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Environmental Sustainability under the Impact of Current Crises

Wpływ bieżących kryzysów na zrównoważony rozwój środowiska

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Abstract: The state of the environment is getting worse, despite the efforts of international community and individual states aimed at its improvement and achieving environmental sustainability. Moreover, the current crises – the COVID-19 pandemic and the armed conflict in Ukraine – have many negative effects on these efforts. The main aim of this paper is to analyse the most significant impacts of these crises on achieving environmental sustainability. We assume that they have strongly negatively affected the progress towards this goal, which we see as very dangerous given the urgency of the environmental crisis and the severity of its consequences. The paper is divided into three main parts. In the first part, we outline the importance of environmental sustainability, focusing on the profiling of environmental pillar of sustainable development. The second part focuses on the analysis and mapping of the most significant environmental impacts of the COVID-19 crisis and the armed conflict in Ukraine on the very achievement of environmental sustainability. In this part, we demonstrate that both crises have negatively influenced it and have set the global community back in these efforts. In the third part, the findings as well as several possible future strategies are discussed.

Keywords: environmental sustainability, COVID-19 pandemic, war in Ukraine, environmental consequences, possible future strategies

Streszczenie: Stan środowiska naturalnego ulega ciągłemu pogorszeniu. Dzieje się to pomimo wysiłków społeczności międzynarodowej i poszczególnych państw podjętych w celu poprawy sytuacji i osiągnięcia zrównoważonego rozwoju środowiskowego. Ponadto, obecne kryzysy – pandemia Covid-19, oraz konflikt zbrojny na Ukrainie – przynoszą wiele negatywnych skutków dla tych wysiłków. Głównym celem niniejszego artykułu jest analiza wpływu tych dwóch kryzysów na zrównoważony rozwój. Przyjmujemy, że wywarły one negatywny wpływ na realizację tego celu, co stanowi duże zagrożenie, biorąc pod uwagę naglący charakter kryzysu ekologicznego oraz wagę jego skutków. Niniejsza publikacja została podzielona na trzy główne części. W pierwszej omówiono pokrótce wagę zrównoważonego rozwoju, skupiając się na jego środowiskowym filarze. Druga część skupia się na analizie i powiązaniu najbardziej istotnych skutków środowiskowych kryzysu związanego z Covid-19 oraz konfliktu zbrojnego na Ukrainie z osiągnięciem celów zrównoważonego rozwoju. W tej części wykazano, że oba kryzysy miały tu wysoce negatywny wpływ i spowodowały zahamowanie wysiłków globalnej społeczności. W trzeciej części omówiono wnioski z analiz oraz zaproponowano kilka możliwych strategii postępowania w przyszłości.

Słowa kluczowe: zrównoważony rozwój, pandemia COVID-19; wojna w Ukrainie, konsekwencje środowiskowe, możliwe przyszłe strategie, konflikt zbrojny w Ukrainie

Introduction

For decades, we have been witnessing visible manifestations of environmental crisis, which are, moreover, continuously intensifying, despite growing global, national, collective as well as individual efforts to address environmental problems (see more in, Mravcová 2023). The environmental dimension represents one of the pillars of sustainable development and today we can even say that it is also the most important one because the risks arising from the impact of environmental crisis outweigh the social and economic aspects of sustainability in the long term. If we fail to preserve a place and conditions of survival for humanity for the future, it does not matter whether sustainability is achieved in the social and economic sphere.

Furthermore, we observe not only a strong interconnectedness and interdependence of the different pillars of sustainability, but even a considerable contradiction between their different aspects.

Despite the noble core of the idea of sustainable development, the concept is still oriented towards development. And development still means also growth. Economic growth is a great problem in this regard. However, the social aspect of sustainable development has become increasingly emphasized too, especially in recent years, among other things in the context of the global pandemic (see more in, Guida and Carpentieri 2021; Cole et al. 2020). It is natural for political elites to focus purposefully mostly on these two areas as well as on the development of the country in which they govern. It is so for many reasons, such as popularity, social and their own welfare, prosperity, etc. However, this stands in conflict with the question of ensuring long-term environmental sustainability, as economic and social growth leads to continuous environmental degradation and deterioration (see more also in Sťahel 2019).

The main aim of this paper is therefore to analyse the most significant impacts of the COVID-19 crisis and the crisis resulting from the armed conflict in Ukraine on achieving environmental sustainability.

In this context, we assume that the impacts of both crises have strongly negatively affected the progress towards environmental sustainability, which we see as very serious and dangerous given the urgency of the environmental crisis and the severity of its anticipated consequences, as well as the shortening time to improve the situation and achieve the necessary advance.

To fulfil the main aim and verify our assumption, we use several scientific methods by which we also meet the individual partial aims which correspond with the structure of the paper. First, we define the importance of environmental sustainability within the concept of sustainable development. Then, we examine and analyse two recent crises – the COVID-19 crisis and the armed conflict in Ukraine and map, describe, as well as identify specific consequences they have on achieving environmental sustainability. Then, we discuss the problem of insufficient progress towards environmental sustainability in the context of the implications for state policies that result from our analyses and findings. We propose several strategies for possible directions and actions that support real and more effective progress towards environmental sustainability.

We draw attention to the fact that the impact of these two global crises on the achievement of environmental sustainability has been and still is fundamental. The given consequences also come at a time when the state of the environment is already alarming, and the world does not have time to stagnate or regress. As we found out, the political interventions and mainly the global ones have a major influence on approaching environmental challenges. For this reason, we are identifying several strategies that can help to improve the current situation and implement effective political solutions, because only political action can bring about a real change. However, the time when solutions can no longer be implemented without

compromising human rights and freedoms is quickly approaching.

