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The internal and transnational effects of corruption on the environment: the case of Ukraine

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ABSTRACT

Corruption, like environmental degradation, does not respect international borders. The article explores the effects of corruption on the environment in Ukraine in recent decades. The main aim of this study is to analyse the historical record to understand the effect of domestic and foreign corruption on the environment of Ukraine. The key result of our work is the presentation of compelling case studies from the 20th and 21st centuries, which prove the connection between corrupt authorities and environmental degradation. Using the example of the undemocratic regimes of the Soviet Union and the period of Yanukovich's presidency, the adverse effects of the abuse of power for private gain on the environment are explored. The article also discusses the effect of the kleptocratic Russian regime's war on environmental degradation in Ukraine as an example of the global impact of corruption on the environment.

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Introduction

The global ecological system and the environment of any single country are deeply entwined. In this paper, we argue that domestic corruption plays an important role in shaping a country's environment and that corruption in one country can spill over to harm the environment of other countries. The impact of corruption on the environment isn't always easy to identify, but, as we will argue in this paper, it is significant. The existing literature has shown that corruption takes multiple forms, exists at multiple scales, and may have both direct and indirect effects on the environment (Barrett et al., 2006; Leitao, 2016; Morse, 2006; Pellegrini, 2008). For example, Cole (2007), based on a sample of 94 countries covering the period 1987–2000, shows interconnections between corruption and SO₂ and CO₂ emissions per capita and a direct and indirect impact of corruption. Using panel data from a mix of developed and developing countries of 1982–1992, Damania et al. (2003) finds a correlation between corruption and environmental policy, where a decrease in corruption leads to an increase in the stringency of environmental measures and the level of corruption affects the demand for environmental policy. By using time-series-cross-section analysis of 20 industrialized democracies in 1990–2012, Rafaty (2018) concludes that greater perceptions of corruption are highly and strongly associated with weaker climate policies. Davidovic (2024), using survey data from Sweden and Mexico, states that individuals who perceive the level of corruption in their country to be high are less supportive of climate taxes. Corruption undermines levels of political and institutional trust and, as a result, negatively affects the general perception of the need for paying climate taxes.

Research objective and contribution

We claim that the most noticeable impacts of corruption on the environment are observed in conditions of generally high levels of corruption during the exercise of public power. For example, bureaucrats'

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incentives for corrupt behaviour are affected by perceptions of other bureaucrats' behaviour in the organisation, and corruption activities at the top may affect the tolerance of corruption at lower levels (Sundström, 2015).

We add to this literature by exploring the case of Ukraine, a country with considerable domestic corruption and environmental issues and one that has had to contend with a succession of non-democratic and kleptocratic regimes, both domestic and foreign. The main objective of this article is to analyse the historical record to understand the effect of domestic and foreign corruption on the environment of Ukraine. To do this, we draw on data from the state archives of Ukraine, media articles, and reports.

While there is an existing literature on the impact of corruption on the environment in general and in specific sectors or regions, there is a rather limited amount of work on the impact of corruption on the environment in Ukraine, especially in the context of the current security conditions.

This paper touches upon several historical periods in Eastern Europe—the period of the later Soviet Union (namely the 1980s) and the time when states regained their independence after Soviet Union's collapse (since 1991). The study focuses on Ukraine as a country that has experienced corruption under internal and external influence. Russian military aggression against Ukraine, as a process that affects not only Eastern Europe but also the world as a whole, also became a lens for the study. In addition, a detailed study of Ukraine's experience may be useful for the study of countries with similar socio-economic and political conditions.

We find that historical background and current challenges in society influence the spread of corruption in Ukraine. The article argues that the internal and external undemocratic regimes that affected Ukraine in the late 20th and 21st centuries, through the spread of corruption, contribute to environmental degradation.

The remainder of this paper proceeds as follows. We describe the overall impact of corruption on the environment and analyse the existing literature, materials, and methods. The following sections examine the historical background of the impact of corruption on the environment in Ukraine in 1980s–1990s, corruption's impact on the environment of Ukraine in 21st century based on the analysis of internal and external factors. The last section offers concluding remarks and policy recommendations, and discusses the limitations of our work and future research avenues.

Corruption and the environment

Environmental degradation is commonly viewed as a problem of 'collective action' and abuse (Transparency International, 2007). Satisfying demand for natural resources can damage the environment. Regulation of natural resources use by governments, responsible authorities, and civil society helps to reduce human's adverse impact on the environment. However, it is corruption that often allows individuals to bypass or distort regulations and law, which leads to environmental degradation and threatens sustainable development. Corruption also occurs in the areas of environmental policy and taxation. In regions where solving environmental problems requires additional funding, corruption practices also become an obstacle to reducing climate risks. Often external, such funding can be subject to misuse in both donor and recipient countries. In addition, foreign corruption can also influence the adoption and implementation of environmental legislation and policy in a particular country.

The scale of corrupt practices has an equally negative effect on the use and conservation of natural resources. Corruption at the highest levels of government hinders the development of effective environmental policy (Resimic, 2022), while corruption at the local level reduces the quality of implementation of policy innovations (Sommer, 2017).

