



JUNE 2023

# COAL POWER ECOLOGICAL DESTRUCTION IN THE WESTERN BALKANS

Violations of communities' right to adequate food and nutrition  
and a clean, healthy and sustainable environment

*Humans are part of nature.  
Food is the most manifest expression  
of our intimate connection  
with the rest of the living world.*

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[Right to Food and Nutrition Watch 2020](#)

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# LIST OF ACRONYMS AND ABBREVIATIONS

<b>CBD</b>	Convention on Biological Diversity	<b>ETOs</b>	Extraterritorial State Obligations
<b>CEDAW</b>	Convention on the Elimination of All Forms of Discrimination against Women	<b>EU</b>	European Union
<b>CEEC</b>	China Energy Engineering Corporation Limited	<b>FAO</b>	United Nations Food and Agriculture Organization
<b>CEKOR</b>	Serbian Center for Ecology and Sustainable Development	<b>GA</b>	General Assembly
<b>CESCR</b>	Committee for Economic, Social, and Cultural Rights	<b>GDP</b>	Gross Domestic Product
<b>CMEC</b>	China Machinery Engineering Corporation	<b>GHG</b>	Greenhouse Gas
<b>CO<sub>2</sub></b>	carbon dioxide	<b>ICCPR</b>	International Covenant on Civil and Political Rights
<b>CRC</b>	Convention on the Rights of the Child	<b>ICESCR</b>	International Covenant on Economic, Social, and Cultural Rights
<b>CZZS</b>	Centre for Environment (Centar za životnu sredinu)	<b>KfW</b>	German Development Bank
<b>DeSOx</b>	Desulfurization	<b>MW</b>	Mega Watt
<b>DSEE</b>	European Parliament Delegation for Relations with Bosnia and Herzegovina and Kosovo	<b>NDC</b>	National Determined Contributions
<b>ECHR</b>	European Convention on Human Rights	<b>NECP</b>	National Energy and Climate Plan
<b>EIA</b>	Environmental Impact Assessment	<b>NGO</b>	Non-governmental Organization
<b>EPBiH</b>	Power Industry of Bosnia and Herzegovina (Elektroprivreda Bosne i Hercegovine)	<b>NO</b>	Nitrogen Oxides
<b>EPS</b>	Power Industry of Serbia (Elektroprivreda Srbije)	<b>RE</b>	Renewable Energy
		<b>RiTE</b>	Ugljevik mine and thermal power plant, subsidiary of Elektroprivreda Srbije (Rudnik i Termoelektrana Ugljevik)
		<b>UN</b>	United Nations

# EXECUTIVE SUMMARY

This study examines the devastating impact of the life cycle of coal (mining, combustion, and waste disposal) on the lives and livelihoods of local rural communities in the Western Balkans, an area with some of Europe's highest levels of air pollution.

It also investigates the impacts of coal mining and related activities throughout the coal cycle on people's right to adequate food and nutrition and to a clean, healthy and sustainable environment and other interconnected rights. There is a particular focus on local struggles and resistance to the impacts of coal power in three locations: the villages of Kličevac and Drmno, near Drmno mine and Kostolac power plant in Serbia; Kamengrad mine and Kamengrad village, in the municipality of Sanski Most in Bosnia and Herzegovina; and Ugljevik power plant and coal mine, also in Bosnia and Herzegovina.

Testimonies gathered from local people and civil society groups, combined with observations by FIAN International, reveal clear indications of ecological destruction. These include polluted and disrupted groundwater supplies, which leads to waterlogging, water shortages and diminished agricultural yields. Furthermore, air pollution and changes to wind patterns from large scale excavations have been reported, along with plant diseases, flooding and subsiding of homes and farm facilities,<sup>2</sup> and increased instances of respiratory illness, allergies, and other severe health implications.

These coal-related impacts severely threaten the ecological basis of food production and have significant consequences for biodiversity and natural resources, which are essential for realizing the right to adequate food and nutrition, and a clean, healthy, and sustainable environment.

Despite this, the governments of Serbia and Bosnia and Herzegovina have failed to act appropriately. Decision-making processes are often not transparent, participatory, or democratic, and frequently fail to adhere to national and international legal frameworks. There is a marked absence of consultation with affected communities, and credible environmental impact assessments. Communities adversely affected by coal mining and related activities have been fighting for years to be resettled and compensated for their loss of agricultural land and property. Small-scale food producers in the Western Balkans consistently call for policies and resource allocation to bolster and support local and sustainable food production, including small-scale food producers.

The situation is in clear violation of both countries' commitments and obligations regarding human rights, the environment, and climate, as enshrined in a range of international instruments including: the *International Covenant on Economic, Social and Cultural Rights* (ICESCR), the UN Declaration on the Rights of Peasants and other People Working in Rural Areas (UNDROP), the *Convention on Biological Diversity* (CBD), and the Paris Agreement on Climate Change. Additionally, this situation and both States' acts and omissions contravene relevant national legal and policy frameworks.



Drmno power plant Kostolac B1,2 | Credit : CEKOR, Serbia

# KEY RECOMMENDATIONS

To comply with their international obligations and commitments on human rights, the environment, and climate, affected communities, local civil society groups and FIAN International call on the governments of Serbia, Bosnia and Herzegovina to:

1. Create and implement a favorable legal and policy framework to protect human rights related to environmental harm; establish mechanisms and tools for affected people to assess and record their losses and damages, thereby creating evidence and proper remedy mechanisms; and ensure people's access to justice.
2. Promote, revitalize, and incentivize small-scale local agriculture, local economies, and local food systems.
3. Safeguard, respect, and restore biodiversity, with a particular focus on the human right to adequate food and nutrition, and the right to a clean, healthy, and sustainable environment, given their crucial role in food production and maintaining people's wellbeing and health.
4. Cease the planning of new coal power facilities and stop subsidizing coal-fired power plants. Instead, establish ambitious coal phase-out goals, and develop a strategic framework and road map to exit electricity production based on lignite (which is the dirtiest form of low-quality coal), in line with the Paris Agreement, and to compensate and rehabilitate victims of rights violations.

For the complete list of recommendations, please see page **40** and **41** of the study.



Ugljevik thermal power plant | Credit: CZZS, Bosnia and Herzegovina

# INTRODUCTION

Coal is a key driver of climate change and the single largest contributor of global CO<sub>2</sub> emissions.<sup>3</sup> With the window to avoid impending climate catastrophe steadily narrowing, it is not surprising that ‘end of coal’ has emerged as a rallying cry for climate movements and a cornerstone of global climate policy.<sup>4</sup> In many parts of the world, local struggles against coal stand in contrast to the continuing importance of coal-based economies. Since 2000, coal power generation capacity has doubled globally, growing particularly rapidly in China, India, and other industrializing countries.<sup>5</sup>

Both Serbia<sup>6</sup> and Bosnia and Herzegovina<sup>7</sup> plan to join the European Union. Both States committed to phase-out fossil fuels by 2050 when they signed the Sofia Declaration, which includes a commitment to adopt the EU’s *Climate Law*. However, expansion and construction of new power plants are underway: Kolubara B, Nikola Tesla B3, Novi Kovin and Štavalj. The construction of Kostolac B3 is almost complete, and Pančevo combined heat and power plant was put into operation in November 2022. Likewise, as the only other country in the region, Bosnia and Herzegovina still has plans pending for new coal plants: Tuzla 7, Ugljevik III, Banovići, Gacko II, Kakanj 8 and Kamengrad.

**Tackling the environmental and climate crisis using a human rights-based approach is essential to restore vital ecosystem services** whilst equally fighting global hunger and malnutrition. In particular, the human right to adequate food and nutrition (hereafter RtFN) is critical for reshaping the prevailing agro-food system that does not only exacerbate hunger and malnutrition but is also harming both the environment and rural people.

This preliminary study builds on previous efforts<sup>8</sup> to analyze and connect relevant international environmental and climate laws and policy fields in the context of international human rights law and policy and vice-versa. This study examines **the devastating impact of coal mining and coal power plants on the lives and livelihoods of local communities** and how it impacts people’s RtFN and to a clean, healthy, and sustainable environment, among other interconnected rights. It focuses on local struggles and resistance against coal in three locations: the villages of Kličevac and Drmno, which are near the Drmno mine and Kostolac power plant in Serbia; Kamengrad mine and the Kamengrad village, in the municipality of Sanski Most in Bosnia and Herzegovina; and the Ugljevik power plant and coal mine, also in Bosnia and Herzegovina.

The study is primarily based on the information and testimonies of **local anti-coal struggles and resistance** gathered during a field visit conducted in March 2023 by FIAN International, together with the Center for Ecology and Sustainable Development (Centar za ekologiju i održivi razvoj – CEKOR, Serbia) and the Center for Environment (Centar za životnu sredinu - CZZS, Bosnia and Herzegovina). The content of the study was later complemented by desk research and information shared by local organizations. The People’s Monitoring for the Right to Food and Nutrition<sup>9</sup> developed by the Global Network for the Right to Food and Nutrition<sup>10</sup> also inspired the study.



**Section 1 CONCEPTUAL AND ANALYTICAL FRAMEWORK - CONNECTING THE ENVIRONMENT WITH HUMAN RIGHTS TO UNDERSTAND THE IMPACT OF COAL** describes the human rights conceptual and analytical framework, which focuses on the coal cycle and damages and impact on the environment at each stage on human rights, in particular, the RtFN, its related rights, and the right to a safe, clean and sustainable environment.

**Section 2 THE COAL ENERGY AND AGRICULTURE IN THE WESTERN BALKANS** provides a short snapshot of both energy and agriculture in Serbia and Bosnia and Herzegovina. This section presents a general overview of the current situation regarding energy, the dependency on coal, and some development in transitioning toward renewable energy (RE). It also includes a subsection on the present situation of hunger and malnutrition in Serbia and Bosnia and Herzegovina, as well as the main characteristics of agriculture and food production.

**Section 3 LOCAL STRUGGLES AND RESISTANCE AGAINST COAL CASE STUDIES** describes four local struggles and resistance against coal: Drmnno mine and Kostolac thermal power plants (Serbia) in the Kličevac and Drmno villages; the Kamengrad coal mine (Bosnia and Herzegovina) in Kamengrad, located in the municipality of Sanski Most; and the thermal power plant and coal mine of Ugljevik.

**Section 4 HUMAN RIGHTS ANALYSIS TO CONNECT THE ENVIRONMENT WITH HUMAN RIGHTS** analyzes the main damages caused by the coal's cycle, actions and omissions by Serbia and Bosnia and Herzegovina, and violations of a range of human rights, e.g., the RtFN, the right to land, the right to a clean, safe, and healthy environment, the right to water, and the right to health. It refers to the main international human rights and environmental instruments as well as to applicable national laws.

Finally, affected communities, local partners and FIAN International join voices in **Section 5 PRELIMINARY REFLECTIONS AND A WAY FORWARD** to call on Serbia and Bosnia and Herzegovina to implement a set of recommendations to comply with their international obligations and commitments on human rights, the environment, and climate towards the realization of affected communities' human rights.

# 1. CONCEPTUAL AND ANALYTICAL FRAMEWORK - CONNECTING THE ENVIRONMENT WITH HUMAN RIGHTS TO UNDERSTAND THE IMPACT OF COAL

To assess the impact of coal's cycle on local people's lives and livelihoods, this study delves into **the cycle of coal** <sup>11</sup> : **From extraction (mining) and “combustion” (burning of coal), to the disposal of coal's waste**. It examines how damages generated and perpetuated by coal-related activities to the environment and people's health at each stage jeopardize rural communities' realization of the RtFN and its related rights, and the right to safe, clean, and sustainable environment.

## 1.1. COAL'S CYCLE

Today, coal continues to be a significant source of energy worldwide (around 40%) and is the largest single source of carbon dioxide (CO<sub>2</sub>) emissions. Its abundance and affordability, historically, has made coal the dominant energy source, particularly for electricity generation and industrial processes. The process of obtaining coal – from extraction, combustion for energy generation, and waste disposal – have significant implications for the environment, climate change and human rights.



Mining of coal  
Credit: Dominik Vanyi

**Extraction of coal** (underground and surface) involves the removal of underlying sediments, vegetation and rock known as “overburden” for surface mining, while underground mining involves the retrieval of deep earth, which generates toxic residues. The environmental impacts of coal extraction are dramatic. The landscape is torn apart and ransacked, while habitats and entire ecosystems are destroyed. Surface mining can cause landslides and subsidence. Toxic substances leach into the air, aquifers, and water tables and may endanger the health of local communities.<sup>12</sup> Mining also displaces communities, forcing them to abandon their homes and the natural resources they depend on. Families are separated, social fabrics are broken, and traditional culture is endangered. Cases of anxiety, insomnia, depression, and substance abuse have been reported in connection to surface mining.<sup>13</sup> Often the communities are not consulted or sufficiently informed about mining, and they are also denied adequate compensation and rehabilitation.