1. Environmental Sustainability within the Concept of Sustainable Development

The concept of sustainable development has become increasingly important in global political field, leading to progressively sophisticated strategies to achieve it at national as well as global level. For the first time it was defined in 1987 within the document *Our common future* as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, 43). The concept of sustainable development is based on three fundamental pillars – social, economic, and environmental but, it is the environmental pillar that we consider to be the most important. It is not only because of the devastation of the environment, but also because of other serious impacts that pose a real threat to human life on Earth in the future, and already seriously complicate it today (Mravcová 2023).

S. Krno claimed, the result of the current era is that ideal citizens have become homogenized, unilaterally oriented individuals, dependent on excessive consumption with high, unified artificial consumption habits (Krno 2007, 433). This is essentially the result of the human strategy of production, accumulation and consumption of surplus, which have led to the reality that global civilization surpasses the sustainability limits of the Earth System (Sťahel 2019, 199)[1]. Scientists identify 9 significant planetary boundaries as limits of the Earth's ecosystem. What is alarming, however, is that some of them point out that 6 of these 9 boundaries have already been exceeded (more in Bartels 2023), while others point out that 8 of the 9 planetary boundaries are under tremendous pressure today (Alkousaa and Stanway 2023). Thus, when we look at the issue of sustainable development, we see that environmental problems clearly dominate the whole scheme of sustainable development. The environment is under serious threat, and it has become "necessary to return to the survival motive" (Špirko 2012, 187). If we do not ensure the survival of the planet itself, solving the other problems will only help humanity to survive at a certain level until the environmental crisis completely overwhelms us and the Earth's ecosystem collapses.

Humanity exceeded the Earth's regenerative capacity a long time ago (Wackernagel et al. 2002). Thus, environmental sustainability has become one of the principal attention areas for researchers, academicians, scholars, governments, and NGOs, as well as individuals, communities, countries, and the whole international community. It is a key strategy to enable human development without compromising the natural environment (more in Arora 2018; Stepping 2019). As the ultimate goal it means, according to M. Wackernagel et al. (2002, 9266), "living within the regenerative capacity of the biosphere." It is a very complex task and goal, but it should be a duty and matter of data, not opinion and choice (Ones and Dilchert 2012).

Data shows that the degradation of natural environment has accelerated and the ability of natural systems to deal with such degradation is decreasing. Potential global political solutions to address these environmental threats are coming at a much slower pace than needed to reduce further damage (more in Ones and Dilchert 2012; Stepping 2019).

Nearly all environmental problems are the result of careless human actions and interventions in the environment, and only collective human active efforts can bring

1 As R. Sťahel noted, if current rates of global economic growth continue, global consumption of all types of raw materials will reach about 180 billion tonnes per year in 2050. By maximising the efficiency of use available and introducing high carbon taxes, global consumption could fall to 95 billion tonnes by 2050. But an environmentally sustainable level of consumption is considered to be about 50 billion tonnes. However, this threshold was exceeded already in the year 2000 (Sťahel 2019, 199; Hickel 2018).

about change. However, not everything can be fixed, and some environmental damage is unfortunately irreversible.

Moreover, international political community agree that most of the global problems are related to the environment. This is why, the majority of the Sustainable Development Goals are also related to the environment, either directly or through other goals.

The running of every civilization is dependent on its environment (more in Rydz-Żbikowska 2012, 102). With catastrophic predictions for the future, radical views are increasingly emerging that saving the planet and the environment is a global goal that is becoming primal, and that the principles of liberal democracy characteristic to the Western world should become secondary. As I. Scoones (2016, 302) mentions, the liberal values of good governance will not necessarily deliver sustainable development without more active, directive, and sometimes unaccountable, state intervention.

The environment can be, according to J. Castro Pereira (2015, 203) perceived as the most global and multidimensional issue in the international system and relations. Environmental issues have therefore a significant role in the world order as they can even lead to the destructive conflicts. The way the international community manages the environment is deeply affecting the future of mankind (Castro Pereira 2015, 194). H. Heinrichs and F. Biermann (2016, 133) add, that collective approaches play a major role, because environmental sustainability is a collective goal, and it can be reached only globally.

The measures taken so far by the international community have not yet been effective enough to reverse the unsustainable course of the world's development. Therefore, sustainability demands need to be understood primarily as a political issue that requires active and effective policy-making at all levels and from all perspectives – local, national, regional as well as global (see also Heinrichs and Biermann 2016, 129-130).

2. Impacts of COVID-19 Global Pandemic on Environmental Sustainability

Although the year 2019 was full of pro-environmental actions the acceleration of which was visible all around the world, in the end of that year and mainly at the beginning of the year 2020, with the emergence of the global COVID-19 pandemic, all these efforts and progress have been stopped. Politicians had to immediately address the crisis and devote all their energy and time to save their population and the functioning of their countries. Similarly, every individual had to face the new acute, sometimes life-threatening consequences of the pandemic. All problems that did not pose an immediate threat were pushed aside. In this context, there was a growing concern about how much this passivity will damage the planet, its climate, and ecosystems.

At the beginning of the pandemic, we saw some positive impacts on the environment due to the strict political regulations and significant slowdown of social and economic activities practically all over the world. We quickly became convinced of the regenerative power of nature, especially in the form of cleaner water and air. Cases that fascinated the world were in particular the clean Venice Canals, where life returned for a while, the reduction of greenhouse gas emissions, which led to clearing the skies over many countries in the world, and others. The borders were closed, the streets of even the most populous cities were empty for several months because of restrictions on people's freedom of movement. Tourism and travelling came to a temporary halt (more in Loh et al. 2021; Rume and Islam 2020; European Environment Agency 2020; Somani et al. 2020). People scared of an unknown threat were willing to accept strict restrictions – but only for a certain period of time. All those positive effects faded away quickly. Scientists' initial estimates that the pandemic would end after a few months did not happen, and it remained in the world for more than two years.