Corruption also diverts material resources that could be used for environmental programmes, thus indirectly affecting their efficiency (Transparency International, 2007). Lewis and Kelman (2012) in their study on disaster risk reduction in a range of countries concluded that money, which must be directed to provide for security measures on natural disasters prevention, are sometimes lost through corruption. This, in turn, affects the ability to cope with natural disasters that occur. Researchers also argue that corruption and sustainable development are interconnected, and corruption is more likely to affect sustainable development than the other way around (Abduljaber & Onder, 2024).

Researchers point to the link between corruption and the socio-political characteristics of society. This can manifest itself at the organisational and individual levels. For example, Pillay and Kluvers (2014), analysing corruption through an institutional theory perspective, conclude that weak task and institutional environments lead to malfeasant behaviour, manifested by corruption. Bohn (2013) emphasises the specific preconditions for the emergence of rational-choice corruptors, which are the direct contact with state agents at the local level, the perceived degree of corruption among public sector workers, and the perceived anti-corruption record of the administration in power. Hiller (2010) points out that applying systems theory may help to understand that corruption perception 'depends on current morals and is thus contingent on history'. To some extent, this explains the linkage between corruption and undemocratic political systems.

The issue of corruption in the Soviet Union has been covered in several academic works. Studies completed by Heinzen (2013, 2016) reveal the impact of corruption on society in the Soviet Union in the mid-20th century. These works are useful for understanding the historical continuity of the abuse of power for personal gain in the Soviet Union, but they aren't sufficient for understanding events within the chronological framework we have chosen. Kramer's (1977) and Schwartz's (1979) works analyse the most common types of corruption and their causes, as well as the authorities attitude to combating corrupt practices. Although articles are exhaustive, they don't cover the period since the 1980s. Hence, they're partly informative for the analysis of the post-Chornobyl corruption effect on the environment. Some papers in Ukrainian academic journals also reveal the history of the Soviet system of governance and its impact on the spread of corruption (Rostovska, 2016; Sopilko & Armash, 2018). Nevertheless, these studies don't cover the impact of corruption on specific areas, such as the environment. A recent study of air pollution, political corruption, and cardiovascular disease in the former Soviet republics by Varieur et al. (2022) confirms the correlation between corruption and air pollution, and demonstrates a decline in air pollution in Eastern Europe after the collapse of the Soviet Union.

However, we haven't found any studies on the impact of corruption on environmental degradation during Soviet regime in Ukraine. Thus, the proposed study fills an important gap in research on the impact of Soviet corrupt practices on the environment in Ukraine by 1991, focusing on the Chornobyl Nuclear power plant (NPP) accident as a vivid example. In the academic literature, we haven't found any consideration of the argument that the Chornobyl NPP disaster was caused by systemic corruption in the Soviet Union. Therefore, this paper adds value to the studies by providing a new research angle to the issue.

The topic of corruption as a legacy of Soviet state administration and its impact on the modern development of Ukrainian society is covered in some works. For example, Huss (2020) and Kuzio (2015, 2016) in their works reveal the continuing influence of Soviet-era corruption schemes on Ukrainian politics until 2014.

Although there are works on the topic of corruption and ways to overcome it in modern Ukraine, there are fewer academic works on the impact of corruption on the environment in Ukraine. During our secondary sources review, we didn't find enough research works on corruption's impact on the environment, although it is covered in a number of reports or journalistic investigations.

The impact of the Russian war on the environment of Ukraine has been covered in academic articles, reports, and media. These studies provide a systematic overview of the war's impact (Angurets et al., 2023; Hook & Marcantonio, 2023; Interfaks-Ukraina, 2024; Top Lead Company, 2023, 2024). Publications also reveal research on various areas: soil and water contamination (Glanz et al., 2023; Holubtsov et al., 2023), air pollution (Chernysh, 2022), nuclear danger (Andrusiak et al., 2023; International Atomic Energy Agency, 2024a, 2024b; Laurence, 2022), and waste management (Hanoshenko et al., 2025).

At the same time, there are relatively fewer works on the interconnections between corruption and environmental degradation in recent years in Ukraine. Hrynyk et al. (2023), Tiestov (2022), and Tsyhanok (2024), in their publications, disclose the negative impact of war on the spread of corrupt practices in the environmental sector. We add to this concept by presenting examples of the transboundary impact of corruption caused by the Russian kleptocratic government through military actions.

Materials and methods

Given that the focus of our research covers various time periods, we must note the specifics of conducting a literature review. To analyse the literature on the impact of corruption on the environment, as well

as related topics, we chose a broad time period—from 1970s to the present. Our search for the subsection ‘Corruption and the environment of Ukraine: historical background, 1980s–1990s’ was determined by the date of the disaster itself, and therefore, research works and materials from 1986 to the present day were considered. For the subsection ‘Corruption’s impact on the environment of Ukraine in 21st century’, we searched for works from 2010 (when Yanukovych became a president) until nowadays, and for the subsection ‘The Russian war and the Ukrainian environment’ our search covered 2014 (when the Russian war against Ukraine started) until the time of writing.

The search for media publications, official documents, reports, and archival materials was conducted in Google with using specific word combinations (and varieties), both in English and Ukrainian, such as ‘Chornobyl NPP accident’, ‘Chornobyl disaster documents’, ‘environmental legislation of Ukraine’, ‘anti-corruption environmental legislation’, ‘corruption during Yanukovych’s presidency’, and ‘the impact of the Russian war on the environment.’ The work with the materials and sources included several stages: (1) search, identification, and preliminary selection, (2) classification, (3) analysis, and (4) research use of the sources, which is presented in this article.

