal assistance in the event of the disappearance of that country. A similar declaration was made by the Fijian authorities, providing future care for the Tuvalu residents (Mazur & Szostak, 2008). Currently, in these territories, the problem of access to clean water is becoming a major existential challenge. This is because the rise in the level of oceanic waters causes the penetration of salt into intakes of drinking water. This may mean that, in the near future, island populations will be completely deprived of these basic sources of supply.

The serious consequences of cutting off access to water can be seen on the example of Syria. Experts believe that one of the main causes of the Syrian conflict was the dramatic water scarcity caused by decades of droughts. In their opinion, extreme climate change has forced millions of farmers to migrate from rural to urban areas. During the so-called "Arab Spring" these refugees were the social group most dissatisfied with the previous governments. As a result, some of them joined rebellious anti-government groups, while others, forced to flee their former homes, tried to migrate to Europe. According to data from the United Nations Office on Drugs and Crime (UNODC), the source of forced population movements in many countries on all continents is the unfair distribution of income derived from the exploitation of minerals and other natural resources in demand in the world (Fooner, 2013).

Climatologists have also signalled that some species of plants and animals are dying out as a result of global warming. At the same time, they point out that this phenomenon is the responsibility of large global corporations that emit greenhouse gases. Climatic exodus can affect not only people but also flora and fauna. Although there is a chance to move some communities and even whole nations to safe areas of our planet, the problem of conservation of wild species of fauna and flora for posterity still remains unresolved. Therefore, the prospect of the annihilation of these species as a result of the rise in the level of the Pacific Ocean waters is so real and imminent that the governments of some island states, such as Kiribati, Tuvalu, the Marshall Islands and the Maldives, are considering how to relocate not only their citizens, but also some of the so-called flagship specimens of the natural world. Countries at risk of sinking believe that they have become the victim of the reckless policies of large multinationals that deliberately violated global restrictions on greenhouse gas emissions (White, 2008a).

The undisputed effect of the melting of the Arctic and Antarctic ice caps is flooding urban areas and, as a consequence, an increasing incidence of climate (ecological) refugees. The effects of these catastrophes primarily affect the poor. This regularity was scientifically confirmed, among others, by John R. Logan based on the example of hurricane "Katrina", which destroyed New Orleans. Around 46% of the destroyed parts of the city were inhabited by the poorest citizens, mainly Afro-Americans (Welzer, 2015).

## **COMPETITION FOR WATER RESOURCES**

Increasingly, access to water is the cause of escalating conflicts. In the face of rapid climate change, especially repeated droughts in Africa, water is becoming one of the most sought-after raw materials. In the near future, the management of water sources will be the subject of serious disputes, both between states and individual communities. The seizure and destruction of water intakes, as is often the case in Africa, is often treated by the warring parties as one of the methods used to weaken the opponent and force him to leave the disputed territories together with the civilian population living there. During the Darfur conflict, one of the forms of struggle was taking over, destroying and poisoning water intakes.

It should also be recalled that in the 1960s, the Israeli air strike after the Syrian attempt to divert the Baniyas River (one of the sources of the Jordan on the Golan Heights) and the Arab attacks on the Israeli National Water System project were the cause of the Six-Day War. Today, after years of drought and growing population, the Jordan River is once again becoming a

source of conflict between Israelis, Palestinians and Jordanians. According to the chronicles of global wars, out of 37 armed conflicts over water since 1950, 32 took place in the Middle East. Almost thirty of them concerned the Jordan River and its tributaries, which provide millions of people with water to drink, wash and irrigate crops.