After a short time, people stopped being scared and the unwillingness to respect political regulations spread. The economies that had suffered great losses began to catch up. The pollution returned not only to the level before the pandemic, but it was even worse because of the enormous amount of new medical waste.

There are many negative effects of the pandemic. In natural sources, wastewater treatment plants have experienced higher levels of organic loading and chemical contaminants due to increased use of disinfectants, sanitizers, and antibiotics (Elsaid et al. 2021). The production and use of medical equipment contributed to the generation of huge amount of new plastic waste (Aragaw and Mekonnen 2021). The enforced public use of these personal protective equipment raises serious environmental threats. There is a need to set up effective national rules and policies by individual countries that will ensure a strict waste management strategy and its assessment. During the COVID-19 pandemic, disinfectants were used in enormous quantities around the world, and this can also lead to large amounts of wastewater containing traces of chemicals, which can leach into the landfills. Continuous use of disinfectants can also lead to their entering water drains and, subsequently, rivers and coastal waters, which can lead to water pollution and affect aquatic organisms (Scheinberg et al. 2020; Otolorin et al. 2022; Barouki et al. 2021).

According to M.A. Zambrano-Monserrate, M.A. Ruano and L. Sanchez-Alcalde (2020), COVID-19 pandemic forced politicians in many countries (for example in USA and Europe) stop recycling in some major cities to prevent the spread of the virus in the recycling centres (in Italy, the residents were forbidden to sort their waste). This led to the accumulation of household waste due to reduced recycling. During the quarantine restrictions, the amount of waste, especially in households, increased, which was even a bigger problem.

Another negative phenomenon was deforestation. People often escaped from the pandemic to forests, and so during the pandemic logging and mining increased greatly. The negative impact of the pandemic on wildlife was also not negligible. Due to the high demand and high price of fish during the lockdown, there was a massive increase in bush meat poaching in many countries (for example, in South Africa and Côte d'Ivoire) (Deliso 2020).

We can see also indirect impact here. Limited human action and political restrictions during the pandemic have distracted attention from ongoing activities. The slowdown in environmental policy efforts combined with the economic slowdown, affected, and decelerated, for example, the investments in green energy technologies (Loh et al. 2021) etc.

In the figure 1 we can see that the list of positive impacts is wide. However, these impacts were visible only for a while, and after the first wave of the pandemic everything went back to the way it was before, or in our opinion even worse. Meanwhile, despite the short-term positive impacts, government restrictions during the COVID-19 pandemic had a negligible impact on climate change.

We could see that the main problem of the environment and nature is humans and their excessive interventions in them. So, even more effective than environmental activism and responsibility aimed at achieving sustainable development appears to be citizens' approach to the environment through self-restraint as well as through political regulations and restrictions.

There is a need to implement the best available technologies and environmental practices by countries around the world to help mitigate the negative effects of the pandemic – connected mainly with pollution and waste management (Otolorin et al. 2022, 8).

It will take a long time to assess the environmental impacts of the pandemic. However, the findings of the already conducted

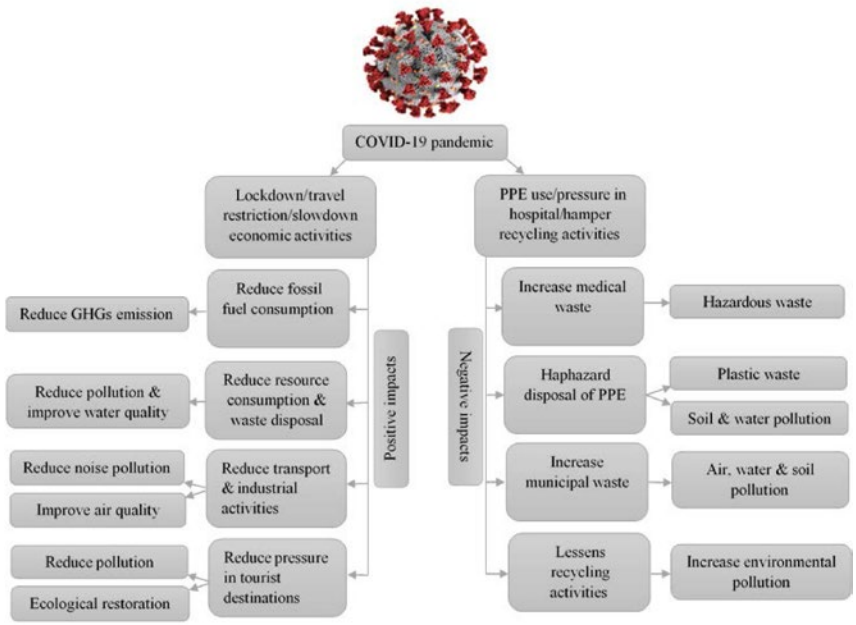

Figure 1. Environmental effects of the COVID-19 pandemic. Source: (Rume and Islam 2020)

research clearly show that the pandemic led to delays in the implementation of policies on environmental issues and especially of those related to climate change. It also led to a change in priorities thus affecting climate action due to the need for countries to address this immediate and urgent threat without delay. Despite these complications, the pandemic also presented opportunities to accelerate the transition to a low-carbon economy. This could have considerable significance in determining the success or failure of future negotiations on environmental crisis and climate change (Vo et al. 2023).

Regarding the COVID-19 pandemic, we can draw significantly from this experience in our future pro-environmental societal orientation, as the global pandemic seems to have created a potential opportunity for societal change that could promote a transition towards environmental sustainability. However, this requires a clear and well-targeted policy framework. There are various important links between the COVID-19 crisis and the environmental crisis, but also important differences, such as the time frame. Therefore, many of the strategies used to address the COVID-19 crisis are, as we have also argued, not suitable (or not sustainable) for a long-term transition to environmental sustainability. On the other hand, however, the positive effect is that a transition to environmental sustainability based on reducing environmental degradation can bring co-benefits in terms of preventing and managing potential future pandemics (Lehmann et al. 2021).