The selection of relevant sources was based on the following: the presence of coverage of the topic in the text, informativeness of the data presented in the text, availability of the most updated version of the data (especially in the context of coverage of the events of the full-scale Russian invasion of Ukraine). Relevant materials were found on the authorities’, local and international organisations’, or online media websites, and can be viewed in [Table 1](#).

Research articles, books, and other works were collected by searching databases where academic works are published or targeted: for example, Google Scholar (both in English and Ukrainian), Taylor & Francis, and Dublin City University Library’s database. Dublin City University Library’s database was chosen as it contains materials from many other databases, including Scopus, Web of Science, and many others. The literature search was conducted using a combination of keywords (such as ‘corruption’, ‘environment’, ‘Soviet Union’, ‘Ukraine’, ‘military actions’, ‘war’, ‘Russia’). To distinguish relevant from non-relevant sources, we have applied two rounds of source review. First, we reviewed the text to understand whether the article or a book relates to the topic we are researching. Although several sources were provided by search engines due to the presence of certain words from the search query, a closer look at the text revealed that some sources covered another topic that is only indirectly related to the topic of our research. If the text was considered relevant to our research topic, we critically analysed each source.

Table 1. List of websites used in the article.

Title	Link
Ukrainian public authorities, state-owned enterprises, and organisations	
Chornobyl NPP	https://chnpp.gov.ua/en/home
Derzhavna ekolohichna inspektsiia Ukrainy	https://www.dei.gov.ua/
Ministerstvo zakhystu dokillia ta pryrodnykh resursiv Ukrainy	https://mepr.gov.ua/
National Anti-Corruption Bureau of Ukraine	https://nabu.gov.ua/en
Ukrainskyi instytut natsionalnoi pamiaty	https://uinp.gov.ua/
Uriadovyi kurier	https://ukurier.gov.ua/uk/
International and local organisations/companies	
‘Arnika’	https://arnika.org/en/
Basel Institute on Governance	https://baselgovernance.org/
ETH Zurich	https://ethz.ch/en.html
International Atomic Energy Agency	https://www.iaea.org/
SaveDnipro	https://www.savednipro.org/
Top Lead company	https://www.topleadprojects.com/
Transparency International	https://www.transparency.org/en
Tsentr ekolohichnykh initsiatyv ‘Ekodiia’	https://ecoaction.org.ua/
Media	
BBC	https://www.bbc.com/news
Detector Media	https://detector.media/
Ekonomichna Pravda	https://epravda.com.ua
Interfaks-Ukraina	https://interfax.com.ua/
Istorychna Pravda	https://www.istpravda.com.ua
Slidstvo.info	https://www.slidstvo.info/
texty.org.ua	https://texty.org.ua/
The Kyiv Independent	https://kyivindependent.com/
The New York Times	https://www.nytimes.com
Ukrainska Pravda	https://www.pravda.com.ua
Ukrainer	https://www.ukrainer.net/en/

Hence, from over 100 publications of different origins which were found, 38 works were considered relevant to the theoretical frame of this study.

To facilitate a comprehensive analysis of the internal and transnational effects of corruption on the environment in Ukraine we used several methods. In this paper, we made extensive use of historical methods. The need to use these methods is framed by the objectives of our study, which involves finding the historical background of the current issue of corruption's impact on the environment in Ukraine. The historical-genetic method (historical causality) was used to understand the preconditions that contributed to the emergence of corrupt practices during the Soviet period and the historical background in which current Ukrainian society developed. The use of this method revealed the causal links between the widespread practice of abuse of power during the Soviet Union and the partial inheritance of these practices by subsequent political forces after Ukraine's restoration of independence. Employing the historical-comparative method allowed us to establish the similarities and differences in the interdependencies between the spread of corrupt practices and the political systems under which they increase. The method supported the identification of commonalities between the environmental impacts caused by the policies of non-democratic governments in different periods of Ukraine's development.

The advantage of our research lies in the use of a variety of primary sources of different origins and time periods. This creates a comprehensive assessment of the topic and high objectivity of the research. In this paper, we use archival data and media articles on various topics related to the research, such as the Chernobyl NPP construction, overcoming of the consequences of the Chernobyl NPP accident, memoirs on public engagement in late 1980s in Ukraine, journalistic investigations, and opinions on corruption and war-related environmental degradation, published in media. All the data obtained were subjected to critical analysis. We applied the textual analysis method to analyse these sources. Each type of sources reflected different time frames or subtopics of our research and required considering the specifics of the time and circumstances in which the source was created. During the textual analysis of Soviet-time sources, we paid special attention to the specifics of the documents' language: the widespread use of abbreviations, clericalisms, and ideologically charged words with certain connotations. We considered the memories we used as a source of personal origin and, accordingly, allowed for the possibility of inaccurate information. Hence, the statements provided were checked in other sources. When analysing media publications, we also considered features of material presentation inherent in media publications: plain language, use of synonyms for the word 'corruption.'

Documentary research as method of using various official documents as a source of information was also widely used. We applied the method to the study of official documents on anti-corruption measures, as well as other legislation, statements, and reports issued by international organisations and the Ukrainian government.