**Burning of coal** (“combustion”) in thermal power plants results in high emissions of toxic gases and pollutants which harm human health and the environment. Sulfur dioxide (SO<sub>2</sub>) and particulate matter (such as coarse particulates) cause a wide range of health effects: respiratory illness, infections, heart disease, strokes, lung cancer and adverse negative birth outcomes such as preterm birth and low birth weight.<sup>14</sup> Coal combustion also produces an excessive amount of coal ash, which consists of inorganic compounds, minerals of silicon, calcium, and magnesium.<sup>15</sup> Chronic coal dust exposure can cause silicosis and reduce one’s lungs’ ability to breathe. High emissions of gases and aerosols as well as coal ash can pollute arable land in the immediate vicinity. Ash constituents such as boron, arsenic, selenium, molybdenum, vanadium, aluminum, and cadmium are extremely dangerous for plants, if accumulated in their habitat. Mining dust may also exacerbate secondary stresses, such as drought, insects and pathogens, or allow penetration of toxic metals or phytotoxic gaseous pollutants.<sup>16</sup> At increased concentrations, heavy metals primarily affect the microbiological characteristics of soil and inevitably disturb the soil’s structure.<sup>17</sup> The heavy metals that accumulate in the soil reach the plants, as well as animals, agricultural produce, and ultimately, humans.<sup>18</sup>



Burning of coal | Credit: Ella Ivanescu

**Disposal of slag and ash.** Solid waste generated in the process of coal combustion in thermal power plants has to be disposed of. Slag and ash contain numerous chemical elements, including toxic heavy metals. When these chemicals are exposed to rainfall and wind, or come into contact with water, they can cause contamination of underground water and its flows, springs, plants, and soil, thus impacting humans, the entire ecosystems, and the local food system.<sup>19</sup> Ash and slag dumps represent a serious pollution risk for soil and groundwater. The establishment of disposal sites can also lead to displacement of local communities.



Additional mining activities which relate to the deployment and the actual operation of various machines and thermal power plants, and their impact on the environment and health, should be noted. For example, exposure to constant noise produced by mining works is a major health hazard that affects not only mine workers but also communities who reside in and around mining complexes. Exposure to noise leads to multiple adverse effects on the physical and mental state of the mining community. Some of the well-known effects are, for example, tinnitus, noise induced hearing loss, reduced performance, sleeping difficulties, disturbance in conversation, annoyance, and stress.<sup>20</sup>

Tuzla ash disposal site | Credit : Aarhus Center Bosnia and Herzegovina

In sum, coal mining and related activities cause detrimental harm to nature, have adverse consequences on people’s health, and do irreparable damage to ecosystems. They show a **clear link between the environment and humans.**

## 1.2. THE RIGHT TO FOOD AND NUTRITION

**The damage caused in each cycle of coal production is deeply connected to the communities' realization of human rights.** This study applies a human rights framework to its analysis, in particular, the right to food and nutrition (RtFN) and related human rights, as well as the right to a safe, clean and sustainable environment. Article 25 (1) of the Universal Declaration of Human Rights (UDHR) (1948) and Article 11 of the *International Covenant on Economic, Social, and Cultural Rights* (ICESCR) (1966) recognize the right to food and nutrition as an essential component of the right to an adequate standard of living. As an international human right, it obliges State parties, among them Serbia and Bosnia and Herzegovina, to respect, protect, and fulfill the RtFN of their populations. The obligation to respect is a 'do no harm' obligation, requiring states to refrain from taking actions or measures which can impact the enjoyment of the RtFN. The obligation to protect requires States to ensure that individuals or non-state actors, such as corporations, do not infringe on other people's RtFN. The obligation to fulfill entails both an obligation to facilitate and to provide this right. The obligation to facilitate requires States to take measures to foster people's capacities to exercise and realize the RtFN. <sup>21</sup>

While the normative understanding of the RtFN has advanced with the elaboration of the General Comment No.12 of the UN Committee on Economic, Social and Cultural Rights (CESCR, 1999) and further explained in the FAO Right to Food Guidelines, the RtFN is still often regarded as the right to foodstuff. In this study, the RtFN is understood in a more holistic way to encompass nutrition, women's human rights, and food sovereignty, and can only be realized when there is a social process during which every member of a community has a choice at hand, can decide on how to engage with nature, and transform natural resources into food. This food is mostly locally produced, in line with agroecological principles, and consists of diversified diets that are adequate, safe, nutritious and sustainable.

**At the core of this holistic understanding of the RtFN is also the recognition that all human rights are interrelated and indivisible,** and that violations of human rights must be addressed in an integrated manner. The RtFN of rural communities is intrinsically connected to several other human rights; these are the right to land, the right to water, and the right to health (see box below). The RtFN is also closely related to the right to a safe, clean, and sustainable environment, which will be discussed further below.

### BOX 1

#### HUMAN RIGHTS ARE INTERCONNECTED: THE RIGHT TO FOOD AND NUTRITION AND INTERCONNECTED RIGHTS

##### *The Right to Land and its Link to the Right to Food and Nutrition*

For peasants and other people working in rural areas, land, forests, rivers, and all of nature are the very basis of life, culture and identity. They are not only the basis of their livelihoods, including food production, but also fulfill crucial social, cultural, spiritual and ecological functions. Access to, control over and use of land and other natural resources is thus indispensable for the realization of various human rights, among others the right to food. <sup>22</sup>

Over the course of the last twenty years, human rights and other institutions have increasingly recognized the inextricable connection between land and several

human rights. Today, the right to land is explicitly recognized in Article 17 of the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP) which defines it as: “the right to have access to, sustainably use and manage land, water bodies, coastal seas, fisheries, pastures and forests therein, to achieve an adequate standard of living, to have a place to live in security, peace and dignity and to develop their cultures.” Article 5 further establishes that “peasants and other people working in rural areas have the right to have access to and to use in a sustainable manner the natural resources present in their communities that are required to enjoy adequate living conditions [...]”<sup>23</sup>

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### *The Right to Water and its Link to the Right to Food and Nutrition*

The RtFN cannot be realized if people lack access to safe drinking water for personal and domestic uses, defined as water for drinking, washing clothes, food preparation and personal and household hygiene. In addition, for rural populations and peasants, water that is adequate in quality and sufficient in quantity is essential for farming and for livestock needs. Because water plays a key role in the lives of peasants and rural populations, access to water for livelihoods is just as vital as access to drinking water. Furthermore, the water supply for each person must be safe, reachable, and affordable without any discrimination.<sup>24</sup>

UNDROP defines States’ obligations in relation to the right to water: “States shall protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes, from overuse and contamination by harmful substances, by industrial effluent and concentrated minerals and chemicals that result in slow and fast poisoning.” Furthermore, States shall prevent third parties from impairing the enjoyment of the right to water of peasants and other people working in rural areas. States should prioritize water for human needs before other uses, promoting its conservation, restoration, and sustainable use.<sup>25</sup>

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### *The Right to Health and its Link to the Right to Food and Nutrition*

Aside from timely and appropriate health care, the right to health also includes other underlying determinants of health such as an adequate supply of safe food and nutrition, access to safe and potable water, and healthy occupational and environmental conditions.<sup>26</sup> The right to health is closely related to and dependent upon the realization of other human rights, including the RtFN. Ensuring access to adequate food is essential for the enjoyment of the right to health, and good health is a prerequisite for the realization of the RtFN. The RtFN encompasses access to sufficient and nutritious food, which directly impacts overall health, growth, and development of humans. Proper nutrition during early childhood is crucial for cognitive development, physical growth, and overall human development. The RtFN intersects with other rights in providing the necessary conditions for individuals to reach their full potential and lead a dignified life.

### 1.3. INTERSECTION OF THE ENVIRONMENT AND HUMAN RIGHTS: THE RIGHT TO A CLEAN, HEALTHY, AND SUSTAINABLE ENVIRONMENT

While the original texts of the UDHR and ICESCR remained silent on the relationship between nature, the environment, and the RtFN, **the severe and irreversible impact of global warming and the continued environmental and climate crisis have led to a greater recognition of the interdependence between the environment and human rights** – two separate international legal regimes and policy spheres. This, in turn, has facilitated the advancement and incorporation of principles, standards, and concepts that foster the harmonization between these two legal landscapes. This is true not only for the RtFN, but also for an array of human rights mentioned above, contributing to the further advancement and standard-setting of human rights.

There is growing awareness of the triple planetary crisis of climate change, biodiversity and pollution becoming a grave threat to human rights globally. This, as well as efforts to connect the environment and human rights, have finally led to the adoption of the United Nations (UN) General Assembly (GA) Resolution A/RES/76/300<sup>27</sup> on the human right to a clean, healthy, and sustainable environment. The environment is finally recognized as a human right.

*“All people have the right to a clean, healthy and sustainable environment. As human rights and the environment are interdependent, a clean, healthy and sustainable environment is necessary for the full enjoyment of a wide range of human rights, among others the rights to food, water and life.”<sup>28</sup>*

While there is no universally agreed definition of the right to a healthy environment, it is generally understood to include substantive elements such as clean air, healthy and sustainably produced food, access to safe water, and non-toxic environments in which to live, work, study and play; and healthy biodiversity and ecosystems. This adoption builds on the continued efforts of the Special Rapporteur on Human Rights and the Environment to clarify the content of this right (for additional efforts made by human rights bodies in deepening the understanding and connection between climate/the environment and food, please refer to the box below). Such recognition could help communities defend their RtFN and related rights against environmental destruction. Moreover, it could support governments in developing stronger and more coherent environmental protection policies and laws. Here the 2018 UN Declaration on the Rights of Peasants and other People Working in Rural Areas (UNDROP) also merits a mention. It can further serve as a tool for the rural population to fight the escalating environmental destruction and climate change.

#### BOX 2

#### ADDITIONAL EFFORTS MADE BY HUMAN RIGHTS BODIES IN CONNECTING CLIMATE, ENVIRONMENT AND HUMAN RIGHTS

Similar efforts are made by other special procedures of the Human Rights Council in connecting human rights and the environment, including the RtFN. For example, the current and past Special Rapporteurs on the Right to Food have reported on the interplay between climate change and the right to food, and more explicitly on climate change and the RtFN in creating sustainable food systems. Further synergies are found in the work of human

rights bodies and mechanisms. The UN Committee for Economic, Social, and Cultural Rights (CESCR), for instance, concluded that a healthy environment is an underlying determinant of the right to health. The CESCR recommended the reduction of greenhouse gas (GHG) emissions and the implementation of measures to mitigate the adverse consequences of climate change, which impact the RtFN of Indigenous Peoples. There has been an increase in the frequency with which the CESCR has addressed climate change impacts on human rights in recent Concluding Observations and Lists of Issues. For additional information, please refer to FIAN International's publication *The Right to Food and Nutrition as Part of Environment and Climate Justice*.<sup>29</sup>

The following section provides a brief snapshot of energy and agriculture along with the situation of food (in)security in Serbia and Bosnia and Herzegovina.



## 2. COAL ENERGY AND AGRICULTURE IN THE WESTERN BALKANS

### 2.1. COAL AS ENERGY SOURCE IN SERBIA AND BOSNIA AND HERZEGOVINA

**Serbia heavily relies on coal as its main energy source, with coal accounting for approximately 70% of its energy mix.** Hydropower accounts for around 30%, while wind and solar contribute only a small percentage.<sup>30</sup> The country's first thermal power plant began operating in Dorčol at the end of the 19th century. Today, the national power utility Elektroprivreda Srbije (Power Industry of Serbia, EPS) owns and operates the country's five coal plants (Nikola Tesla, Kolubara, Morva, Kostolac A and B).<sup>31</sup> Kolubara and Kostolac are Serbia's main coal reserves, mostly owned and managed by subsidiaries of EPS.<sup>32</sup> Kolubara – synonymous with the word for electricity in Serbian – has been the country's heart of energy production since the early 1950s.<sup>33</sup> Considering the energetic value, lignite is a low-quality coal, and is only suitable for thermal power plants. The Kolubara Mining Basin provides around 75% of the lignite used for EPS' thermal generation. The lignite is used by Nikola Tesla A and B, Kolubara A, and Morava power plants, which together generate more than 50% of the country's electricity. The Drmno mine near Kostolac provides the remaining 25% of lignite, averaging more than 9 million tons per annum. Coal from this mine is used by the Kostolac A and B plants. Production is planned to expand to 12 million tons annually for the needs of the new Kostolac B3 unit.<sup>34</sup> Despite Serbia's plan to join the EU and its commitment to adopt the EU's Climate Law, as signaled by the country's signing of the Sofia Declaration, it plans to expand and construct new power plants. Although Serbia adopted four new laws in the field of energy and mining in April 2021,<sup>35</sup> the country has yet to establish its 2030 climate, energy efficiency and renewable energy targets, and present its National Energy and Climate Plan (NECP).