The global pandemic has raised social awareness, presenting an opportunity to develop and implement innovative approaches to create sustainable and resilient connections between people and the environment. There is a growing anticipation that the public is now better prepared for a recovery plan that integrates effective and sustainable strategies, incorporating measures to address human health, biodiversity conservation, adaptation to climate change and other important environmental challenges (McNeely 2021).

3. Armed Conflict in Ukraine and its Impacts on Environmental Sustainability

The global pandemic, environmental consequences of which are not even fully known yet, was not over, and a new global crisis has emerged, caused by the armed conflict between Russia and Ukraine. The war itself entails many negative impacts on the environment, and many of them are global. This particular war, like any other, is causing a crisis of enormous proportions that is having a negative impact on entire societies as all people around the world are facing enormous price increases, gradual shortage of resources, as well as enormous environmental degradation. Already in Rio Declaration it was stated that: "Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary" (United Nations 1992).

Although there are many armed conflicts around the world, many of which have even more severe impacts on the environment, the war in Ukraine was chosen for the purpose of this paper. It is this war primarily that is noticed by many people in the so-called countries of the global North, i.e., the developed and wealthier countries, who seem to be more "touched" by it than by hundreds of other similar conflicts in the world, which, although happening, are faraway and therefore do not have such a psychological impact on them. At the same time, the war in Ukraine emerged almost immediately after the worst phases of the global COVID-19 pandemic had ended.

The war in Ukraine, as any other armed conflicts in any part of the world, has many negative consequences on the environment. However, unlike the pandemic, there is no single positive impact. It, for example, creates emissions, disturbs landscapes and terrestrial and marine habitats, it causes chemical and noise pollution from the use of weapons, aircraft, and vehicles. High military spending itself redirects resources away from addressing environmental issues. The resulting international tensions also reduce the scope for international cooperation on environmental threats.

The war spreads environmental disasters beyond the borders of the country in which it occurs. In particular, the air is heavily polluted, not only because of the military attacks themselves, but also because of the poverty that accompanies conflicts, when people must resort to extreme solutions (for example, burn environmentally hazardous materials, such as tyres, etc. in order to keep warm). The use of depleted uranium in weapons and other dangerous substances is also a problem. Or, when power, industrial, oil or energy facilities are bombed, hazardous substances are inevitably released into the environment (Bystrov 2022; McCarthy 2022). Very dangerous was an attack on a nuclear power plant, which could have had far-reaching consequences (more in Gardashuk 2022, 2-3). However, also the deliberate bombing of nature reserves and other important ecosystems has serious consequences. Such tactics, unintentional or intentional, lead to international impacts due to air pollution or contamination of rivers, aquifers, or the sea, and affect the global climate too. This conflict, like any war, is therefore intensifying the climate crisis through global warming. However, it also leads to the problems with drinking water, land is becoming unsafe to use (this also affects exports and imports, and the prices), and air is full of toxic gases (Bystrov 2022; McCarthy 2022).

It is estimated that the world's militaries produce more than 6% of all greenhouse gas emissions, while many governments do not even provide data on emissions from military activities or provide only partial data. According to the Watson Institute at Brown University, the U.S. has released 1.2 billion tons of greenhouse gases into the atmosphere as part of the broader "war on terrorism", which has a greater impact on warming the planet than the annual emissions of 257

million cars. Also, waste management in general tends to collapse during the conflict (Watson Institute 2019).

Shelling and bombing cause cratering, soil erosion and pollution due to dangerous deposits. Ukraine is also referred to as the "breadbasket of Europe" and it is one of the top five grain exporters in the world, mainly due to its rich dark soil (FAO 2022). Heavy shelling and unexploded ordnance have affected large agricultural areas. There are concerns about the condition of agricultural fields after the war. The consequences of this are already being felt around the world. Even unexploded bombs will cause significant irreversible damage as they will continue to deposit toxic chemicals into the soil and water until they are removed or detonated (Martinezcuello 2022).

Wars have many far-reaching and long-term environmental consequences which are much worse than those in the past (Lallanilla 2020). They represent a significant step backwards in achieving environmental sustainability, which is very dangerous for humankind. During wars, there is a huge loss of biodiversity and wildlife. Animals are killed, plants are burned, endless biodiversity is eradicated. Even years after the war, land mines can explode and kill wildlife (McCarthy 2022). War also tends to result in increased deforestation and a general erosion of sustainable resource management systems. The same is in case of the war in Ukraine – especially at a time when environmental harm needs to be reduced, not increased. The longer the conflict lasts the greater the damage will be. The environmental impact of a single bomb falling in a field is catastrophic (the crater in the earth, the wildlife destroyed, the contamination, the dangerous release of heavy metals and chemicals). The hundreds of bombs exploding in towns and cities, in manufacturing zones and wildlife present environmental nightmare (McCarthy 2022).

This war affects ecosystem structure and function. Both terrestrial and aquatic systems have experienced population declines and biodiversity loss due to the effects of the warfare. According to data from WWF, the Ukrainian territory includes habitats that are home to 35% of Europe's biodiversity (including 70,000 plant and animal species, many of them rare, relict, and endemic). The military invasion strongly threatens these treasures. Already after a few months of war the satellite data showed that over 100,000 hectares of natural ecosystems were damaged. According to the Ukrainian data, at least 900 protected areas covering together 30% of all protected areas in Ukraine were affected by war operations. Some are even under the threat of complete destruction (WWF 2022). With each passing month, the situation becomes more serious.