We have considered the possibility of bias in the data obtained from archival materials from the Soviet period, as well as the need for careful fact-checking of media materials considering frequent disinformation operations. Therefore, we applied a critical approach to sources and their interpretation.

Findings and discussion

Corruption and the environment of Ukraine: historical background, 1980s–1990s

Corruption roots of Chernobyl accident

The end of the 20th century for Ukraine was marked by an environmental disaster that affected many European countries—the Chernobyl nuclear power plant accident of 26 April 1986 in Kyiv region. The immediate cause of the accident was the state of the reactor, which was designed in violation of safety regulations, though human error was also a factor. System maintenance personnel's actions worsened the condition of the imperfect equipment and led to the accident. But a major reason was the Soviet totalitarian regime with its widespread corruption.

The understanding of corruption as a phenomenon and the need to combat it in the Soviet Union was distorted. Soviet propaganda described corruption as a phenomenon inherent in the capitalist society rather than the socialistic Soviet Union. Manifestations of corruption in various sectors were fostered

rather as non-systemic mistakes, especially relating to the state-party authorities. There are a number of research works that support this argument. Kramer (1977) argued that in the Soviet Union corruption was widespread, and bribery, embezzlement, and speculation were the most common modalities. Kramer highlighted that many corruption manifestations were observed in the housing sector, where 'officials embezzle materials from the state for the construction of their own private homes.' He also claimed that officials used to steal state or public property, process stolen goods and sell them on the black market. The author also pointed to manifestations of corruption in the agricultural sector, higher education, and others.

Kramer (1977) also indicated the abuse of power for the 'bureaucratic gain' in the Soviet Union—a corruptive behaviour to increase organisational effectiveness to the benefit of the organisation's employees. This was reflected in the use of illegal influence and false reporting of enterprise data. In the context of state production planning, the personnel often faced target changes during the plan period, unstable supplies to the enterprise, pressure from the need to constantly meet production goals. The latter in the Soviet Union provided for a quantitative increase in production without considering the objective situation. At the same time, over-fulfilment of plans was often encouraged, and non-compliance with the set targets was punished.

Schwartz (1979) in his analysis on interconnections between corruption and political development in the Soviet Union pointed out that embezzlement, abuse of authority, and bribery in petty forms were common. He indicated four main patterns of abuse in the Soviet system: misappropriation of state funds to recover legitimate business expenses that tended to degenerate into theft, mercenary exploitation of natural resources, profiteering from grossly inferior goods, and the abuse of official privileges. The author argued report padding had been widespread among economic managers, and in Soviet construction reporting often didn't correspond to the actual implementation of plans. The habit of falsifying reports and accounts, in turn, encouraged goldbricking and shielded embezzlement. Later, Kragh (2013) pointed out that Soviet enterprise management relied on informal strategies in order to fulfil plan targets, creating informal networks with illegal practices.

In general, the negative impact of corruption on the quality of a state's output is confirmed by other studies as well. For example, quantitative studies have shown that corruption undermines the quality of infrastructure (Gillanders, 2014). The depth and significance of this relationship depends on the type of infrastructure and region of the world, but the regions with more corruption are more likely to have bad infrastructure.

The studies convincingly demonstrate that corruption affected many areas of public life and influenced decision-making. Hence, at the time of planning and construction of the Chernobyl NPP, interconnections of corruption and infrastructure sector, as well as politics itself, were deeply rooted in society. As an important infrastructure facility which provided electricity for many Ukrainian regions, the plant has become subject to the negative impact of widespread corrupt behaviour.

An additional factor that had an impact on both the construction of the plant and the mitigation of the accident consequences was the spread of nuclear culture in the Soviet Union. It involved people's belief in the possibility of using 'the power of the atom' and related technologies to significantly improve the well-being (Josephson, 1996). Nuclear culture served as a symbol of the superiority of Soviet economic and ideological systems. In such circumstances, acknowledgement of mistakes by responsible individuals could cause significant losses to all involved in terms of their reputation, job position, and even safety.

These arguments are confirmed by archival materials. Declassified archival documents testify to violations during the construction of the Chernobyl NPP (Bazhan et al., 2020). For example, a report note from 1973¹ mentioned various phenomena: violations of technical construction standards, discrepancies between the reporting documentation and the actual situation of the construction process, falsification of original blueprints, unauthorised use of different construction materials (approval of such changes required permission from the design engineer organisation), and poor control by responsible persons (Bazhan et al., 2020). These shortcomings align with the corrupt practices described by Kramer in the Soviet Union.

It can be argued that by the time the plant was commissioned in 1977, the problem hadn't been resolved. A secret memo from KGB representative Lamonov of 27 April 1986² stated that the Soviet

special services had received a sufficient number of 'signals' from their agents associated with the Chernobyl NPP. Between 1983 and 1985, poor-quality construction and installation works was reported 16 times, violations of technological standards for the operation of nuclear power plant equipment—38 times, violations of fire and radiation safety—24 times, and violations of security—24 times (Bazhan et al., 2019). All these problems were concealed and not properly addressed due to the personal interest of certain officials to present the facility as a successful one.