Over the last century, Bosnia and Herzegovina provided the region of former Yugoslavia with raw material-energy. Bosnia and Herzegovina's electricity generation capacity consists of five coal power plants (Tuzla, Kakanj, Gacko, Ugljevik, and Stanari), which cover almost half of Bosnia and Herzegovina's energy, while the remaining other half comes from hydropower.<sup>36</sup> Today, **Bosnia and Herzegovina is the only country in the Western Balkans which remains a net exporter of electricity, exporting mainly to the neighboring countries of Croatia, Serbia and Slovenia.** During the first nine months of 2022, electricity exports amounted to more than 900 million Bosnian marka (approximately €460 million). This accounted for 7% of Bosnia and Herzegovina's total exports.<sup>37</sup> The EU is planning to



implement a carbon border tax and to stop financing new fossil fuel projects. Currently, Bosnia and Herzegovina is developing a NECP in line with EU regulations, which will establish a GHG emissions reduction target, a renewable energy target, and an energy efficiency target for 2030. So far, no draft has been made publicly available.<sup>38</sup>

Nonetheless, Both Serbia and Bosnia and Herzegovina are considerably energy inefficient, and energy prices are kept artificially low for consumers via subsidies. In Bosnia and Herzegovina, electricity production by thermal power plants is more than four times as energy intensive as the average in EU countries, and the highest in the Western Balkans.<sup>39</sup>

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## 2.2. AGRICULTURE AND FOOD (IN)SECURITY

**Serbia and Bosnia and Herzegovina remain predominantly rural countries, with an estimated 43% and 61% of the population living in rural areas respectively.** Today, just as in the former Yugoslavia era, agriculture continues to play an important role in Serbia, and to a lesser extent in Bosnia and Herzegovina, both economically, in terms of its contribution to the country's GDP, and socially as the main source of employment. In Serbia, agriculture (and food production) is the largest export sector, accounting for over 10% of the country's GDP and around 20% of all exports.<sup>40</sup> In Bosnia and Herzegovina, agriculture accounts for 8%. While there are significant differences in terms of soil quality and agricultural production systems, Serbia is generally blessed with fertile soils and favorable climatic conditions. Two-thirds of the total arable land in Serbia are used for agriculture, whereas Bosnia and Herzegovina's fertile lowlands comprise a quarter of the country's agriculture land. There are one million hectares of arable land available, with farms accounting for approximately half of it, while only 0.65% of the area suitable for agriculture is irrigated due to undeveloped irrigation infrastructure. Serbia is not only a self-sufficient country compared to the rest of the Western Balkans, it would also be able to feed at least half of Europe.<sup>41</sup> In contrast, Bosnia and Herzegovina is a net food importer.<sup>42</sup>

The most important Serbian agricultural products are, among others, corn, wheat, sunflower, sugar beet, soybeans, potatoes, and some fruits such as raspberries, apples, plums, cherries, and grapes. Livestock farming (pork, beef, and poultry) also has a long history. In Bosnia and Herzegovina, the main crops produced are maize, wheat, forage and fodder crops, barley, potatoes, vegetables and fruits (apples, plums, pears), the majority of which are grown in the valley of the rivers Sava, Una, Sana, Vrbas, Bosna, and Drina, where the highest-quality soils are found.<sup>43</sup> Although the share of agriculture in both countries' GDP has been continuously decreasing, it remains the backbone of the rural economy, employing 20% of the workforce in Bosnia and Herzegovina and 15% of the workforce in Serbia.<sup>44</sup> One additional social aspect to consider is the fact that agriculture provides a social safety net and a means for the realization of the right to food and nutrition in particular for many elderly people who do not have an alternative source of income and thus depend on subsistence agriculture for their livelihood.<sup>45</sup>

The size of farms in Serbia and Bosnia and Herzegovina is generally small (one to five hectares), and they are smaller than the average size of farms in European countries. There are about 500,000 smallholder-owned farms in Bosnia and Herzegovina. In Serbia, out of over 630,000 agricultural holdings (amounting to 3,355,859 hectares of land), the vast majority (97%) are family-owned. Due to the small farm size, most farmers produce only enough for their own household consumption or sell only a small portion of their produce.<sup>46</sup> Even in Vojvodina, Serbia's food basket, income from farming remains on average at around 20% of household revenues. In other words, rural households secure 80% of their income from other sources, mainly pensions and off-farm work.<sup>47</sup>

**Despite the crucial role of agriculture, Bosnia and Herzegovina and Serbia are both vulnerable to food insecurity.** According to the UN Food and Agriculture Organization (FAO), while the prevalence of undernourishment among the population remained low in the period between 2019-2021 for Bosnia and Herzegovina and Serbia (below 2,5% and 3,3%, respectively), both countries showed a relatively high prevalence of moderate or severe food insecurity within the total population (12,6% and 14,1%). This is a 3% increase for both countries from previous years (2014-2016). There is currently also a strikingly high prevalence of overweight children as well as obesity among the adults in Bosnia and Herzegovina and Serbia (12,8% / 17,9% in Bosnia, 10,8% / 21,5% in Serbia).<sup>48</sup> The segment most likely to be affected by food insecurity are rural populations who live below the poverty line. The gender dimension needs to be highlighted too as women make up slightly more than half of the country's poor.<sup>49</sup>



## 3. LOCAL STRUGGLES AND RESISTANCE AGAINST COAL - CASE STUDIES

### 3.1. KLIČEVAC AND DRMNO VILLAGES: DRMNO MINE AND KOSTOLAC THERMAL POWER PLANTS (SERBIA)

Kličevac and Drmno are two villages located in the municipality of Požarevac. The population is of 1200 and 900 inhabitants respectively.<sup>50</sup> Požarevac is part of the Smederevo region, situated at the southern border of the Pannonian Plain, one of Europe's major agricultural areas, with very fertile, rich loamy loess soil. The Smederevo region is famous for its vineyards and orchards. Cultivation of fruits such as quinces, pears, and plums can be seen everywhere, and brandy is one of the major processed products. **Agriculture is among the main sources of livelihood for the inhabitants of Kličevac.** Farmers grow different varieties of fruits (e.g., apples, pears), nuts (e.g., hazelnuts, walnuts) and cultivate vineyards. Livestock farming, such as chicken-keeping, is common. Like in other parts of Serbia, small-scale agriculture is prevalent, mainly for the purpose of own consumption. Only a minority of those engaged in agriculture are full-time farmers and fully derive their income from farming. In line with the overall trend in the Balkan countries, many Kličevac residents have migrated, becoming year-round guest-workers in Austria, Germany, Switzerland, and Italy.<sup>51</sup>

Kličevac and its nearby village of Drmno (7 km air distance) are directly connected to the Drmno open pit coal mine. Today, the coal mine is situated only 200 meters away from the Kličevac village after its illegal expansion to increase its production from 9 to 12 million tons of lignite. Due to its vicinity, the village is heavily affected by the impacts of the Drmno mine as well as the Kostolac thermal power plants. **During the last decade, about 3000 hectares of agricultural land was destroyed and converted into an open pit mine and roads.**<sup>52</sup>

## BOX 3

### DRMNO COAL MINE AND KOSTOLAC THERMAL POWER PLANT

The Drmno mine deposit (surface mine) is located in the eastern part of the Kostolac coal basin and covers an area of approximately 50 km<sup>2</sup>. The Drmno mine is the last remaining active pit in the Kostolac mine complex and supplies coal to the Kostolac Power Plant.<sup>53</sup> The Drmno mine is operated by OPM Kostolac, a subsidiary of the State-owned electric utility power company Elektroprivreda Srbije (EPS). Underground coal mining in Kostolac began as early as 1870, leading to the destruction and loss of some of the most fertile land in Serbia. It was the only source of energy for Serbian industry and transportation at that time.<sup>54</sup> Today, there are two thermal power plants: Kostolac A and Kostolac B. Both thermal power plants have two units. Kostolac currently has two ash depositories; one of these is expected to shut down soon as it has almost reached its full capacity. The newer ash depository has been the subject of several controversies and is not yet fully functional.<sup>55</sup> EPS also plans to open a new coal mine - Kostolac Zapad (West) - in the Western part of the Kostolac mining region. A few hundred hectares of land would be expropriated to this end.



Drmno coal mine | Credit: Wikimedia Commons

## BOX 4

### EXPANSION OF THE KOSTOLAC THERMAL POWER PLANT - KOSTOLAC B3

In 2010, a plan to re-establish and construct a new power plant only 15 km from the Romanian border – Kostolac B3 (third block in Kostolac B thermal power plant) – was announced, and the construction is now almost complete. This major energy project is financed by the China Exim Bank, and led by the China Machinery Engineering Corporation (CMEC).<sup>56</sup> The State-owned company EPS expanded its annual coal production from 9 to 12 million tons to provide for the planned Kostolac B3.<sup>57</sup> The Kostolac B3 project is riddled with irregularities and inconsistencies: There was no tender procedure, no parliamentary scrutiny, and no Environmental Impact Assessment (EIA) neither for the mine expansion nor for any transboundary impact analysis. This has prompted several legal actions, including a formal complaint filed by the Serbian Center for Ecology and Sustainable Development (CEKOR) at the national administrative court, challenging the government's decision to approve the allegedly illegal EIA study that was conducted for Kostolac B3.<sup>58</sup>

CEKOR won the court case twice, but taking advantage of loopholes in Serbian legislation, the government simply reissued an EIA permit, which was later challenged once again by CEKOR in court. The new plant will worsen the environment and the health of the local population (e.g., chronic lung diseases, heart conditions and asthma), and it is estimated that more than 1200 people will die from a premature death once the plant is opened.<sup>59</sup> Furthermore, it is likely that farmland will be expropriated, and people will be relocated so as to construct a railway that would through the nearby village,<sup>60</sup> equally damaging archaeological sites.<sup>61</sup> As of November 2022, according to the Serbian Minister of Mining and Energy, the last contingent of key equipment is pending delivery.<sup>62</sup>



Kostolac thermal power plant | Credit: CEKOR, Serbia

During the interview, a farmer shared the story of his son who lost his agricultural land due both to an illegal mine expansion (conducted without an appropriate EIA) and to the construction of a public road partially for mining works. The family filed a case for compensation for their lost land and produce, but to no avail. Another village woman criticized the local parliament's decision to rezone 40 hectares of agricultural land for industrial use to allow for mining.

**Mining leads to the release of coal dust particles which contain heavy metals and potentially toxic elements into the air.** In Serbia, fly ash, bottom ash and unburned coal residues are generated,<sup>63</sup> and easily dispersed during and after being deposited in existing ash deposits. In recent times, EPS is mixing coal ash with gypsum from desulfurization (DeSOx) without reducing quantities of fly ash in the air.<sup>64</sup> Lignite from the Drmno line is combusted at the Kostolac thermal power plant to produce energy, thereby generating large amounts of fly and bottom ash, which is then disposed of in the nearby landfills. The Kostolac thermal power plant produces about 740,000 tons of ash every year.<sup>65</sup> According to local small-scale farmers interviewed in Kličevac, they suffer the consequences of this dust pollution, including new plant diseases that are visible on the leaves, and a considerable drop in produce in their orchards and vineyards, which actually gets worse the closer the land is to the mine. They have observed that when the agricultural plot is within 200 meters from the coal mine, yields can drop by about 30%, substantially impacting their income. A study conducted in 2016/2017 using soil samples from farmland located in the vicinity of the Kostolac thermal power plant revealed high levels of non-permissible heavy metals in the soil, such as copper, lead, zinc, arsenic, chromium, and nickel.<sup>66</sup>

**People are suffering from numerous health impacts attributed to the mine and the thermal power plant.** An unemployed and sick man living at the end of the transportation belt in Kličevac shared that he cannot afford the EUR €30 to €40 (US \$32 to \$43) he needs per month for medicine. According to CEKOR, no impact assessment was carried out before building of the transportation belt, and no buffer zone between the village and the belt was created. This belt transports at least 150 million tons of coal.

A large amount of coal produced in Drmno is burned at the Kostolac thermal power plant, which is known for producing an enormous quantity of underground water.<sup>67</sup> Aside from this, the power plant also uses millions of cubic meters of chemically processed water from the Danube river that is discarded back to the Danube river after its utilization.<sup>68</sup> For the Kostolac power plant alone, 400 pumps were installed to drain an immense amount of water, which, in combination with the disturbed flow of underground water that leads to waterlogging, is making agricultural land much less productive. Due to the raised water levels, the villagers also complain about regular flooding in the basements and underground storage of their houses. Additionally, mining impacts household water. An interviewee in Kličevac complained that running water is no longer suitable for daily usage and they therefore have to travel to the next village for water. Similarly, another interviewee who lives across from the thermal power plant in Kličevac explained that they drive to a nearby spring to fetch water for their daily consumption. This adds additional pressure on villagers' income as they are compelled to drive and pay for gasoline.