The war in Ukraine has set back progress that the country already made on

Table 1. Environmental effects of the war in the Ukraine

Short-term	Long-term
• Water pollution and contamination of water resources.	• Chronic respiratory ailments and reduced life expectancy.
• Acute shortage of water.	• Contaminated sited (their remediation is a long-term process).
• Deterioration of air quality lading to acute respiratory problems.	• Permanent change in soil profile and landuse leading to reduced agricultural production.
• Higher emissions of greenhouse gases	• Lower standard of living due to impacts of pollution.
• Soil pollution through leaching of toxic substances.	• Biodiversity loss.
• Change in soil profile, landuse and soil erosion.	• Ecosystem services decrease.
• Acute impacts of nuclear radiation.	• Impact on efforts to meet climate change targets and Sustainable Development Goals.
• Deforestation and wildfires.	• Collapse of environmental governance leading to increased environmental issues.
• Wildlife mortality.	
• Habitat destruction and temporary migration of species.	

Source: Author's own elaboration according to (Rawtani et al. 2022).

environmental challenges before the armed conflict within the global environmental strategies to achieve environmental sustainability and fulfil SDGs. The biggest damage includes not only the mentioned land and marine ecosystems, water, soil and air pollution, but also industrial services, transport and houses (more in, World Economic Forum 2022; Kotarska and Young 2022; OECD 2022).

The crucial task for global community and its political elites is now the decreasing of environmental damage and risks from the war. Ukraine will have to fundamentally transform its environment and it will need international help and protection (World Economic Forum 2022; Kotarska and Young 2022; OECD 2022). As soon as the conflict ends, it will have to adopt policies, regulations, and standards to reconstruct the environment to repair the areas most affected by the war, but also to continue in common global actions towards environmental sustainability.

4. Proposal for Some Future Strategies and Directions

The global coronavirus pandemic, the armed conflict in Ukraine, along withs all other ongoing wars, have intervened strongly in long-term efforts to address the environmental crisis. The various individual as well as the collective and political efforts have been significantly slowed by these crises and even, as we can observe in the individual mapped consequences, in many aspects have pushed the global achievement of environmental sustainability backwards. Both crises distract attention from the environmental problems and focus it on the threats arising from them – whether to whole societies, states or individuals. There is a growing concern about the implications of this slowdown for environmental sustainability.

The above-mentioned consequences imply the need for countries to reassess their attitudes and to set goals for achieving environmental sustainability effectively with realistic plans and options. Empty words and grand theoretical plans seem no longer sufficient, such as, for example, the Millennium Development Goals or the Sustainable Development Goals, which, although grandly defined, have not been and still are not realistically achievable within their deadlines – even if those two global crises had not occurred. Otherwise, sooner or later, politicians will have to resort to more radical measures, such as those they had to impose during the pandemic, and also to restrictions on individual rights and freedoms.

Indeed, it was precisely this approach that demonstrated the rapid pace of change even during the pandemic, when we observed how quickly nature was able to regenerate. Thus, more than sustainable development strategies, what has been effective was the approach of self-limitation – not only voluntarily but especially through government regulations – that is, a kind of retreat of man and a limitation of his intervention on the environment.

However, for long-term results much stricter regulations will have to be put in place, which obviously may not be entirely consistent with the democratic values to which we are used to. A strategy similar to these ideas was introduced earlier by J. Lovelock (2014) and supported by R. Sťahel (2019). Both questioned the sufficiency of the concept of sustainable development and the possibilities of individuals themselves to actively participate in solving the crisis and pointed out that the concept of sustainable development is not an adequate response to environmental threats and risks as it contributes to maintaining the stability of the economic system, which, however, is based on the imperative of growth. Thus, it still deepens environmental devastation. Both discussed the need for a so-called sustainable retreat.

Given the state of the environment and the unsatisfactory results in achieving environmental sustainability, it may be a strategy such as that proposed by Lovelock and supported by Sťahel that national politicians may have to adopt in the near future. We

therefore see this strategy as a possible inspiration, although it is not feasible to implement it in its full extent today. Lovelock, in his concept points out that the most significant problem that mankind faces is survival. Therefore, the imperative of growth, which still dominates the world, must be replaced by the imperative of survival (Lovelock 2014, 148-151) and by retreat from the current way of life to preserve the prerequisites for the survival of humankind and other living species on Earth (similar idea was mentioned by Špirko in the section 1). Several ideas of human retreat theory have already been implemented to some extent during the pandemic, and the environmental effects of strict policy measures in the direction of limiting industrial production, human movement, and overall interaction with the environment have largely confirmed the validity of Lovelock's concept.

During the global pandemic, humanity, partly voluntarily and also under the influence of political measures, "retreated" in order to survive, and for some time allowed various aspects of its freedom to be restricted. In the long term, however, these measures ceased to work. And Lovelock as well as Sťahel are also sceptical about the voluntariness of such restrictions.

Both argued that in such a crisis, countries are gradually forced to rethink the concepts and imperatives on which their principles of social organisation and interpersonal relations are based, which will have to consider a completely new situation of scarcity of resources, even the most basic ones, which is still unimaginable for most countries today. Both Lovelock and Sťahel warned that in the future, when the environmental crisis reaches enormous proportions, political elites, under the pressure of circumstances and people' dissatisfaction, may be forced to resort heavily to authoritarian means of governance, in order to maintain public order, to prevent possible revolts, as well as to prevent threats to public health (Lovelock 2014; Sťahel 2019).

Another, slightly less radical proposed strategy is presented by K. Scipes. According to her, the only way to sustain the life of humanity and other living organisms on the planet is to drastically reduce production. She sees a complete reorientation of the economics of the current political systems as a necessity, so that production is minimized and that which remains must be carried out in the most possible sustainable way. In other words, a simpler life would help others to simply live (Scipes 2017).

However, in the current situation of deepening environmental crisis, which is also aggravated by the above-mentioned crises, it is necessary to look for immediate and, especially, realistic, and effective solutions at the political level, which could lead at least to a certain mitigation of environmental problems, while the basis should be a pro-environmental behaviour of people.