In addition to this, personal interests were also a reason for the concealment of the consequences of the accident, which led to radiation spreading and damage to living creatures. Research shows that radiation had not only direct impact on the people at the affected territories, but also caused negative long-term effects on overall people's health and their cognitive functions across Europe due to the fall-out from Chernobyl (Elsner & Wozny, 2023). This is clear evidence that the costs of corruption don't respect international boundaries.

Several adverse effects of the spread of radiation could have been avoided if the Soviet authorities at various levels had taken a responsible approach to overcoming the outcomes of the disaster. The evacuation of the population from the affected area was carried out slowly and improperly, and the local population, the national population, and the world weren't accurately informed. The *Likvidatory* (liquidators), the people who were directly involved in the aftermath of the accident, weren't fully informed and didn't receive the necessary protection and treatment after participating in the response.

The Soviet authorities' desire to conceal the real state of the Chernobyl accident and prevent the distribution of information abroad is also evidenced by documents. For example, the Soviet special services, with the help of staff and non-staff employees, prevented the spread of information about the accident and tried to force foreign tourists in Kyiv to continue their holidays³ (Bazhan et al., 2019). The population of Ukraine and the world received information about the accident only a few days later.

The existing literature offers similar examples of the impact of corruption on the nuclear industry, pointing to the potential for a destructive impact. Tanter (2013) claims that 'regulatory capture effected by a network of corruption, collusion, and nepotism' were reasons for Fukushima nuclear power accident of 2011 to occur. The author also pointed to the adverse impact of corruption in the nuclear energy sector in other countries, mentioning corruption scandals in South Korea, Russia, Canada, and India in 2010s.

The Chernobyl disaster was a unique phenomenon as it is considered to be the largest known nuclear disaster in the world in terms of the consequences for public health and the environment. In most countries, emergency events at nuclear facilities, although leading to social unrest, didn't become factors in the country's collapse. However, the Chernobyl NPP disaster was one of the causes that led to the collapse of the Soviet Union (Bazhan et al., 2020).

After the accident, the construction of the 'Shelter', an isolation structure that mothballed the affected power unit of the plant, was completed by the end of 1986 (History of the ChNPP, n.d.). Other parts of the plant operated until 2000, when Chernobyl NPP finally stopped generating electricity. In 2019, after many years of development and construction, the new safe confinement, the 'Ark', was commissioned. Currently, there are exclusion zones, unconditional (mandatory) resettlement, and guaranteed voluntary resettlement zones in the contaminated areas, which cover areas tens of kilometres from the plant.

Chernobyl's impact on Ukrainian society

The events of 1986 became a powerful impetus for the development of the environmental movement and activism in the territories most affected by radiation contamination—Ukraine and Belarus. Although the Soviet government didn't support democratic movements, it was forced to allow the activities of environmental and other non-governmental movements. This was done solely to preserve the status quo, as the possibility of the collapse of the Soviet Union was obvious at the time. By the end of 1987, the 'Green World' Association had already appeared in Ukraine, and in April 1989, it held a large environmental conference. The participants demanded that the construction of nuclear power plants in Ukraine be stopped, and that information about the operation of nuclear power plants, radiation pollution, and the health of all residents of the affected areas and the liquidators of the Chernobyl accident be

declassified (Mykhailov, 2020). Subsequently, the 'Green World' was transformed into the Green Party of Ukraine (GPOU) in September 1990.

Environmental civic movements and organisations were also created with the direct aim of protecting the rights of people affected by the Chernobyl disaster. The most numerous was the All-Ukrainian public organisation 'Chernobyl Union of Ukraine' (SChU), whose founding conference was held in May 1989 and official registration was in 1991 (Mykhailov, 2020).

In 1988, one of the first environmental demonstration took place in Kyiv, with more than 100 people taking part. Participants carried posters with the words 'No to future Chernobyls!', 'Get rid of nuclear power plants from Ukraine!', 'Nuclear power plants are crime against humanity!', 'Children should live!', 'For a nuclear-free Ukraine!' (Naboka, 2018).

The aftermath of the Chernobyl NPP accident was also reflected in legislation. Since Ukraine regained its independence in 1991, government officials have adopted a number of laws to regulate the environmental sector. Several articles of the Constitution of Ukraine are dedicated to the environment. For example, Article 16 states that

"Ensuring environmental safety and maintaining ecological balance on the territory of Ukraine, overcoming the consequences of the Chernobyl disaster—a global catastrophe, and preserving the gene pool of the Ukrainian people is the duty of the state."

Since 1991 the following laws were issued: 'On environmental protection' (1991), 'On the nature reserve fund of Ukraine' (1992), 'On atmospheric air protection' (1992), 'On the animal world' (1993, replaced by new in 2001), 'On ecological examination' (1995, replaced by the law 'On environmental impact assessment' in 2017), as well as the Subsoil Code of Ukraine (1994), the Forest Code (1994), the Water Code (1995) (Pavko, 2021).

Thus, corruption at various levels in the Soviet Union was one of the significant factors that made the Chernobyl disaster possible and worsened its impact. The consequences of the disaster for the environment, human health, and well-being, among other things, became a catalyst for the development of the democratic movement in Ukraine. The difficult experience in overcoming the results of radiation contamination led the authorities to pay close attention to the development of Ukraine's environmental legislation in the 1990s.