In addition, changing wind patterns have also impacted crop production. Due to deforestation and destruction of hills to make way for mining, wind, which used to blow from the East, is now coming from both East and West. This cools the air and affects crop production negatively. What's more, the westerly wind coming from the direction of the mine carries a stream of polluted air and dust. Local villagers are thus very concerned about their food being contaminated. One interviewee expressed clearly: "With such a high degree of soil and water pollution in Kostolac, all cultivated food is contaminated." Although there has not been a laboratory test on local food produced, it is highly likely that locally produced food may contain poisonous substances, as is the case in Tuzla, Bosnia and Herzegovina, which is home to the Tuzla thermal power plant (see the box below).

## BOX 5

### EXAMPLE OF SOIL AND FOOD CONTAMINATION FROM COAL ASH IN TUZLA, BOSNIA AND HERZEGOVINA

Tuzla is the third largest city in Bosnia and Herzegovina, with surrounding areas characterized by one of the largest coal basins in the country. The Tuzla thermal power plant is the largest coal power plant operated by Elektroprivreda Bosne i Hercegovine (EPBiH), a public company, since 1963. About 600,000 m<sup>3</sup> of coal ash is produced annually by the Tuzla thermal power plant.<sup>69</sup> For the disposal of coal ash, water is mixed and pumped into nearby artificial impoundments established and/or in the lateral valley of river Jala tributaries.<sup>70</sup> Of the total 173 hectares of area covered by ash, 73 hectares were covered with soil and mineral substrates. These have been utilized by local farmers for agricultural production (i.e., corn), allowing therefore food produced thereon to enter the food chain for more than a decade.<sup>71</sup>

A study conducted by the Center for Ecology and Energy (Centar za ekologiju i energiju)<sup>72</sup> revealed that the soil currently used for agriculture contains extremely high concentrations of nickel, and high contamination levels of chromium and cadmium. Such chemicals were also found in locally produced and marketed food such as eggs, as well as vegetables (e.g., onions, garlic, herbs). Tested hair samples of local inhabitants showed the presence of highly toxic heavy metals, resulting most probably from food intake (nutrition) and exposure to the living environment (anthropogenic sources). Another study conducted by the University of Vienna and funded by the European Union observed how the discharge of untreated, alkaline and toxic ash transport water from the disposal site posed a large

environmental burden on local water resources and aquatic organisms.<sup>73</sup>

Concerned villagers continue to produce and sell locally produced food (i.e., corn for corn bread), unaware of its danger, because the responsible authorities fail to take any actions.

*“It is high time the authorities take actions to protect the interest of the population, rather than those of the polluters.”*

-Denis Žiško, Aarhus Center, Bosnia and Herzegovina



Tuzla, contaminated soil used for agriculture | Credit: FIAN International

During interviews, people expressed their concerns regarding the lack of democratic governance: There have been no local elections since 2013, and local citizens do not feel they can actively take part in decision-making. Allegedly, the local village council is controlled by the ruling party, and all local government representatives are appointed by the municipal government of Požarevac. Farmers further shared the extent to which mining has led to a decreased amenity value of their land. Very often, mines decrease the amenity value of the landscape, and the present techniques used for reclamation and mitigation cannot undo the catastrophic effects of mining on the land.<sup>74</sup> The villagers are unable to sell their land at a reasonable price and have no other option than to stay where they are.

Farmers outlined the generally difficult situation they face in Serbia, and the lack of state support, such as, for example, to market their produce. Farmers have to bear the brunt of changes in market prices due to price fluctuation, one example of which is when the prices for wheat and maize dropped due to Euro inflation. Adding to this, farmers are reportedly concerned about losing their farmland to the planned establishment of a waste dump of 50 hectares, a solar park and a wind farm (see box below). They are skeptical and complain that the government prioritizes building a solar park on arable land when they could be supporting villagers to install solar panels on houses roofs instead.

## BOX 6

### WIND AND SOLAR PARKS IN KOSTOLAC

EPS plans to open its first wind farm with 20 turbines of 73 mega watt (MW) to be spread across Drmno, Petka, Ćirikovac and Klenovnik on the open cast mines and landfills of Kostolac thermal power plants (OPM branch). The project will cost around EUR €114 million (US \$122 million), out of which EUR €80 million (US \$86 million) will be financed through

a loan from the German Development Bank KfW.<sup>75</sup> EPS also envisages a solar park near Kostolac power plant. According to the tender documentation, the solar park will be constructed near the village Petka, within the tailing pond of the thermal power plant's open-pit coal mine.<sup>76</sup>

Villagers and a local NGO fear that the wind park will make deforestation inevitable and that a solar park will destroy arable land. It is not clear who the project implementer will be – either EPS or a private actor – nevertheless, villagers are raising their voices against the possibility of constructing the solar plant on arable land.<sup>77</sup>



Kostolac power plant | Credit: Wikimedia Commons

The situation in **Drmno** is even worse. Situated directly at the edge of the mine and even closer than Kličevac to the thermal power plant, **Drmno is entirely surrounded by the mine and the power plant. There is virtually no arable land anymore as it has been ravaged for mining.** Many people in fact had to give away their arable land, as elucidated by one woman, who also highlighted the ongoing irregularities: “The mine took 10 hectares of our arable land, also some grazing land and forest from my family. Permanent cultures were not compensated. The company did not compensate as per the respective legislation regulating expropriation. Some people were cheated and did not receive adequate compensation.<sup>78</sup> Others did not receive any compensation for the produce”. Interviewed villagers also reported that compensation for expropriated land was not paid according to the respective legislation.<sup>79</sup> Another villager and representative of the local association Zdravo Drmno (Healthy Drmno) explained: “Our village used to have 1800 hectares of agricultural land. Today there are only 50 hectares, if not less. When mining started, it destroyed my vineyard. The compensation my family received was inadequate, as it was only for the agricultural land but not for the house because the company does not want to resettle. Whether or not you receive adequate compensation depends on your membership in the ruling party. Corruption is rampant. If you are a member, then you can even get a compensation three times higher for the same parcel of land.”

Accessing clean drinking and irrigation water has become a real challenge in Drmno. The villagers complain that water is not suitable for drinking, and at times not even for washing the face. As seen in the case of Kličevac, villagers in Drmno also have to fetch water from other places. Following higher levels of pollution, the poor water quality also affects the small quantities of locally produced vegetables. Before the mining started, people used to grow their own food, but now people purchase most of what they eat. One woman expressed her woes: “Forty years ago, we had sheep, pigs and four cows and bulls. We sold milk and cheese. We also grew sugar beets, made our own wheat flour, and grew cabbage and other sorts of vegetables. We ate what we produced, and we were independent. Now, we have to purchase all food items because all our agricultural land has been expropriated for the mine and is destroyed. When you grow your own food, you know what you are eating. If you buy food from outside, the quality is not the same”.



The interviewed villagers also report that the whole village is physically sinking; more precisely, the village is sliding in the direction of the nearby Mlava river following an illegal expansion of the dumpsite for mining. Furthermore, ground vibrations and air blasts from mining operations are causing cracks in houses. One woman expressed her fear that her garage and house might collapse due to deep cracks. According to interviews conducted by CEKOR five years ago, out of 200 households in Drmno, 160 households had cracks in their houses. In fact, a complaint filed by a village family supported by CEKOR against the cracking remains unresolved today.<sup>80</sup>

### *“The Village is sinking as we speak”*

Zvezdan Kalmar, Coordinator for Energy and Climate Change, CEKOR.

Particularly in Drmno, air pollution is at its worst. Due to dust and smoke, clothes cannot be dried outside, and people complain of difficulties in breathing. They are forced to leave their windows shut, not only due to dust, but also because the smell and the overall air pollution caused by the mine is unbearable. Many residents have developed asthmatic allergies. Moreover, people observe a rise of urological problems as well as cancer, which are allegedly associated with the dust. Mineworkers are especially heavily affected, according to several interviewees, and many of them do not live for more than a few years after their pension age. One interviewed female villager expounded: “My son and other family members are working at EPS. My husband has developed breathing problems and has an issue with his liver and receives a disability pension. He cannot breathe and needs oxygen. Just last month he was in hospital and nearly died. I am also facing many health issues with thyroid, high hormones, and diabetes. We spend around EUR €30-40 per month on medical expenses. Considering that our monthly pension is less than EUR €200, this is a lot. We depend on our children to support us. Most of the health problems faced by the inhabitants of Drmno, I believe, are related to the mine”.

The health impact of coal mining on mine workers (such as pneumoconiosis, tuberculosis, asthma, and other chronic lung disorders as well as respiratory disorders)<sup>81</sup> has been studied intensively. However, there are no official government reports available regarding such health data and impacts at the local village level. EPS does not display relevant pollution levels for the thermal plants, so the villagers have no information about air pollution. In the face of governmental inaction, one interviewed farmer proactively measured pollutants using simple measurement equipment. Due to the repression that he is facing, he cannot make his data public. A local medical doctor has observed cases of death of young villagers caused by cancer and urological complaints, but he also remains silent for fear of being branded as an enemy of the state. Fear looms over the local population for speaking out against the mines and the State, which is the legal owner of the mining and the thermal power plants.

One villager expressed: “If you do not support the ruling party, then there are no job prospects for working in the mines. You will also not get any health care.” A local activist explained that it is prohibited to film in the vicinity of the mines and the thermal power plants. “If they catch you without permission, you are put in jail. They will harass you, and you may lose your job. They might even threaten your families and children. Through creating fear, the State is disallowing people’s access to information.”

Apart from air pollution, noise pollution is also a factor that negatively impacts health. According to testimonies, machines such as digging machines, trucks, crushers, conveyor belts, among other equipment, are running 24 hours per day, 7 days per week, and people are constantly exposed to the noise. In addition, people also complain about vibrations caused by the conveyor belt and heavy machinery.

### 3.2. KAMENGRAD, MUNICIPALITY OF SANSKI MOST: KAMENGRAD COAL MINE (BOSNIA AND HERZEGOVINA)

Kamengrad is a village with a population of approximately 2300 people located in the municipality of Sanski Most, Una-Sana Canton, Federation of Bosnia, and Herzegovina. The area surrounding Kamengrad is mainly used for agriculture. The soil is very fertile, and the climate is conducive for two harvests a year (e.g., winter wheat and maize). Agricultural production is diversified, with animal husbandry and cultivation of a variety of crops, e.g., oats, soy, and watermelon.<sup>82</sup> Apart from the mine, there are no other major industries in Kamengrad.

#### BOX 7

#### THE KAMENGRAD COAL MINE AND PLANNED KAMENGRAD COAL POWER PLANT

The Kamengrad coal mine is situated near Sanski Most. The coal mine is right in the middle of the Kamengrad village. After the previous state-owned mine operator RMU Kamengrad went bankrupt in 2014, a 30-year mining concession was awarded to one of Bosnia and Herzegovina's construction supply businesses, Lager d.o.o., in 2015.<sup>83</sup> The mine contains 115 million tons of proven coal reserves and an estimated 400 million tons of untapped coal reserves. It is one of the largest coal reserves, not only in Europe, but in the world.<sup>84</sup> The mined coal is sold to coal power plants in Bosnia and Herzegovina as well as neighboring countries. It is the only privately-owned mine in Bosnia and Herzegovina today. In November 2017, a Memorandum of Understanding for a power plant near the mine was signed between Energy China International (China Energy Engineering Corporation Limited, CEEC) and the construction equipment supplier Lager d.o.o.<sup>85</sup> The construction of the thermal power plant had been considered a strategic project and one of the largest investments in the energy sector of Bosnia and Herzegovina.<sup>86</sup>



Kamengrad coal mine | Credit: FIAN International

During the interviews, people reported that they had not been consulted prior to the establishment of the mine and that relevant information was not publicly accessible. **They only found out about the mine when trucks and machines started arriving and the work started.** When mining started in 2010, several families were displaced to make way for coal mines.<sup>87</sup> The villagers further shared how Lager d.o.o today continues expansion and is purchasing properties from villagers who are willing

to sell them. A farmer lamented how he wishes to continue working on his land and rearing his cows, but the recent digging by Lager d.o.o on land they bought nearby does not allow him to work as freely as before. Additionally, he used to grow maize and wheat to make his own bread and he produced fresh milk and cheese, but the dust from the mine has put a halt to that. Meanwhile, other farmers saw their agricultural land being destroyed by explosives used to deep-dig the mines (up to 100 meters underneath earth), causing cracks and an increase in avalanches. They equally noted that mine operations can cause landslides. Farmers thus face enormous challenges when it comes to producing more.