L. Steg and Ch. Vlek (2009) see as possible improvement the implementation of several strategies. First, informational strategies aimed at changing perceptions, motivations, knowledge, and norms – to increase people's environmental awareness of the problems and consequences of their behaviour, and to strengthen environmental responsibility and values. Second, structural strategies that aim to change factors such as the availability, costs and benefits of environmental behaviour are important. They think these factors can change when the availability and quality of products and services are altered. It is also important to reduce or eliminate environmentally harmful behaviour or provide new pro-environmental behavioural options. Legislation is also important. However, this requires enforcement or punishment of violations (Steg and Vlek 2009). A proactive role for states and political leaders is thus essential and encouraging pro-environmental behaviour of people requires the adoption of policies that reduce costs and increase perceived benefits appropriately. Therefore, it is primarily up to political leaders to adopt appropriate national and international strategies, as human activities,

technology, and economics need to be suitable to the bad environmental realities.

Within the past decades, governments, businesses as well as individuals have become increasingly aware of the need to reduce the environmental harmful behaviour and have adopted more environmentally responsible attitudes to move from the passivity to higher activism. Many experts, as for example, Sťahel however think, that the political and legal means can be the most effective in overcoming or mitigating environmental threats (Sťahel 2015). S. Hale (2010) also points out, that it is still a major challenge for all political leaders to adopt effective pro-environmental policies. These efforts can be more successful if genuine and coordinated global cooperation is established that also adequately considers the negative consequences of the crises mentioned above. Here we see the importance of the international policy and law that are the most significant source of environmental regulations and obligations created to limit transnational environmental harm (Mason 2005, 18). Differences between countries and regions also need to be considered. Because, although the countries of the global North are taking more environmental measures, it is they who are harming the environment much more by their standard of living, habits, and opportunities. These factors are difficult to change and therefore need to be considered and reflected in strategies and national policies.

Conclusion

Environmental sustainability is one of the highest priorities for each individual, state, and the whole international community. In our paper we have presented its significance, especially from a long-term perspective. However, the main aim of our research were the analyses of the most significant impacts of the COVID-19 crisis and the crisis resulting from the armed conflict in Ukraine on achieving environmental sustainability and we can conclude that we have achieved this goal.

We can also conclude that in the framework of our analysis of individual impacts we have also managed to verify and confirm our assumption that the impacts of both crises have strongly negatively affected the progress in achieving environmental sustainability, which we see as very serious and dangerous given the urgency of the environmental crisis and the severity of its anticipated consequences, as well as the shortening time to improve the situation and achieve the necessary advance. Both crises have brought, and still continue to bring, many negative impacts deepening the environmental crisis. Based on our analysis, however, we can also say that the armed conflict in Ukraine is causing far more negative impacts than the COVID-19 pandemic, and with more serious consequences for the environment. Its great danger also lies in the fact that we do not know when it will end. However, the longer it lasts, the more catastrophic those consequences will be also for the environment.

In this context we highlighted the importance of a political approach and activity in applying pro-environmental strategies and possible solutions towards the needed changes. Given the seriousness of the situation and the still worsening environmental problems, the actions of all actors – international community, regions, states, social groups, individuals must be strict and straight enough.

The solutions adopted so far are not sufficient. Political leaders, in the context of a primary focus on the prosperity of their countries, still fail to take environmental sustainability seriously enough. This is also influenced by the fact that the environmental crisis does not pose an acute and immediate threat to the current generation, unlike, for example, the threats from the global pandemic, or the war.

However, it is difficult to say whether any political measures and strategies will still be effective when the environmental crisis comes to the state of an acute and immediate threat to the survival of humanity on

earth. At least, such measures will inevitably have to be imposed at the expense of democratic values, freedoms, and rights, when the only imperative that will be relevant will be the imperative of survival. Otherwise, it will be a future full of severe wars, focused on the struggle for resources and for the place to live.

The significance of environmental sustainability has been underlined by the COVID-19 pandemic, emphasizing the essential requirement for resilience and sustainability in addressing global challenges. The crisis has emphasized the need to prepare for future disruptions and uncertainties as well as exposed the fragility, fragmentation, and lack of coordination in collective responses to acute crises (Vo 2023).

Now, we still have some time, and the global challenges can be solved via effective use of political power while engaging common efforts with the help of all actors and various forms of governance, political regulations as well as international law. Continuing failure in these efforts, however, also reflects the need for reforming the current system and international institutions (mainly the UN which has long been referred to as useless) or creating new ones (Castro Pereira 2015, 194) that would have real political power and a binding global impact allowing to tackle these issues effectively.

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References

Alkousaa, Riham, David Stanway. 2023. *Humanity is overshooting Earth's planetary boundaries, scientists find.* World economic forum and Reuters. Accessed January 22, 2024. https://www.weforum.org/agenda/2023/09/humanity-overshooting-earth-planetary-boundaries/.

Aragaw, Tadele A., Bassazin A. Mekonnen. 2021. "Current plastics pollution threats due to COVID-19 and its possible mitigation techniques: a waste-to-energy conversion via Pyrolysis." *Environmental Systems Research* 10(8). https://doi.org/10.1186/s40068-020-00217-x.

Arora, Naveen K. 2018. "Environmental Sustainability – necessary for survival." *Environmental Sustainability* 1: 1–2. https://doi.org/10.1007/s42398-018-0013-3.

Barouki, Robert, et al. 2021. "The COVID-19 pandemic and global environmental change: Emerging research needs." *Environment International* 146: 106272. https://doi.org/10.1016/j.envint.2020.106272.

Bartels, Meghan. 2023. *Humans Have Crossed 6 of 9 'Planetary Boundaries'.* Accessed January 22, 2024. https://www.scientificamerican.com/article/humans-have-crossed-6-of-9-planetary-boundaries/.