Corruption's impact on the environment of Ukraine in 21st century

While the development of civil society and the strengthening of environmental legislation had positive impacts, corruption, as a typical consequence of being part of the Soviet state, continued to exist (Kuzio, 2015).

Researchers point to the development of an oligarchy to at least some degree in all countries that regained their independence after the collapse of the Soviet Union. Huang (2002) calls it the category of 'ultra-wealthy', which emerged as a result of taking opportunities from privatisation—moving assets or facilities from the state sector into the private sector. At the same time, analysing experiences of Estonia, Lithuania, and Latvia, Huang claims that after 1991 the oligarchy in these countries hasn't gained much traction. The author gives several reasons to explain this phenomenon. Firstly, concentration of the industry in the hands of a few wouldn't provide significant benefits as many of the industries privatised had limited significance in the new transitional economy. Secondly, more transparency arose from EU integration and alignment with global economy. And finally, the countries are too small for oligarchic culture to develop (Huang, 2002).

This brings us to the understanding that Ukraine experienced the same difficulties with corruption as other large countries that have regained independence after the Soviet Union breakdown. Together with that, we might talk about Ukraine's features that contributed to the spread of oligarchy, such as an abundance of mineral resources and industrial facilities, significant influence of Russian proxies, which multiplied corrupt practices (Kuzio, 2016), and hindered European integration processes. The latter echoes Holmes' (2013) hypothesis that EU member states that were once part of the Soviet Union will have lower perceived corruption levels than those that are not.

In Ukraine and other countries, oligarchs were often united in so-called clans, which, in a nonethnic context, refer to groups of people from regions that have a history of social, business, and family ties stretching back into the Soviet period (Kuzio, 2016). One of these clans successfully unite not only in business but also in the political power forming the pro-Russian 'Party of Regions'. The 'Party of Regions' has had a significant impact on politics, the economy, and the media in the eastern and southern parts of Ukraine. It is this clan which stood behind the presidency of Viktor Yanukovich.

The period of Viktor Yanukovich's political career is a vivid example of the devastating impact of corruption. State officials and independent investigations have repeatedly proven numerous offences by the former politician and his allies ('Family'), the pro-Russian 'Party of Regions', and other connected organisations.

Researchers claim that Yanukovich fully subordinated the political system by utilising corrupt practices. For example, patronage and clientelism were used to subordinate all branches of power. He changed the Constitution in favour of the president, allowed passing of 'convenient' laws, and appointed the 'right' people to public office. The anti-corruption actions that have been taken were strictly controlled and didn't bring meaningful consequences to those close to him. After control had been taken, state resources were embezzled through diverse corruption schemes in public procurement, privatisation, and natural resources (Huss, 2020).

Many facts testify to an effect of corruption on the environment at that time. The Sukholuchchia case is well-known example of a direct impact of corruption on the environment in Ukraine. Sukholuchchia is a huge territory in the Kyiv region filled with forest and water areas. Between 2007 and 2012, an area of 17.5 hectares (1 hectare is 10,000 square meters) was taken out of state ownership, changed in its purpose, and transferred to private individuals. The responsible authorities 'resold' the land further, and eventually it was given to a company controlled by Yanukovich's allies. The latter built a hotel and restaurant there, while another 30.4 thousand hectares of land were transferred to another company. The territory was home to the so-called 'Kedr' Association of hunters and fishermen, a closed, exclusive club for Yanukovich's friends in politics and business (Babinets, 2017). There were several buildings, 800 hunting towers and gazebos, a church, a sauna, a shooting gallery, a poultry house, and a dog house for the use while hunting wild ducks, hares, foxes, wild boars, roe deers, and deers. 'Kedr' members' leisure time was paid for, in addition to membership fees, from the state budget, while ordinary citizens were denied access to the territory. According to estimates, the total amount of budget funds used for road repairs in Sukholuchchia is over UAH 115 million (Lukashova, 2021; Shyriaieva, 2014). Thus, significant natural areas were used for hunting and recreation. No controlling authorities could monitor compliance with environmental legislation and protect the flora and fauna from adverse consequences.

The appropriation of Sukholuchchia was only one of many corruption schemes in which Yanukovich and his 'Family' were involved. Dissatisfaction with the policy of rapprochement with Russia, oligarchy and corruption, oppression of democracy, and destruction of Ukrainian identity led to the Euromaidan and the Revolution of Dignity in 2013–2014. The regime was overthrown, and Ukraine resumed implementation of democracy and made progress towards tackling the problem of corruption and protecting the environment.

Despite the fact that the topic of land misappropriation by Yanukovich and his allies has been discussed quite extensively, there is no detailed information on the environmental damage caused to these territories. After the Revolution of Dignity, civic activists began to take care of Sukholuchchia. It was turned into a park. In 2021, the Asset Recovery and Management Agency transferred Sukholuchchia to the management of a member of Kyiv City Council, and in 2023, the High Anti-Corruption Court ordered the confiscation of this property (National Anti-Corruption Bureau of Ukraine, 2023).