Due to coal exploitation, the local population is exposed daily to air pollution from mine dust and smoke caused by sporadic fires at the location of the coal deposit.<sup>88</sup> People also suffer from noise pollution due to very loud mining activities allegedly conducted 24 hours a day. No measurements are taken by the company, nor the government, and the villagers are forced to accept the noise.

Adding to the vulnerability of the food production system, villagers claim that climate change is already impacting agricultural production. For example, according to a local farmer, he has witnessed how due to changing weather patterns, the morning dew, which the nearby Grmeč mountain provided, and which is an essential factor to moisture crops to grow, is less now during the summer. But despite the loss of healthy soil for food production, farmers do not stop caring for nature, and they continue to acquire knowledge about ecosystems. One farmer explained that he constantly discovers how fertile his land is, for instance, even the numerous stones scattered on the field have their specific meaning: they absorb the heat and cool the plants on hot summer days.

After the mine was established, land prices skyrocketed.<sup>89</sup> Many people are reportedly approached by a fellow villager – a company employee of Lager d.o.o – who applies different tactics to persuade them to sell their land.<sup>90</sup> In addition, mining is often carried out beside people's fields, so that they have no other option than to sell the land, as it becomes unfit for cultivation. The legal fight against a company requires financial resources that many simply do not have.

In addition to the above, according to local villagers, the river Bliha (a tributary of the Sana River),<sup>91</sup> adjacent to the coal mine, has been recurrently polluted by the mining, detonations and draining operations. They have also witnessed unregulated disposal of tailings along its riverbed.<sup>92</sup> To date, the villagers have to continue using available water sources, even though they question the water quality as no official measurement has been carried out by the company or the government regarding possible contamination. Blihin Skok, a regionally known waterfall which was declared a natural monument in 1954 is near the mine. This waterfall is now endangered by the inadequate storage of coal and tailings, just a few kilometers upstream from the waterfall.<sup>93</sup> The government has not taken any measures to counter or avoid any further damages by Lager d.o.o.

Following the discovery of dead fish in the river Bliha in September 2020, residents, with the help of Centre for Environment (CZZS), an environmental NGO, submitted a complaint to the local environmental inspectorate with the intention of proving the link between river pollution and the mining activity.<sup>94</sup> While the Inspectorate has issued a fine to Lager d.o.o. several times, the fine is so marginal that the company pays it easily and bears no consequences.<sup>95</sup>

In recent times, the villagers in Sanski Most have been opposing the construction of a plan to build a new thermal power plant with two units, with a total capacity of 430 MW near the Kamengrad mine. According to the residents, the State has allegedly already provided the concessions for the mining of the neighboring hill of the Kamengrad mine (10,000 ha). A local NGO claimed that this mine (Zlauša) currently employs between 50 and 100 workers.<sup>96</sup> Kamengrad residents are very concerned about the ongoing damage to the natural surroundings of the mine and skeptical about the economic feasibility of the mine.

In particular, the approximate location near the Sana river prompted the residents to question the project's impact on ecotourism, agriculture and conservation.<sup>97</sup> In May 2018, a special thematic session was held by the Municipal Council to discuss the planned Kamengrad thermal power plant and a decision that in the future “no activity regarding this initiative will be undertaken without the consent of the Municipal Council and the citizens of Sanski Most”.<sup>98</sup> This decision was reiterated at a public debate on the spatial plan of the Una-Sana Canton held in August 2018 in Sanski Most, during which the participants demanded the removal of the construction of the Kamengrad thermal power plant from that plan.<sup>99</sup> As of today, the plant is highly unlikely to go ahead, but it has not been officially canceled.

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### 3.3. UGLJEVIK: COAL MINE AND THERMAL POWER PLANT (BOSNIA AND HERZEGOVINA)

Ugljevik, situated in the Northeast of Bosnia and Herzegovina, in the Republic of Srpska, is a town and municipality with roughly 4000 and 16,000 inhabitants, respectively. Ugljevik has a long history of mining which dates to 1899, and the city's name is derived from the word “ugalj” which means coal. **When mining in Ugljevik started in the 1980s, the earlier town of Ugljevik was removed for mining purposes and people had to resettle in the newly built complex (New Ugljevik).**<sup>100</sup>

The residents of Ugljevik today are either employed at the Ugljevik thermal power plant or are engaged in agriculture. Even those who work at the power plant have a small plot of land (of about one hectare). According to a local villager: “Everyone here is engaged in agriculture as a “side income”.

#### BOX 8

#### UGLJEVIK COAL MINE AND UGLJEVIK THERMAL POWER PLANT

The Ugljevik coal power plant was commissioned in 1985 and has a capacity of 300 MW. It is situated at the foothills of Mount Majevisa. The Ugljevik power plant is supplied by the nearby Ugljevik open-cast coal mine in the field named Bogutovo Selo.<sup>101</sup> The plant is owned and operated by Rudnik i termoelektrana Ugljevik (RiTE) Ugljevik, a subsidiary of a State-owned integrated power company Elektroprivreda Republike Srpske (EPS). The thermal power plant of Ugljevik emits more SO<sub>2</sub> than all of Germany's coal power plants put together and nearly 50 times more than the EU's worst polluter, Bełchatów in Poland.<sup>102</sup> Ugljevik is thus often referred to as the “European Chernobyl”. Although a financing contract for installing desulphurisation (DeSOx) equipment was signed in 2009, the installation is still not functioning due to several problems.<sup>103</sup> Plans to expand the existing plant with two new 300 MW coal-fired units have been challenged on numerous occasions by CZZS due to a lack of public consultation and the project's non-compliance with EU regulations.<sup>104</sup> Despite its initial announcement, China has refused to finance the Ugljevik 3 Project.



Ugljevik coal mine | Credit: CZZS, Bosnia and Herzegovina

To build the Ugljevik thermal power plant, 200 households from Bogutovo village (situated next to the Ugljevik power plant) and more than 50 families from Stari Ugljevik were displaced. An additional 50 households were evicted after the Bosnian War (1982-85). Still today, many families reside in the vicinity of the mine. While some stayed because they did not want to leave their homes, others remained due to unresolved expropriation contracts.<sup>105</sup> One interviewee added: “When the coal business expanded, the forest was cut down and land was excavated”. Even today, due to the expansion of the existing coal mine, some houses in Mezgarja and Bogutovo Selo villages are being relocated.

Despite coal and its expansion, Ugljevik remains a fruit-growing region. During the interviews, local farmers echoed the impact of both coal mines and the power plant, particularly regarding the dust which seemingly leads to a reduction in the fertility of agricultural land. The Ugljevik thermal power plant produces around 420,000 m<sup>3</sup> ash per year.<sup>106</sup> Despite being different in size and scope, all farmers sell their agricultural produce such as apples, plums, and cherries, to sustain their livelihood and keep afloat. Farmers living next to the power plant have noticed how the direction of the wind and dust from the thermal plant affects the quality of fruits grown. Although no concrete research has been undertaken on the impact of dust deposits on vegetation and crops in Ugljevik, some studies show that dust generated by coal mines may lead to reduced growth, fruit set and leaf lesions as well as partial defoliation.<sup>107</sup> Besides issues with quality, farmers need to allocate extra time to clean the harvest that is covered in a deep layer of dust. One interviewee said that in May and June (the dry season), levels of dust are the worst. The area has long since stopped producing “požegača” plum, and it used to be considered the best area in which to produce the much coveted “slivovitza” plum (plum rakija).<sup>108</sup> Irrigation water is still available, however, villagers fear that it will disappear if an additional mine is established (as per plans already under way).

Ugljevik thermal power plant is causing severe health impacts, contributing to 48% of all health impacts from coal power plants in Bosnia and Herzegovina which are included in the National Emissions Reduction Plan. Its emissions are attributed to the most days of asthmatic symptoms in children, and the highest number of cases of bronchitis in children due to dust emissions, and of hospital admissions because of cardiovascular and respiratory symptoms.<sup>109</sup> Villagers notice an increase in neighbors who complain about respiratory diseases and in cases of cancer.

Landslides and damage to local roads caused by the coal mining have increased year by year. Many houses have developed cracks, but according to one interviewee, the government refused to provide compensation. During the last 12 months, only one family whose house was the most affected by the cracks was compensated.

Despite the irreparable damage done to nature and peoples’ health, there is a plan to establish two new units for the Ugljevik coal power plant (total 700 MW). In 2018, due to a range of emissions and procedural errors, the first environmental assessment process was halted. The Municipality of Ugljevik brought forward severe problems of environmental damages, including changes

in the terrain morphology, landscape, climate factors and hydrological regime, requiring the local population to be resettled, and pointed out detrimental impacts on the flora and fauna and human health. During a public debate held on August 31, 2022, a local farmer commented on the threat to drinking water springs and land within a radius of 1 Km from the new planned coal power plant and disposal facilities, slag, and other harmful substances of the coal power plant. He also criticized that the draft environmental impact assessment was insufficient and did not analyze the overall impact of coal power plants on the local communities' health, crops, forest, and water resources.<sup>110</sup> In December 2022, the District Court in Banja Luka annulled an earlier approval of the expansion project due to a lack of public participation in the environmental planning process and an inadequate assessment of pollution emissions such as carbon dioxide. However, an official cancellation of the 700 MW expansion is still outstanding.<sup>111</sup>

*“Policies and laws are there to be respected and duly followed. What is the point of having them if they are simply ignored? We need to keep our environment clean, alive, and for people and communities to be able to live on their land for as long as they wish to.”*

Dragan Ostić, Energy and Climate Change, CZZS.

## 4. HUMAN RIGHTS ANALYSIS TO CONNECT THE ENVIRONMENT WITH HUMAN RIGHTS

The above-described case studies of local struggles and resistance against coal in two Western Balkan countries which source much of their energy from coal – Serbia and Bosnia and Herzegovina – clearly show how each stage of the coal cycle damages the environment and impacts human rights, in particular, the right to food and nutrition (RtFN), its related rights, and the right to a safe, clean and sustainable environment.

Serbia and Bosnia and Herzegovina are State parties to several international human rights instruments, either by way of succession or ratification. Among these are the *International Covenant on Economic, Social and Cultural Rights* (ICESCR), the *International Covenant on Civil and Political Rights* (ICCPR), the *Convention on the Elimination of All Forms of Discrimination against Women* (CEDAW), and the *Convention on the Rights of the Child* (CRC). Both States have also ratified the *European Convention on Human Rights*. By virtue of their obligations under these instruments, both States must take proactive measures to respect, protect, and fulfill human rights enshrined therein and abstain from any acts and omissions that could result in impairment of their enjoyment. These human rights treaties are also an integral part of the national legal systems in the Republic of Serbia (*Constitution*, Article 16) and Bosnia and Herzegovina (*Constitution*, Article III 3 b). In addition to a catalog of human rights which are explicitly recognized in the Constitutions,<sup>112</sup> national legal and policy frameworks spell out the implementation of Serbia and Bosnia and Herzegovina's human rights obligations at national level.

Serbia has also voted in favor of the UN Declaration on the Rights of Peasants and other People Working in Rural Areas (UNDROP). Both are Parties to the *Convention on Biological Diversity* (CBD), a multi-lateral agreement that covers biodiversity at all levels: ecosystems, species and genetic resources. Moreover, as Serbia and Bosnia and Herzegovina are UN Member States, both are mandated to consider the UN General Assembly Resolution on the right to a safe, clean and sustainable environment (Resolution 76/300).

In addition to the above, Serbia and Bosnia and Herzegovina are parties and signatories to the following climate and energy related agreements and commitments: the Paris Agreement, the *Treaty Establishing Energy Community*, and the Sofia Declaration on the Green Agenda for the Western Balkans.

The human rights analysis of the above-described case studies portrays the nexus between energy, the environment and agriculture, and food production. It sheds light on the extent to which the coal's cycle has polluted the air, water and soil; damaged arable land and agricultural products; caused irreparable damage to human health; and contributed to abuses and violations (or threats thereof) of local communities' human rights due to States' actions and omissions, particularly the RtFN and interrelated human rights. Nonetheless, both countries continue to plan the expansion and (re)building of new coal thermal power plants with the help of external actors and funding.

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#### 4.1. DESTRUCTION AND LOSS OF ARABLE LAND AND OTHER NATURAL RESOURCES AND DETERIORATION OF SOIL FERTILITY

The Smederevo region, Kamengrad, and Ugljevik are renowned for their fertile lands and thriving agriculture. Unfortunately, these lands have been demolished to make way for coal mines. As a result, **rural communities in Kličevac, Drmno, Kamengrad, and Ugljevik have lost their land - their primary source of livelihood.** Coal mines have also caused rural communities to be displaced from their traditional territories. In Ugljevik, mining suddenly seeped into villages, disrupting residents' lives, land, and livelihoods, resulting in the relocation of entire villages. If these conditions persist, the risk of landslides also raises concerns about possible community displacement in Kamengrad and Ugljevik.