Bystrov, Viktor. 2022. *Ukraine and the others: the environmental impacts of war.* European Union. Accessed December 6, 2023. https://europa.eu/youth/year-of-youth/young-journalists/ukraine-and-others-environmental-impacts-of-war_en.

Castro Pereira, Joana. 2015. "Environmental issues and international relations, a new global (dis)order – The role of International Relations in promoting a concerted international system." *Artigos. Revista Brasileira de política internacional* 58(1): 191–209. https://doi.org/10.1590/0034-7329201500110.

Cole, Helen, Isabelle Anguelovski, Francesc Baró, Melissa García-Lamarca, Panagiota Kotsila, Carmen Pérez del Pulgar, Galia Shokry, and Margarita Triguero-Mas. 2020. "The COVID-19 pandemic: power and privilege, gentrification, and urban environmental justice in the global north." *Cities & Health* 5(sup1): S71-S75. https://doi.org/10.1080/23748834.2020.1785176.

Deliso, Meredith. 2020. *Conservationists fear African animal poaching will increase during COVID-19pandemic.* Accessed December 6, 2023. https://abcnews.go.com/International/conservationists-fear-african-animal-poaching-increase-covid-19/story?id=70118142.

Elsaid, Khaled, Valentina Olabi, Enas T. Sayed, Tabbi Wilberforce, Mohammad Ali Abdelkareem. 2021. "Effects of COVID-19 on the environment: An overview on air, water, wastewater, and solid waste." *Journal of Environmental Management* 292: 112694. https://doi.org/10.1016/j.jenvman.2021.112694.

European Environment Agency. 2020. *COVID-19 and Europe's environment: impacts of a global pandemic.* Accessed December 2, 2023. https://www.eea.europa.eu/publications/covid-19-and-europe-s.

FAO. 2022. *Ukraine: FAO scales up efforts to save upcoming harvest, ensure export of vital grains.* Accessed December 6, 2023. https://www.fao.org/newsroom/detail/ukraine-fao-scales-up-efforts-to-save-upcoming-harvest-ensure-export-of-vital-grains/en.

Gardashuk, Tetiana. 2022. "Environmental Threats of War in Ukraine." *Envigogika* 17(1). https://doi.org/10.14712/18023061.639.

Guida, Carmen, and Gerardo Carpentieri. 2021. "Quality of life in the urban environment and primary health services for the elderly during the Covid-19 pandemic: An application to the city of Milan (Italy)." *Cities* 110: 103038. https://doi.org/10.1016/j.cities.2020.103038.

Hale, Stephen. 2010. "The new politics of climate change: why we are failing and how we will succeed." *Environmental Politics* 19(2): 255–275. https://doi.org/10.1080/09644010903576900.

Heinrichs, Harald, Frank Biermann. 2016. "Sustainability: Politics and Governance." In *Sustainability Science. An Introduction,* edited by Harald Heinrichs, Willem J.M. Martens, Gerd Michelsen, and Arnim Wiek, 126–137. New York: Springer. https://doi.org/10.1007/978-94-017-7242-6_11.

Hickel, Jason. 2018. *Why Growth Can't Be Green. Foreign Policy*. Accessed January 21, 2024. https://systemicalternatives.org/2018/09/18/why-growth-cant-be-green/.

Kotarska, Genevieve, Lauren Young. 2022. *Green Insecurity: The Environmental Costs of War in Ukraine.* Accessed December 5, 2023. https://rusi.org/explore-our-research/publications/commentary/green-insecurity-environmental-costs-war-ukraine.

Krno, Svetozár. 2007. "Fenomén Sibír a Homo sapiens [The phenomenon of Siberia and Homo sapiens]." In *Kultúra a environmentálna kríza [Culture and the environmental crisis]*, edited by Ivan Dubnička, 433–443. Nitra: UKF.

Lallanilla, Marc. 2020. *The effects of war on the environment*. Treehugger. Accessed December 2, 2023. https://www.treehugger.com/the-effects-of-war-on-environment-1708787.

Lehmann, Paul, Silke Beck, Mariana Madruga de Brito, Erik Gawel, Matthias Groß, Annegret Haase, Robert Lepenies, Danny Otto, Johannes Schiller, Strunz Sebastian, and Daniela Thrän. 2021. "Environmental Sustainability Post-COVID-19: Scrutinizing Popular Hypotheses from a Social Science Perspective." *Sustainability* 13: 8679. https://doi.org/10.3390/su13168679.

Loh, Hong C., Irene Looi, Alan Swee Hock Ch'ng, Khang Wen Goh, Long Chiau Ming, and Kean Hua Ang. 2021. "Positive global environmental impacts of the COVID-19 pandemic lockdown: a review." *GeoJournal* 87: 4425–4437. https://doi.org/10.1007/s10708-021-10475-6.

Lovelock, James. 2014. *A Rough Ride to the Future*. New York: The Overlook Press.

Martinezcuello, Francisco. 2022. *Ukraine is ground zero for the environmental impacts of war.* Accessed December 6, 2023. https://www.sierraclub.org/sierra/ukraine-ground-zero-for-environmental-impacts-war.

Mason, Michael. 2005. *The New Accountability: Environmental Responsibility Across Borders*. London: EARTHSCAN.

McCarthy, Joe. 2022. *How war impacts climate change and the environment.* Global citizen. Accessed December 10, 2023. https://www.globalcitizen.org/en/content/how-war-impacts-the-environment-and-climate-change/.

McNeely, Jeffrey, A. 2021. "Nature and COVID-19: The pandemic, the environment, and the way ahead." *Ambio* 50(4): 767-781. https://doi.org/10.1007/s13280-020-01447-0.

Mravcová, Anna. 2023. "The Potential of Environmental Citizenship in Facing Environmental Challenges and the Limits of Individual Environmental Responsibility." In *Current Challenges of Environmental Philosophy*, edited by Richard Sťahel and Eva Dědečková, 173-207. Leiden: Brill.