Repeated practices in the world of mutual "diversion" and water theft are also nowadays a source of serious conflicts in other parts of the world. It is likely that the poor countries of Central Asia, a large part of whose territory is occupied by glaciers (Tajikistan, Kyrgyzstan), may in future cut off the supply of water to their oil-rich neighbours. This problem also arises in East Africa, as many countries in the region capture the waters of the few rivers on this continent, building dams and huge reservoirs. An example is the dispute between Namibia and Botswana over the waters of the Okavango River. Another area of conflict over water may be the borderland of Laos, Cambodia, Thailand and Vietnam. These countries rival each other in the development of their energy infrastructure. The border waters of the Mekong River are the main source of energy. The location of large water dams on this river limits the natural course of the river and, at the same time, adversely affects the development of aquatic organisms, which are the main source of supply for the coastal population. Equally symptomatic is the long-standing Egyptian-Sudan dispute over the use of Nile waters. All the more so as the Egyptians consider the Nile to be their sole property, and also holiness, while referring to their ancient Egyptian roots. Mutual claims to watercourses flowing from the Himalayas have also been filed by India, Pakistan and China.

The Turkish programme to build 22 dams and 19 hydroelectric power plants on the Tigris and Euphrates and their tributaries could also be a new source of conflict over access to water resources. These investments threaten the economic interests of neighbouring countries Syria and Iraq. These countries fear that Turkey's seizure of huge amounts of water will result in serious perturbations in access to water for their citizens. Not without significance is also the fact that as a result of the formation of artificial water reservoirs, valuable cultural and natural areas are flooded, including the city of Hasankeyf, which is famous for its priceless monuments.

A particular warning for modern civilization may be the example of Lake Aral. In 1960 the lake covered 68,000 km<sup>2</sup>, in 2007 the area of the lake decreased to only 16,000 and is still decreasing. The cause of the ecological disaster of the Aral Sea was the transformation of the environment for the growing sector of cotton cultivation and processing. In the 1930s, a network of canals was built to supply water deep into the desert, but this was done against all the principles of hydrology. As a result, most of the water soaked into the soil or evaporated without reaching the target. The drying up of this water reservoir caused climatic changes, soil salinity and the extinction of many endemic animal species, including the Caspian tiger (Micklin, 2007).

### **THEFT AND DEVASTATION OF SEA COASTS - THE EXAMPLE OF "SAND GANGS"**

A serious threat to the natural and natural environment of man, implying dangerous climate changes, is the phenomenon of robbery of the world's sand deposits. This raw material is the main component of concrete. As a result of the investment boom, the most valuable natural areas in many continents are being quickly appropriated, including the African coasts, especially the beaches of Morocco, Senegal, Benin, Liberia, Namibia and South Africa. The procedure of illegal extraction of sand is dealt with by organized gangs, which deliver this raw material

not only to individual customers, but also to enterprises, including large multinational corporations. It cannot be ruled out that part of the revenue from the sale of illegally harvested raw material may be credited to the accounts of rebel or terrorist organisations. It should also be noted that the scale of this phenomenon is so serious today that it may lead to environmental disasters. Gangs who illegally exploit unique lagoons in Nigeria, Benin and Senegal, among others, make vast areas of the coastline vulnerable to the destructive effects of the ocean (water erosion). In this way, the most valuable natural sites, habitats of rare animals such as sea turtles and valuable bird species, are devastated. It is also not insignificant that the illegal exploitation of the sand coasts threatens the livelihoods of those groups of people for whom access to the coasts and ocean resources is a prerequisite for survival. According to H. Welzer, the activity of gangs engaged in illegal exploitation of natural resources (in this case, sand) sooner or later condemns the local population to starvation and often forces them to leave their homes and become climate refugees. In extreme cases, this condition is conducive to social pathologies, including the development of crime in its various forms. One of them is the mass involvement of young people (often children) deprived of any prospects for life in criminal activity, which enables the functioning of various paramilitary and rebel organisations (the so-called folk militias).