In Kličevac, 3000 hectares of arable land have succumbed to mines and roads. The expansion of mines and related constructions, such as roads and dump sites, in Kličevac and Kamengrad, continue to endanger agricultural land.

Mining activities have devastated agricultural land in several ways. Surface mining, which involves using explosives to dig mines, has caused agricultural plots in Kamengrad to crack. The coal ash generated by the mines has also jeopardized soil quality, leading to a decline in soil fertility and reduced agricultural production in all affected villages. Dust generated by mining activities in Kličevac has resulted in farmers witnessing new plant diseases.

Deforestation and destruction of hills caused by mining have changed wind patterns and cooled the air temperature, contributing to a reduction in agricultural production in Kličevac. Winds carrying polluted air and dust from the mines also have a detrimental effect on harvests.

This chain of negative impact has a significant impact on communities' right to food and nutrition. Rural communities in the affected areas are struggling to feed themselves and their families as they have lost their means of sustenance, as evidenced by dwindling harvests in all four villages. Community members are also forced to compromise on their food intake and diets, either due to alleged pollution, loss of means to grow their food, or the need to purchase lower quality food, further straining their household income.

By destroying agricultural lands to make way for mining activities, Serbia and Bosnia and Herzegovina have violated their obligations to respect the RtFN, which requires States to not interrupt access to and availability of adequate food or resources required for food production. Mining activities have polluted, reduced, and deteriorated soil and agricultural production, breaching Serbia and Bosnia and Herzegovina's obligations to respect and protect the RtFN, particularly in Kamengrad.



In addition, the re-zoning of agricultural land to industrial use in Kličevac did not follow Serbia's *Law on Agricultural Land*, which aims to protect agriculture and its primary purpose of agricultural activities through provisions for the use, sale, and release of agricultural land. Similarly, Bosnia and Herzegovina's *Law on Agricultural Land* emphasizes the special protection for agricultural land and to preserve its primary purpose for agricultural production.

Furthermore, the expansion of the Drmno mines and the construction of the Kostolac B3 thermal power plant are both in direct violation of Serbia's *Law on Environmental Impact Assessment* and the *Mining Law*, which stipulate that an extension without a permit is illegal. However, it is essential to take note that Bosnia and Herzegovina has protected the RtFN of Kamengrad communities by ensuring no future activity on the Kamengrad thermal power plant will occur without the consent of the Municipal Council and the citizens in Sanski Most.

The planned Kostolac B3 thermal power plant in Serbia and the Ugljevik thermal power plant in Bosnia and Herzegovina have transboundary implications. By failing to notify the neighboring states (Romania for Kostolac and Serbia for Ugljevik) "as early as possible and no later than when informing their own public about the project", both States have breached the spirit of the UN *Convention on Environmental Impact Assessment in a Transboundary Context* ("Espoo Convention").

In all cases described thus far, **affected communities were not consulted, nor were they involved in any decision-making processes.** The families facing displacement only discovered mining activities and removal notices when the mine works had begun. In this context, Serbia and Bosnia and Herzegovina have acted in violation of the RtFN, by displacing and depriving local farming communities of their access to essential productive resources required for their livelihoods.<sup>113</sup>

As per Article 17.4 of UNDROP, States are obligated to prohibit unlawful evictions, destruction of agricultural areas, and expropriation of land and other natural resources. They are also required to integrate protection against displacement into domestic legislation in line with international human rights law.

**The compensation process for displaced families in Kličevac and Drmno was inadequate, with irregularities noticed in the payments.** Some families were not compensated at all for the loss of their houses, permanent crops and agricultural produce. Furthermore, there were reports of nepotism in compensation distribution, favoring members of the ruling party. Both States have also infringed on their human rights obligations under the RtFN as well as the right to land of the affected communities, by failing to properly compensate the loss of agricultural land and subsequently rehabilitate inhabitants. The expansion of coal mines and the rebuilding of coal thermal power plants planned by both States necessitate proactive measures to prevent future unlawful displacement and resettlement.

The right to rehabilitation and compensation is explicitly recognized in the Constitution of Serbia (Article 35), stipulating the right of everyone to be compensated for "material or non-material damage inflicted on them by unlawful or irregular work of a state body, entities exercising public powers, bodies of the autonomous province or local self-government." Similarly, inadequate and non-payment of compensation contravenes Bosnia and Herzegovina's *Law on Mining Industry* (Article 61), which obliges companies to "cover all costs of remedying the damages that resulted from the mining operations." Bosnia and Herzegovina equally failed to abide by Article 51, which requires companies to take the necessary measures to protect the health and safety of citizens and to secure property in accordance with applicable regulations. The cases in all affected villages thus present a clear violation of national law.

Serbia's *Law on Mining and Geological Exploration* (Article 47) prescribes the State to abolish the decision on the approval of exploration if "measures necessary to protect property, people's health and environment and protection of cultural assets and assets that enjoyed previous protection are not implemented". It should also be noted, with concern, that the recently adopted *Law on Expropriation* in Serbia would allow for expedited expropriations of private property in situations of public interest.<sup>114</sup> This would further threaten and violate the communities' right to land, should proposed mines and displacements be pushed through.

Several National Biodiversity Targets – formulated by Serbia and Bosnia and Herzegovina under the CBD – are closely linked to efforts to mitigate environmental impacts from coal mining. Some examples include: Serbia's Objectives 1.2 (monitoring, regulating, and minimizing activities that have adverse impact on biological diversity); 5.2 (improvement of the integration of biodiversity concern into relevant sectors, such as mining); and 8.3 (involvement of local communities in decision-making related to biodiversity conservation); and Bosnia and Herzegovina's National Target 2 (integration of biological diversity values into development strategies with emphasis on rural development); and 3 (reduction of negative and increase positive incentives and subsidies in order to conserve biological diversity). Considering the damages faced by affected communities, as explained above, it may be questionable whether any efforts were made on the part of both States.

In addition, both States also failed to respect the human rights principles of participation and transparency, as they neither informed the communities about their displacement nor actively involved them in decision-making over their own land. This contravenes Serbia's *Law on Environmental Protection*, which emphasizes the need for transparency in providing information and has provisions related to the participation of communities that may be affected by projects. The *Law on Environmental Protection* promotes public participation and transparency by incorporating the principles of the *Aarhus Convention*, an international binding agreement on access to information, public participation in decision-making, and access to justice in environmental matters. The provisions also aim to ensure that communities participate in decision-making processes and can voice their concerns regarding potential environmental impacts. Bosnia and Herzegovina is also a State Party to the *Aarhus Convention*, and has equally passed a law on environmental protection that recognizes the importance of community participation and transparency of information in the environmental decision-making process.

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## 4.2. CONTAMINATION OF WATER

**Mining activities have contaminated, polluted and disrupted groundwater supplies, causing water logging and changed/disturbed water flow.** Villagers have witnessed these impacts on their land and harvests: Soil is becoming less productive (a reported reduction of up to 30% in Kličevac). There are frequent incidences of flooding of streets, basements and storage areas within private homes. In addition, household water is also reportedly contaminated and not appropriate for household usage. Villagers are thus forced to fetch water from elsewhere requiring transportation, further constraining their lives and household income. In Kamengrad, mining, detonations, and draining operations, as well as unregulated disposal of tailings by the mining company along the riverbed have polluted the river Bilha. The additional impact on villagers' food intake and health is yet to be seen. Moreover, climate change induced weather changes (exacerbated by burning coal) affect different aspects of water availability, such as morning dew as observed in Kamengrad.

In this regard, Serbia and Bosnia and Herzegovina have defaulted on their obligations to respect communities' existing access to water (for both household and agriculture purposes), as access is threatened or denied due to the mining companies' destructive and polluting practices. By failing to regulate the activities of Lager d.o.o, Bosnia and Herzegovina has also failed to protect communities' right to water in Kamengrad. Similarly, both States (especially Serbia) have infringed on the Right to Clean Water Systems as found in UNDROP Article 21, which obliges States to: ensure access to water (21.3); protect and restore water-related ecosystems (i.e., rivers, lakes and aquifers) from overuse and contamination by harmful substances (21.4); and prevent third parties from impairing the enjoyment of the right to water (21.5).

Such actions and omissions (e.g. causing pollution, lack of monitoring and reporting) also breach Serbia and Bosnia and Herzegovina's national laws that govern the quality of water and aim to safeguard water pollution caused, for example, by mining, such as the *Water Laws of Federation of Bosnia and Herzegovina and of Republic Srpska* in Bosnia and Herzegovina and Serbia's *Law on Waters* and both States' *Law on Environmental Protection*.

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### 4.3. AIR POLLUTION AND MULTI-IMPACT ON HEALTH AND LAND

Burning coal results in high emissions of toxic gasses and pollutants that are harmful to both human health and the environment. Sulfur dioxide (SO<sub>2</sub>) and particulate matter, including coarse particulates, have been linked to various health problems such as cancer, urological issues, and asthmatic allergies. It is worth noting that mine workers are particularly susceptible to these effects, with many dying within a few years of reaching pension age.

Ash produced by burning coal consists of inorganic compounds, silicon minerals, calcium, and magnesium. These high emissions of gases and aerosols can pollute arable land in their immediate surroundings. Plants absorb these pollutants from the soil, and they enter the food chains of various consumers, ultimately negatively impacting the quality of agricultural products and the health of the population.

Serbia and Bosnia and Herzegovina face a significant challenge with regards to air pollution. Despite the known health risks, they continue to operate and construct new coal power plants, as well as other related sites and facilities (e.g., dump sites and transportation belt conveyors), without proper Environmental Impact Assessment. This not only violates national laws but also contravenes regional commitments. It is worth noting that the existing thermal power plants, both in Serbia and Bosnia and Herzegovina, are very old and are technically incapable of meeting environmental protection requirements.<sup>115</sup>

Serbia and Bosnia and Herzegovina have failed to respect and protect the right to a clean, healthy and sustainable environment, as recognized by the UN General Assembly's resolution (A/RES/76/300). This right is integral to the full enjoyment of a wide range of human rights, enshrined in the ICESCR, of which both States are state parties. The air pollution caused by coal mines and thermal plants has had significant detrimental effects on the health of rural communities. Despite this, mining companies do not always disclose the extent of air pollution and the specific pollutants that have known harmful impacts on human health. This lack of action by Serbia and Bosnia and Herzegovina constitutes a violation of their obligations to respect and protect the right to health of these communities.

Moreover, as signatories to the Paris Agreement, Serbia and Bosnia and Herzegovina are bound to contribute to combating climate change by implementing National Determined Contributions (NDC) to reduce GHG emissions and adapt to climate change. However, given the significant damages caused by coal burning, and the ongoing plans to establish new coal thermal power plants, it seems unlikely that there will be a reduction in emissions.

In addition to its impact on human health, **the pollution of air, water, and soil is reducing agricultural harvests, thereby depriving rural communities of the ability to produce their own food and forcing them to rely on marginal social welfare provided by the state.** This is a violation of these communities' RtFN, and reduces their agency in deciding what and how they want to produce their own food.

Furthermore, Serbia and Bosnia and Herzegovina are State Parties to the *European Convention on Human Rights* (ECHR). While the right to a healthy environment is not explicitly recognized in the ECHR, the European Court of Human Rights has developed a strong jurisprudence on environmental issues through its interpretation of civil and political rights: ECHR case law has addressed environmental issues as components of Articles 2 ("right to life") and 8 ("right to respect of private and family life") of the Convention, as well as Article 10 ("right to receive and impart information") and Article 1 of Protocol no. 1 of the Convention and procedural rights such as the right to an effective remedy (Articles 6.1 and 13). The ECHR has ruled that excessive levels of pollution and environmental hazards can infringe upon individuals' right to life and right to private and family life. In these cases, the Court has emphasized the positive obligations of States to take measures to protect individuals from severe environmental harm.

The right to a healthy environment is also explicitly recognized and guaranteed as a human right by the Constitutions of Serbia (Article 74) and Srpska (Article 35), which prescribe the right of everyone to a healthy environment and the responsibility of the government for its protection. Although Bosnia and Herzegovina's constitution does not explicitly recognize the right to a healthy environment, Article II guarantees the right to life and human dignity, and the protection of the environment can be inferred indirectly from these and other broader human rights provisions. Therefore, actions and omissions by both Serbia and Bosnia and Herzegovina (including the Republika Srpska) infringe upon constitutional rights.

In addition, as signatories to the *Treaty Establishing Energy Community*, Serbia and Bosnia and Herzegovina are both legally obliged to reduce emissions of SO<sub>2</sub>, nitrogen oxides (NO<sub>x</sub>) and particulate matter by applying the National Emissions Reduction Plan as of 1 January 2018. However, as of today, both States have failed to adhere to the prescribed obligations, and continue to emit harmful gases and particulate matter that exceed the prescribed limits.<sup>116</sup>

Finally, by signing the Sofia Declaration, both States committed to phasing out fossil fuels by 2050 and adopting the EU's *Climate Law*. However, with ongoing plans to establish new coal thermal power plants, it seems highly unlikely that Serbia and Bosnia and Herzegovina will fulfill their commitment.