OECD. 2022. *Environmental impacts of the war in Ukraine and prospects for a green reconstruction*. RUSI. Accessed December 6, 2023. https://www.oecd.org/ukraine-hub/policy-responses/environmental-impacts-of-the-war-in-ukraine-and-prospects-for-a-green-reconstruction-9e86d691/.

Ones, Deniz S. and Dilchert, Stephan. 2012. "Environmental Sustainability at Work: A Call to Action". *Industrial and Organizational Psychology*, 5(4): 444–466. https://doi.org/10.1111/j.1754-9434.2012.01478.x.

Otolorin, Gbeminiyi R., et al. 2022. "COVID-19 pandemic and its impacts on the environment: A global perspective." *Narraj* 2(1). https://doi.org/10.52225/narra.v2i1.72.

Rawtani, Deepak, Gunjan Gupta, Nitasha Khatri, Piyush K. Rao, Chaudhery Mustansar Hussain. 2022. "Environmental damages due to war in Ukraine: A perspective." *Science of the Total Environment* 850: 157932. https://doi.org/10.1016/j.scitotenv.2022.157932.

Rume, Tanjena, S.M. Didar-Ul Islam. 2020. "Environmental effects of COVID-19 pandemic and potential strategies of sustainability." *Heliyon* 6(9): E04965. https://doi.org/10.1016/j.heliyon.2020.e04965.

Rydz-Żbikowska, Anna. 2012. "The Concept of Sustainable Development and Its Impact on the Shaping of Modern International Relations through Global Agreements." *Comparative Economic Research. Central and Eastern Europe* 15(2): 101–118. https://doi.org/10.2478/v10103-012-0012-z.

Scheinberg, Anne, Anne Woolridge, Nicolaz Humez, et al. 2020. *Waste management during the COVID-19 pandemic*. Netherlands: ISWA International Solid Waste Association.

Scipes, Kim. 2017. "Addressing Seriously the Environmental Crisis: A Bold, ' Outside of the Box' Suggestion for Addressing Climate Change and other Forms of Environmental Destruction." *Class, Race and Corporate Power* 5(1). https://doi.org/10.25148/CRCP.5.1.001672.

Scoones, Ian. 2016. "The Politics of Sustainability and Development." *Annual Review of Environment and Resources* 41: 293–319. http://dx.doi.org/10.1146/annurev-environ-110615-090039.

Somani, Mohit, Abhishek N. Srivastava, Shiva K. Gummadivalli, Aparna Sharma. 2020. "Indirect implications of COVID-19 towards sustainable environment: An investigation in Indian context." *Bioresource Technology Reports* 11: 100491. https://doi.org/10.1016/j.biteb.2020.100491.

Špirko, Dušan. 2012. "Sloboda a 'environmentálna zodpovednosť [Freedom and 'environmental responsibility']." In *Sloboda a jej projekcie*, edited by Pavol Sucharek, 182–187. Prešov: FF PU.

Sťahel, Richard. 2015. "Environmentálna zodpovednosť a environmentálna bezpečnosť [Environmental responsibility and environmental safety]." *Filozofia* 70(1): 1–12.

Sťahel, Richard. 2019. "The Concept of Sustainable Retreat as an Answer to Anthropocene Challenges." In *Encontro Iberoamericano de Estudos do Antropoceno Atas*, edited by João Ribeiro Mendes, and Bernhard Josef Sylla, 195-216. Braga: CEPS. https://doi.org/10.21814/1822.62541.

Steg, Linda, Charles Vlek. 2009. "Encouraging pro-environmental behaviour: An integrative review and research agenda." *Journal of Environmental Psychology* 29(3): 309–317. https://doi.org/10.1016/j.jenvp.2008.10.004.

Stepping, Katharina M.K. 2019. "Environmental Sustainability." In *The Quality of European Societies. Social Indicators Research Series*, edited by Eduardo Bericat and María Jiménez-Rodrigo, 75. Cham: Springer. https://doi.org/10.1007/978-3-030-05023-8_10.

United Nations. 1992. *Rio declaration on environment and development*. Rio de Janeiro: United Nations. Accessed January 23, 2024. https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf.

Vo, Thi Phuong Tram, Huu Hao Ngo, Wenshan Guo, Chris Turney, Yiwen Liu, Dinh Duc Nguyen, Xuan Thanh Bui, Sunita Varjani. 2023. "Influence of the COVID-19 pandemic on climate change summit negotiations from the climate governance perspective." *Science of the Total Environment* 878: 162936. https://doi.org/10.1016/j.scitotenv.2023.162936.

Wackernagel, Mathis, Niels B. Schulz, Diana Deumling, et al. 2002. "Tracking the ecological overshoot of the human economy." *Proceedings of the National Academy of Sciences* 99(14): 9266–9271. https://doi.org/10.1073/pnas.142033699.

Watson Institute. 2019. *Costs of war. Environmental costs*. Brown University. Accessed January 23, 2024. https://watson.brown.edu/costsofwar/costs/social/environment.

WCED (World Commission on Environment and Development). 1987. *Our Common Future*. Oxford: Oxford University Press.

World Economic Forum. 2022. *How has the war impacted Ukraine's environment?* Accessed December 11, 2023. https://www.weforum.org/agenda/2022/07/ukraine-war-environmental-impact/.

WWF. 2022. *Assessing the environmental impacts of the war in Ukraine*. Accessed December 6, 2023. https://wwfcee.org/news/assessing-the-environmental-impacts-of-the-war-in-ukraine.

Zambrano-Monserrate, Manuel A., María A. Ruano, Luis Sanchez-Alcalde. 2020. "Indirect effects of COVID-19 on the environment". *Science of the Total Environment*, 728, Article 138813. https://doi.org/10.1016/j.scitotenv.2020.138813.