Political and social changes that took place after the Revolution of Dignity boosted the implementation of anti-corruption measures. The Law of Ukraine 'On Prevention of Corruption' was adopted, and special anti-corruption agencies were established—the National Anti-Corruption Bureau of Ukraine, the National Agency for Prevention of Corruption, and the Specialised Anti-Corruption Prosecutor's Office. Over the past decade, Ukraine's Corruption Perception Index ranked 35 points in 2024 against 25 points in 2013.⁴ At the same time, a number of laws and regulations were adopted to manage Ukraine's environmental sector. In 2019, the Presidential Decree 'On the Sustainable Development Goals of Ukraine for the period up to 2030' was published. Executive authorities related to natural resources and

environmental protection develop direct anti-corruption programmes. For example, the Anti-corruption programme of the Ministry of Environmental Protection and Natural Resources of Ukraine for 2021–2023 (Antykoruptsiina prohrama Ministerstva zakhystu dovkillia ta pryrodnykh resursiv Ukrainy na 2021-2023 roky, 2021) aimed to ensure the implementation of an effective anti-corruption policy by preventing, detecting, and combating corruption, identifying and eliminating the causes and conditions that facilitate its manifestations, and fostering an intolerant attitude to corruption in all areas of the Ministry's activities. The State Environmental Inspectorate of Ukraine has introduced a similar Anti-Corruption Programme for 2023–2024 (Antykoruptsiina prohrama Derzhavnoi ekolohichnoi inspekt-sii Ukrainy na 2023-2024 roky, 2023) to eliminate (or at least minimise) corruption risks in its operations.

Thus, in the first decade of the 21st century, Ukraine faced many challenges in the fight against corruption, which also affected the environment. Recently, in June 2024, the European Commission has recommended EU member states to start membership negotiations with Ukraine, one of the important conditions for this was the fight against corruption. This indicates positive dynamics in the anti-corruption activities of the society.

The Russian war and the Ukrainian environment

Nowadays, Ukraine is facing an existential threat from the Russian Federation and its allies. In 2014, Russia captured Crimea and parts of the Donetsk and Luhansk regions. After full-scale invasion of 2022, the whole of Ukraine became a war zone.

Along with the many consequences of war that people in Ukraine are suffering from, the environment is also being severely damaged. Since Russia is a kleptocratic country (Dawisha, 2015), the desire of its leaders to continue the war is driven in part by personal goals to increase their influence, power, and wealth. We therefore argue that corruption in other non-democratic countries, in this case in Russia, also has a negative impact on the Ukrainian ecological system and the environment globally.

There is a certain amount of research on the environmental impact of war in various regions of the world. Researchers have explored both local and global military conflicts. For example, there are books on global environmental outcomes of the First and the Second World Wars—'Environmental Histories of the First World War' (ed. Tucker et al., 2018) and 'The Long Shadows: A Global Environmental History of the Second World War' (ed. Vuorisalo et al., 2017). Corruption can lead to more conflict by changing the calculus of cost and benefit, particularly in contexts of natural resource wealth (e.g. Berman et al., 2017). However, to the best of our knowledge, no studies exist that have focused on the idea that a corrupt regime may levy local and global environmental costs through aggressive military action. Thus, by looking at the Ukrainian environment from this angle, we provide a new perspective for both environmental history and corruption researchers. The relevance of the study is also amplified by the fact that Russia's full-scale war against Ukraine is one of the largest conflicts in Europe since the Second World War.

Since 2014, the Ukrainian environment has become a victim of war and environmental crimes by the Russian army and its authorities. There is evidence of mines flooding in the occupied territories, which in turn has polluted water and the soil (Hook & Marcantonio, 2023). In addition, the hostilities themselves have caused negative environmental impacts through air, water, and soil pollution, and disruption of the usual habitats of flora and fauna.

After the spread of hostilities throughout Ukraine in 2022, there are thousands of documented cases of environmental harm, air, water, land, and soil pollution, as well as threats to nearby countries (Interfaks-Ukraina, 2024). The rich biodiversity of Ukraine has also been negatively impacted by the war. Forest fires and acts of deforestation, explosions, the building of fortifications, and the poisoning of the soil and water impact wildlife and destroy natural habitats, including protected species, and threatens the food security. For example, emissions and pollutants in the atmospheric air due to the war between February 2022 and late 2024 ranked 113.4 million tonnes (Top Lead Company, 2024). There are many examples of harm to biodiversity: a year into the full-scale war, 20 species of plants, endemic to Ukraine and occurring only there, are endangered; 25 national parks and strict reserves are or have been under Russian occupation or in the war zone (Top Lead Company, 2023). In 2024, 750 species of plants and fungi listed in the Red Book were under threat, as well as around 900 species of animals (Top Lead Company, 2024).

Experts note that the war also creates favourable conditions for corruption (Tsyhanok, 2024). For example, in the forestry sector a moratorium on inspections, restricted public access to previously public documents and data on logging may affect transparency and create scope for corruption (Tiestov, 2022). Russia's attacks on Ukraine's energy infrastructure significantly increased the country's need for firewood, which may lead to unsustainable and illegal logging in the conditions of lack of public control and interest (Hrynyk et al., 2023).

While the war is still ongoing at the time of writing, Zhytkova and Gillanders (2025) draw on interviews with people with expertise and experience in environmental management and activism to explore several vivid examples of the negative impact of the Russian war on the Ukrainian and global environment, such as the nuclear threat and the significant disruption of the environment due to the breach of the Kakhovka dam.