## 4.4. HARASSMENT AND CRIMINALIZATION

**Those who voice opposition to coal or its impact on local communities can be persecuted, harassed, and even criminalized.** Filming coal thermal plants without permission is considered a criminal offense and can result in imprisonment. This is particularly alarming in Serbia, where anyone who speaks out against coal can be branded as an enemy of the state.

Although residents of Kamengrad (Bosnia and Herzegovina) and Ugljevik (Bosnia and Herzegovina/ Republic of Srpska) have not explicitly reported incidents of harassment and criminalization, conflicts and disputes are common between mining companies and community members who oppose them.

Serbia must take necessary measures to ensure the protection of all persons - whether they are villagers, activists, or healthcare professionals - who voice their opinions and challenge mining. Failure to do so would infringe on the UN Declaration on Human Rights Defenders (UN GA Resolution 53/144),<sup>117</sup> which obliges states to take all necessary measures to protect individuals against threats, violence, retaliation, pressure, or any other arbitrary action as a result of exercising their legitimate rights (including conducting human rights work individually or in association with others, seeking, obtaining, receiving, and holding information related to human rights). Serbia and Bosnia and Herzegovina are both candidates (official and potential) and are obliged to respect the EU Human Rights Guidelines, which emphasize the EU's strong commitment to protecting human rights defenders.

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## 4.5. EXTRATERRITORIAL STATE OBLIGATIONS

The information gathered in the study does not provide a comprehensive analysis of extra-territorial state obligations (ETOs)<sup>118</sup> of States other than Serbia and Bosnia and Herzegovina. However, if the planned thermal plants – Kostolac B3 and Ugljevik – are implemented and financed by Chinese corporations and China, there is a real threat. There is a high probability that the operations of these plants would exacerbate pollution, eco-destruction, and lead to increased human rights violations against local communities. China must ensure that its actions and omissions do not constitute human rights violations in Serbia and Bosnia and Herzegovina. In particular, China must act in accordance with the Committee on Economic, Social and Cultural Rights' General Comment 24 on "State obligations under the *International Covenant on Economic, Social and Cultural rights* in the context of business activities",<sup>119</sup> the Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights,<sup>120</sup> and the recommendations of the Committee on Economic, Social and Cultural Rights, which calls for China to suspend the construction of new coal power plants and stop ongoing financing of construction.<sup>121</sup>

European Union should make all efforts to ensure that its Green Agenda for the Western Balkans is duly implemented and monitored in accordance with EU's human rights obligations (e.g. Article 3(5) of the Treaty on European Union which prescribes the EU to contribute to the protection of human rights). In particular, the EU must ensure that any financial support within the Green Agenda for the Western Balkans does not infringe human rights. In addition, the EU should support Serbia and Bosnia and Herzegovina in upholding their commitment to respect human rights, and halt further degradation of - and start improving - the environmental situation as per both States' EU Stabilization and Association Agreements.

Also, in relation to Ugljevik thermal power plant, Bosnia and Herzegovina has to comply with the provisions of Directive 2010/75/EU that will be applicable to the thermal power plant in 2018. European Union - through the Commission - also has the obligation to enforce its implementation according to Art.17 TEU if Bosnia and Herzegovina is still aiming to become a EU Member State.

Similarly, as a responsible State, Germany, must ensure that its funding to the wind farm in Kostolac through its Development Bank (KfW) does not lead to illegal deforestation and undermine local communities' access to forests.



## 5. PRELIMINARY CONCLUSIONS AND A WAY FORWARD

The **ecological destruction**, including waterlogging of agricultural lands, reduction in yields, air and water pollution, change in wind patterns, and new plant diseases, clearly demonstrates the close relationship between ecological health and human health, as seen in people's respiratory diseases, allergies, and dietary changes. These issues seriously endanger the ecological basis of **local food production and have severe implications for biodiversity and natural resources**.

The situation in the visited communities blatantly violates the commitments and obligations of both countries to human rights, the environment, and climate change as outlined in several international instruments. These include the *International Covenant on Economic, Social and Cultural Rights* (ICESCR), the *UN Declaration on the Rights of Peasants and other People Working in Rural Areas* (UNDROP), the *Convention on Biological Diversity* (CBD), and the Paris Agreement on Climate Change. Local communities continue to face human rights violations, in particular the RtFN, its related rights and the right to a safe, clean, and sustainable environment.

FIAN International, local civil society groups and affected communities are calling on the governments of Serbia, Bosnia and Herzegovina, and the European Union, to comply with their international human rights obligations and commitments regarding human rights, the environment, and climate. Most notably, this includes honoring the RtFN and the right to a clean, healthy, and sustainable environment.

We therefore urge Serbia and Bosnia and Herzegovina to take the following actions:

1. Provide fair compensation and rehabilitation to displaced and resettled rural communities, and to prevent future displacements due to coal mining and thermal power plants;
2. Establish mechanisms and tools for affected people to assess and record their losses and damages to create evidence and establish proper remedy mechanisms and access to justice;
3. Promote, revitalize, and incentivize small-scale local agriculture and prevent further destruction of agricultural land, and other natural resources, and deterioration of soil fertility;
4. Safeguard, respect, and restore biodiversity with a focus on the right to adequate food and nutrition and to a clean, healthy, and sustainable environment considering its role for food production and people's well-being;
5. Establish and implement clear rules for free, prior, and informed consent of local communities and their effective, transparent, and meaningful participation in decision making and in line with relevant international human rights standards;
6. Conduct independent and transparent human rights and environmental impact assessments regarding all planned mining and thermal power projects, as well as current mines and thermal power plants. If any adverse impact or risk of negative impact is identified, halt mining activities;
7. Address and prevent multiple pollution of air, water and soil due to coal mining and thermal power plants, i.e., by establishing a mandatory protection belt between coal mines and households and villages;
8. Create official and disaggregated data to record the impact of coal mining and thermal power plants on people's health at village level, with the participation of the affected communities;
9. Take necessary measures to ensure protection of all persons – be it a villager, an activist, or a health profession – to voice opinions and challenge mining related activities and refrain from any actions of reprisals;
10. Invite the UN Special Rapporteur on Human Rights and the Environment, and the Special Rapporteur on toxics and human rights to visit both countries to gather first-hand information on the current human rights situation.

## **POLICY AND LEGAL FRAMEWORKS**

11. Regulate the activities of the company Lager d.o.o in Bosnia and Herzegovina;
12. Cease planning the introduction of new coal capacities and subsidizing coal-fired power plants. Instead, use these resources to establish ambitious coal phase out goals and develop a strategic framework and road map to exit lignite-based electricity production (lignite being the dirtiest form of coal) in accordance with the Paris Agreement;



13. Create and implement favorable legal and policy frameworks to protect human rights related to environmental harm, thereby connecting relevant international environmental and climate laws and policy fields in the context of international human rights law and policy and vice versa when developing and implementing national legal and policy frameworks.

## EXTRATERRITORIAL OBLIGATIONS

14. China must ensure that its actions and omissions do not constitute human rights violations in Serbia and Bosnia and Herzegovina, should the planned thermal plants (Kostolac B3 and Ugljevik) start operation to be implemented and financed by Chinese corporations and China;
15. European Union should make all efforts to ensure that its Green Agenda for the Western Balkans is duly implemented and monitored. In particular, the EU must ensure that any financial support within the Green Agenda for the Western Balkans does not infringe human rights.
16. Germany must ensure that its funding of the wind farm in Kostolac through its Development Bank (KfW) does not lead to illegal deforestation and undermine villagers' access to forests;
17. Request that the European Parliament Delegations for relations with Bosnia and Herzegovina and Kosovo (DSEE)<sup>122</sup> and Serbia<sup>123</sup> visit affected communities mentioned in this report, and to include coal mining impacts on human rights as part of the protection of fundamental rights within the political dialogue on the accession process to the European Union.

# ENDNOTES

- 1 [Novica Milenkovic, farmer of a farm with 7 hectares](#); [Zoran Markowic, chair of local NGO Kličevacki Idol](#); Darko Milosevic; Aleksandar; his wife; and others who prefer to remain anonymous for security reasons.
- 2 Damages to farm facilities were reported in one testimony in Drmno.
- 3 IEA. (2019). *Global Energy & CO2 Status Report 2019*. International Energy Agency. Available at: [www.iea.org/reports/global-energy-co2-status-report-2019](http://www.iea.org/reports/global-energy-co2-status-report-2019); Olivier, J. G. J., and J. A. H. W. Peters. (2020). *Trends in Global CO2 and Total Greenhouse Gas Emissions: 2020 report*. PBL Netherlands Environmental Assessment. Agency, The Hague.
- 4 Rosewarne, S., J. Goodman, and R. Pearse. (2014). Climate Action Upsurge. *The Ethnography of Climate Movement Politics*. Routledge; UNFCCC. (2021, November 4). End of Coal in Sight at COP26. External Press Release. Available at: [unfccc.int/news/end-of-coal-in-sight-at-cop26](http://unfccc.int/news/end-of-coal-in-sight-at-cop26)
- 5 Carbon Brief. (2020, March 26). Mapped: The World's Coal Power Plants. *Carbon Brief*. Available at: [www.carbonbrief.org/mapped-worlds-coal-power-plants](http://www.carbonbrief.org/mapped-worlds-coal-power-plants); Goodman, J., L. Connor, D. Ghosh, K. Kohli, J. P. Marshall, M. Menon, K. Mueller, et al. (2020). *Beyond the Coal Rush: A Turning Point for Global Energy and Climate Policy?* Cambridge University Press; Shah, A., (2022). Rethinking 'just transitions'; from coal: the dynamics of land and labour in anti-coal struggles. *The Journal of Peasant Studies*. Available at: [10.1080/03066150.2022.2142568](https://doi.org/10.1080/03066150.2022.2142568)
- 6 For more information, please visit: [neighbourhood-enlargement.ec.europa.eu/enlargement-policy/serbia\\_en](http://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/serbia_en)
- 7 For more information, please visit: [neighbourhood-enlargement.ec.europa.eu/enlargement-policy/bosnia-and-herzegovina\\_en](http://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/bosnia-and-herzegovina_en)
- 8 For more information, please see: [www.fian.org/en/news/article/connecting-the-environment-with-human-rights-2636](http://www.fian.org/en/news/article/connecting-the-environment-with-human-rights-2636)
- 9 For more information, please visit: [gnrtfn.org/peoples-monitoring](http://gnrtfn.org/peoples-monitoring)
- 10 For more information, please visit: [www.righttofoodandnutrition.org/](http://www.righttofoodandnutrition.org/)
- 11 For more information, please see: [www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/the-true-cost-of-coal-how-peo.pdf](http://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/the-true-cost-of-coal-how-peo.pdf)
- 12 For more information, please visit: [education.nationalgeographic.org/resource/coal/](http://education.nationalgeographic.org/resource/coal/)
- 13 For more information, please see: [grist.org/climate-energy/mountaintop-removal-countrys-mental-health-crisis/](http://grist.org/climate-energy/mountaintop-removal-countrys-mental-health-crisis/)
- 14 For more information, please see: [www.ohchr.org/sites/default/files/2022-02/CleanAirSummary.pdf](http://www.ohchr.org/sites/default/files/2022-02/CleanAirSummary.pdf)
- 15 For more information, please see: [www.sciencedirect.com/science/article/pii/S2300396017300551](http://www.sciencedirect.com/science/article/pii/S2300396017300551)
- 16 For more information, please see: [www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054](http://www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054)
- 17 For more information, please see: [www.ijsr.net/archive/v4i8/SUB157361.pdf](http://www.ijsr.net/archive/v4i8/SUB157361.pdf), p. 605
- 18 For more information, please see: [www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054](http://www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054)
- 19 For more information, please see: [bankwatch.org/wp-content/uploads/2020/12/BROSURA-mail.pdf](http://bankwatch.org/wp-content/uploads/2020/12/BROSURA-mail.pdf)
- 20 For more information, please see: [www.ncbi.nlm.nih.gov/pmc/articles/PMC5187660/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5187660/)
- 21 For more information, please visit: [gnrtfn.org/peoples-monitoring/](http://gnrtfn.org/peoples-monitoring/)
- 22 For more information, please see: [www.fian.org/files/files/20201204\\_Papers\\_Land\\_v3\(1\).pdf](http://www.fian.org/files/files/20201204_Papers_Land_v3(1).pdf)