### **CRIMINOLOGICAL AND LEGAL IMPLICATIONS OF THE PHENOMENON OF “WARS FOR WATER”**

Rapid climate change is contributing to the further escalation of many dangerous phenomena. There is no doubt that one of them will be “wars for water”. They will result in the emergence of inflammatory centres based on political, economic, cultural and demographic grounds. This situation will also foster the strengthening of organised criminal structures, which will violently seize water-rich areas and other raw materials to guarantee their survival. Other criminological phenomena accompanying the phenomenon of competition for water resources should be included:

- an increase in extreme and violent crime (rape, murder, looting of property, cult of physical strength),
- chaos, disorganisation of public life in target countries, collapse of existing social structures, creation of new areas of religious conflict,
- overcrowding of cities (there are already more than 21 cities with a population of more than 10 million people in the world),
- seizure of valuable natural areas, destruction of flagship species of fauna and flora,
- violation of humanitarian and sanitary law, new diseases (including mental illnesses due to social maladjustment),
- border closures,
- conflicts on climatic and ecological grounds.

Climate criminologists point to the existing links between the activities of individual economic operators and their environmental activities and crime (White, 2008a, Farrell, Ahmed, & French, 2008). First of all, they argue that the current vision of criminal responsibility for the plundering of the Earth’s natural resources is anachronistic. Therefore, they emphasize the need to define

- following the example of the crime of genocide - a qualified deed described as “ecocide”. (ecocide), or as a “crime against the Earth”. The authors of this legal structure recognise that the current forms of penalisation of environmental crimes to a negligible extent allow for the protection of the world’s natural resources. At the same time, they add that in confrontation with the privileged position of large multinational industrial concerns (oil companies, wood and food companies) on the world markets, the current means of criminal justice are becoming ineffective, if not illusory (Pływaczewski, 2012).

The International Criminal Court (ICC) in The Hague, among others, recognises the need to distinguish acts against global natural resources, which are classified as violations of international law. ICC judges have announced that land seizures, environmental degradation and the illegal exploitation of natural resources will be treated and qualified as crimes against humanity.

## CONCLUSIONS

There is no doubt that interest in criminal climatology, as a specific area of criminological research, will systematically increase, as the threats associated with climate change have nowadays become the most serious challenge for mankind. Undoubtedly, the achievements of Polish science, represented, among others, by the Olsztyn School of Ecocriminology, is a significant contribution to the development of ecocriminological thought.

It should be noted that conflicts over water also occur at the meeting point of different “water cultures”, because water resources are perceived differently by different civilizations. Some cultures regard water as sacredness and treat its distribution as a necessary duty to protect life. Others consider water to be a commodity whose ownership and sale is a fundamental right of individuals. Conflicts arise when countries sharing international river waters use its resources in different ways. Disputes over water often also reflect the struggle for dominance in the region, and access to as much water as possible is considered to be a factor in demonstrating the position of the state. This is why countries aspiring to local hegemony are often involved in conflicts over water.

The United Nations Development Programme (UNDP) draws attention to the economic aspect of lack of access to water in theoretically abundant regions. In such countries, the cause of the water crisis are social inequalities and not a lack of physical availability of water. For example, Latin America has as much as 65% of the world’s freshwater resources, but the average water bills are the highest among the countries of the Global South. Unsustainable water management related to progressive industrialization, urbanization, intensive development of agriculture and privatization of water are to blame. This situation creates numerous social conflicts.

In addition to the previously identified problems, new research challenges arise, directly or indirectly related to the problems related to access to water. These undoubtedly include:

- professionalisation of environmental and natural crime, increasingly taking the form of “white collar” crime,
- illegal lobbying and corruption activities supported and financed by large multinationals, particularly including the energy sector,
- the financing of false or biased environmental and climate protection expert opinions by multinational industrial companies,



- discrediting the activities of environmental organisations by negationists (entities questioning the phenomenon of global warming) (Klein, 2016, Popkiewicz, 2016),
- the establishment of criminal relations between multinational industrial concerns and the governments of so-called “failed states”,
- the responsibility of states and their high representatives for global warming,
- crimes against life and health directed against environmental and natural environment activists (Pływaczewski & Duda, 2017).

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