The spectre of Chernobyl hung over Europe again in 2022. From 24 February to the end of March 2022, Russian troops occupied the Chernobyl plant (The full-scale war of Russia against Ukraine, n.d.).

Looting of equipment, offices, and warehouses by Russian troops, damage to the physical protection system of the protected perimeter, failure to comply with the rules of radiation protection, and sanitary access have become a serious threat to the Ukrainian environment and the well-being of neighbouring countries. In addition, the invaders' movement around the Chernobyl zone and digging of trenches caused radioactive dust to be released into the air (Laurence, 2022). On 14 February 2025, Chernobyl NPP was damaged by Russian forces once again. The protective sarcophagus was hit by Russian drone, causing fire and a potential nuclear threat (Zadorozhnyy, 2025).

In March 2022, the Russian army threatened the safe operation of the Zaporizhzhia Nuclear power plant (ZNPP). ZNPP has survived eight complete blackouts as of early 2024, running under diesel generators (International Atomic Energy Agency, 2024b). In addition to continued shelling around the plant, the Russian army keeps military equipment at the Zaporizhzhia plant, and surrounding areas have been mined by them.

The International Atomic Energy Agency's Board of Governors expressed grave concern with the nuclear safety and security situation at the ZNPP and called for the urgent withdrawal of all unauthorized military and for the plant to be immediately returned to the control of Ukrainian authorities (International Atomic Energy Agency, 2024a). The recurring crisis at the plant once again endangers not only the surrounding area but could affect other European countries (Andrusiak et al., 2023).

In June 2023, the environment in Ukraine was further threatened by the Kakhovka dam complex destruction, which caused huge flooding. Seized by the Russian army by the time of disaster, it was blown up by them from the inside of its structure (Glanz et al., 2023). The Kakhovka dam breach has caused massive damage, submerged 620 square kilometres of territory, and impacted 100,000 residents directly. The dam disruption caused flooding of a large area of the territory and transferring fertilisers, fuels, wastewater, hazardous substances from industrial facilities and minefields into the Black Sea (Sadohurska & Ivanov, 2024).

Thus, the environmental outcomes of Russian war against Ukraine show that corrupt activities pose a risk to the environment even when corruption is practised by other states. This is especially dangerous in the field of natural resources management and environmental protection, as the environment of a particular country is interconnected with the environment of others.

Conclusions

Final remarks and policy implications

The historical legacy of Soviet period and current challenges have influenced the spread of corruption in Ukraine. This study indicates that the corrupt political system of another country not only can be a threat to the local environment but also has an impact on the global environmental situation. For many years, the Ukrainian environment has been a victim of the predatory policies of non-democratic regimes. For example, the Soviet party-state's disregard for environmental safety and the utilitarian approach to nature management led to the Chernobyl disaster in 1986. Corruption schemes under the presidency of Yanukovich and his pro-Russian party have significantly undermined Ukraine's environmental well-being.

Russia's military aggression is having a direct impact on Ukraine's environment, and is also putting the ecological systems of neighbouring countries and the world at risk.

The support of democracy, implementing reforms, and a responsible approach to environmental management is a key to achieving the goals of sustainable development and reducing the negative impact of corruption on the environment. We believe that targeting corruption's impact on the environment can be achieved on several levels. Firstly, by educating people to promote anti-corruption and pro-environmental norms at the individual level. Secondly, by supporting and developing civil society and fostering press freedom and awareness. Improving controlling mechanisms of environmental legislation compliance will be beneficial in combatting corruption at the state level.

Research limitations and future avenues

There are several limitations of the study that are worth noting. As the last subsection of the 'Findings and Discussion' section refers to events that are still ongoing, future research is needed to evaluate the long-term consequences. The methodological limitations are primarily related to the peculiarities of studying the topic in wartime. Under martial law, certain information may be classified or restricted. While researchers and the public in Ukraine have wide access to archival data from the last century, such data is classified in Russia.

Since the search for sources was conducted in English and Ukrainian, we may have missed a research paper on the topic in other languages, which should be considered in further research.

Notes

1. Report Note 864 of the Kyiv Oblast Department of the State Security Committee (KGB) (12 April 1973) in *Chornobylske dosie KHB: vid budivnytstva do avarii. Zbirnyk dokumentiv pro katastrofu na Chornobylskii AES*, pp. 35–36.
2. A secret memo of the Head of the 4th Division of the 6th Department of the KGB of the Ukrainian SSR in Kyiv and Kyiv region Lamonov on the strengthening of counterintelligence work at the Chornobyl NPP (27 April 1986) in *Chornobylske dosie KHB: suspilni nastroi. ChAES u postavariinyi period. Zbirnyk dokumentiv pro katastrofu na Chornobylskii AES*, pp. 18–22.
3. The Extract from the Note of the 2nd Department of the UKGB of the Ukrainian SSR in Kyiv and Kyiv region on Measures of Operational Influence on Foreigners in Connection with the *Chornobyl Accident in Chornobylske dosie KHB: suspilni nastroi. ChAES u postavariinyi period. Zbirnyk dokumentiv pro katastrofu na Chornobylskii AES*, pp. 24–25.
4. Transparency International. URL: <https://www.transparency.org/en/countries/ukraine>.

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Authors contributions

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Data availability statement

The data that support the findings of this study are available from the corresponding author, Olesia Zhytkova, upon reasonable request.

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