- 23 For more information, please see: [digitallibrary.un.org/record/1650694](https://digitallibrary.un.org/record/1650694)
- 24 For more information, please see: [www.fian.org/files/files/Andrea\\_20201211\\_Papers\\_1\\_Water\\_v2.pdf](https://www.fian.org/files/files/Andrea_20201211_Papers_1_Water_v2.pdf)
- 25 For more information, please see: [digitallibrary.un.org/record/1650694](https://digitallibrary.un.org/record/1650694)
- 26 For more information, please see: [www.ohchr.org/en/special-procedures/sr-health/about-right-health-and-human-rights](https://www.ohchr.org/en/special-procedures/sr-health/about-right-health-and-human-rights)
- 27 For more information, please see: [digitallibrary.un.org/record/3983329?ln=en](https://digitallibrary.un.org/record/3983329?ln=en)
- 28 For more information, please see: [digitallibrary.un.org/record/3983329?ln=en](https://digitallibrary.un.org/record/3983329?ln=en)
- 29 For more information, please see: [www.fian.org/files/files/FIAN\\_Conceptual\\_Paper\\_RTFN\\_as\\_Part\\_of\\_Environmental\\_&\\_Climate\\_Justice.pdf](https://www.fian.org/files/files/FIAN_Conceptual_Paper_RTFN_as_Part_of_Environmental_&_Climate_Justice.pdf)
- 30 At present, Serbia also imports oil and natural gas (from Russia) to ensure energy sufficiency.
- 31 For more information, please visit: [www.gem.wiki/Serbia\\_and\\_coal#Existing\\_coal-fired\\_power\\_stations](https://www.gem.wiki/Serbia_and_coal#Existing_coal-fired_power_stations)
- 32 Serbia's energy utility Elektroprivreda Srbije (EPS). For more information, please visit: [www.eps.rs/lat/Stranice/default.aspx](https://www.eps.rs/lat/Stranice/default.aspx)
- 33 For more information, please see: [www.equaltimes.org/getting-serbia-s-much-needed#.ZE5tCXZBw2w](https://www.equaltimes.org/getting-serbia-s-much-needed#.ZE5tCXZBw2w)
- 34 For more information, please visit: [bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-serbia](https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-serbia)
- 35 For more information, please see: [www.mre.gov.rs/en/aktuelnosti/saopstenja/national-assembly-adopted-four-laws-field-energy-and-mining](https://www.mre.gov.rs/en/aktuelnosti/saopstenja/national-assembly-adopted-four-laws-field-energy-and-mining)
- 36 For more information, please visit: [bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina](https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina)
- 37 For more information, please see: [www.reuters.com/business/energy/bosnias-power-exports-risk-people-switch-electricity-heating-2022-11-04/](https://www.reuters.com/business/energy/bosnias-power-exports-risk-people-switch-electricity-heating-2022-11-04/)
- 38 For more information, please see: [library.fes.de/pdf-files/bueros/sarajevo/18313.pdf](https://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf), p. 41
- 39 <https://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>, p. 39
- 40 For more information, please see: [www.trade.gov/country-commercial-guides/serbia-agricultural-sectors#:~:text=Serbia](https://www.trade.gov/country-commercial-guides/serbia-agricultural-sectors#:~:text=Serbia)
- 41 For more information, please see: [china-cee.eu/2023/02/28/serbia-economy-briefing-serbian-agricultural-policy/](https://china-cee.eu/2023/02/28/serbia-economy-briefing-serbian-agricultural-policy/)
- 42 In 2021, agri-food imports reached a total value of US \$20.6 billion, while exports were valued at US \$552.6 million. Agricultural products represent approximately only 6% of exports, yet account for 15% of total imports. The primary imported food products include grains and grain products, beverages (alcoholic and non-alcoholic), and meat and dairy products. For more information, please visit: [www.trade.gov/country-commercial-guides/bosnia-and-herzegovina-agriculture](https://www.trade.gov/country-commercial-guides/bosnia-and-herzegovina-agriculture)
- 43 For more information, please see: [www.climatechangepost.com/bosnia/agriculture-and-horticulture/](https://www.climatechangepost.com/bosnia/agriculture-and-horticulture/)
- 44 For more information, please see: [tradingeconomics.com/serbia/employment-in-agriculture-percent-of-total-employment-wb-data.html#:~:text=Employment](https://tradingeconomics.com/serbia/employment-in-agriculture-percent-of-total-employment-wb-data.html#:~:text=Employment)
- 45 For more information, please see: [agriculture.ec.europa.eu/system/files/2020-02/ext-study-applicant-synthesis\\_2006\\_en\\_0.pdf](https://agriculture.ec.europa.eu/system/files/2020-02/ext-study-applicant-synthesis_2006_en_0.pdf), p.9.
- 46 *Ibid.*
- 47 For more information, please see: [blogs.worldbank.org/europeandcentralasia/securing-serbia-s-farming-future](https://blogs.worldbank.org/europeandcentralasia/securing-serbia-s-farming-future)
- 48 FAO, IFAD, UNICEF, WFP and WHO. (2022). *The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable*. FAO. p. 173. Available at: [doi.org/10.4060/cc0639en](https://doi.org/10.4060/cc0639en)

- 49 Around 60% of the population lives in rural areas, which are generally characterized by fewer job opportunities, weak physical infrastructure, and public services. Unemployment rates in rural areas are considerable and can be 40% higher than in the main urban centers. For more information, please see: [info.undp.org/docs/pdc/Documents/BIH/Strengthening%20Bosnia and Herzegovina](https://info.undp.org/docs/pdc/Documents/BIH/Strengthening%20Bosnia%20and%20Herzegovina); and [www.undp.org/bosnia-herzegovina/projects/eu4agri-%E2%80%93-modernizing-agri-food-sector-bosnia-and-herzegovina-thriving-rural-areas](https://www.undp.org/bosnia-herzegovina/projects/eu4agri-%E2%80%93-modernizing-agri-food-sector-bosnia-and-herzegovina-thriving-rural-areas)
- 50 For more information, please visit: [www.citypopulation.de/en/serbia/branicevo](https://www.citypopulation.de/en/serbia/branicevo)
- 51 For more information, please visit: [www.bpb.de/themen/migration-integration/laenderprofile/english-version-country-profiles/505179/emigration-from-the-western-balkans](https://www.bpb.de/themen/migration-integration/laenderprofile/english-version-country-profiles/505179/emigration-from-the-western-balkans)
- 52 According to a local CSO.
- 53 For more information, please visit: [www.gem.wiki/TPP\\_Kostolac\\_Power\\_Plant](https://www.gem.wiki/TPP_Kostolac_Power_Plant)
- 54 For more information, please see: [www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054](https://www.mdpi.com/2075-163X/8/2/54#B5-minerals-08-00054); and [www.researchgate.net/publication/348612247\\_Heritage\\_We\\_Pretend\\_Not\\_to\\_See\\_An\\_Old\\_Mining\\_Community\\_in\\_the\\_Village\\_of\\_Kostolac\\_Serbia](https://www.researchgate.net/publication/348612247_Heritage_We_Pretend_Not_to_See_An_Old_Mining_Community_in_the_Village_of_Kostolac_Serbia)
- 55 For more information, please see: [www.banktrack.org/project/ttp\\_kostolac\\_b/pdf](https://www.banktrack.org/project/ttp_kostolac_b/pdf)
- 56 For more information, please see: [ceenergynews.com/renewables/serbia-goes-east-for-renewables-minister-meets-chinese-ambassador-to-discuss-major-energy-projects/](https://ceenergynews.com/renewables/serbia-goes-east-for-renewables-minister-meets-chinese-ambassador-to-discuss-major-energy-projects/)
- 57 For more information, please visit: [www.gem.wiki/Drmno\\_mine](https://www.gem.wiki/Drmno_mine)
- 58 For more information, please see: [bankwatch.org/press\\_release/first-court-case-against-coal-power-plant-construction-in-serbia](https://bankwatch.org/press_release/first-court-case-against-coal-power-plant-construction-in-serbia)
- 59 For more information, please see: [env-health.org/IMG/pdf/technical\\_report\\_balkans\\_coal\\_en\\_lr.pdf](https://env-health.org/IMG/pdf/technical_report_balkans_coal_en_lr.pdf)
- 60 For more information, please see: [www.banktrack.org/project/ttp\\_kostolac\\_b/pdf](https://www.banktrack.org/project/ttp_kostolac_b/pdf)
- 61 For more information, please see: [meta.eeb.org/2020/05/14/heritage-under-siege-coal-mining-destroys-priceless-historical-sites/](https://meta.eeb.org/2020/05/14/heritage-under-siege-coal-mining-destroys-priceless-historical-sites/)
- 62 For more information, please see: [ceenergynews.com/renewables/serbia-goes-east-for-renewables-minister-meets-chinese-ambassador-to-discuss-major-energy-projects/](https://ceenergynews.com/renewables/serbia-goes-east-for-renewables-minister-meets-chinese-ambassador-to-discuss-major-energy-projects/)
- 63 For more information, please see: [www.mdpi.com/2075-163X/8/2/54](https://www.mdpi.com/2075-163X/8/2/54)
- 64 According to a testimony of a local NGO.
- 65 *Ibid.*
- 66 *Ibid.*
- 67 Petrović, Branko and Tomislav Šubaranić. (2018, August 31) *Constructive Parameters of Open Pit Drmno Final Mine Slope in The Function of Diaphragm Wall Construction*. Available at: [crimsonpublishers.com/amms/pdf/AMMS.000533.pdf](https://crimsonpublishers.com/amms/pdf/AMMS.000533.pdf)
- 68 As per information shared by CEKOR.
- 69 For more information, please see: [cordis.europa.eu/docs/results/509/509173/127976181-6\\_en.pdf](https://cordis.europa.eu/docs/results/509/509173/127976181-6_en.pdf), p. 5.
- 70 *Ibid.*
- 71 *Ibid.*
- 72 For more information, please see: [bankwatch.org/wp-content/uploads/2020/12/BROSURA-mail.pdf](https://bankwatch.org/wp-content/uploads/2020/12/BROSURA-mail.pdf)
- 73 *Supra note 69.*
- 74 For more information, please see: [trace.tennessee.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2443&context=utk\\_chanhonoproj](https://trace.tennessee.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2443&context=utk_chanhonoproj)

- 75 For more information, please see: [www.eps.rs/eng/vesti/Pages/11-22.aspx](http://www.eps.rs/eng/vesti/Pages/11-22.aspx)
- 76 For more information, please see: [renewablesnow.com/news/serbias-eps-seeking-contractors-to-build-solar-park-near-kostolac-tpp-768243/](http://renewablesnow.com/news/serbias-eps-seeking-contractors-to-build-solar-park-near-kostolac-tpp-768243/)
- 77 According to information shared by CEKOR.
- 78 According to this villager, the highest compensation was EUR €170 per ar, i.e., EUR €1000 per hectare.
- 79 It is worth nothing that a law on expropriation was amended to allow for expedited expropriation of property. Opponents of the expropriation law say that this will be used to advance mining projects. For more information, please see: [www.business-humanrights.org/en/latest-news/serbians-protest-against-expropriation-law-and-lithium-mine-which-might-benefit-foreign-mining-companies-environmentalists-warn/](http://www.business-humanrights.org/en/latest-news/serbians-protest-against-expropriation-law-and-lithium-mine-which-might-benefit-foreign-mining-companies-environmentalists-warn/)
- 80 As per information shared by CEKOR.
- 81 For more information, please see: [www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/the-true-cost-of-coal-how-peo.pdf](http://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/the-true-cost-of-coal-how-peo.pdf)
- 82 According to testimonies.
- 83 For more information, please visit: [inforadar.ba/afera-lager-kako-je-novaliceva-vlada-pogodovala-privatnoj-firmi-iz-posus-ja-u-nevidenij-pljacki-drzavnih-resursa/](http://inforadar.ba/afera-lager-kako-je-novaliceva-vlada-pogodovala-privatnoj-firmi-iz-posus-ja-u-nevidenij-pljacki-drzavnih-resursa/)
- 84 Energy Institute Hrvoje Požar, Croatia Soluziona, Spain Economics Institute Banjaluka, and BIH Mining Institute Tuzla, (2008, March 31). *Energy Sector Study in BIH*
- 85 CEEC is a Chinese state-owned energy conglomerate with headquarters in Beijing. For more information, please visit: [bankwatch.org/project/kamengrad-lignite-power-plant-bosnia-herzegovina](http://bankwatch.org/project/kamengrad-lignite-power-plant-bosnia-herzegovina); and [en.ceec.net.cn/col/col58594/index.html](http://en.ceec.net.cn/col/col58594/index.html)
- 86 With a capital investment of Bosnian Convertible Mark BAM 1.020.000.000 (US \$ 559.886.160 ). For more information, please visit: [sarajevotimes.com/chinese-build-billion-bam-worth-power-plant-sanski/](http://sarajevotimes.com/chinese-build-billion-bam-worth-power-plant-sanski/)
- 87 For more information, please see: [eko-unia.org.pl/raport/report\\_international.pdf](http://eko-unia.org.pl/raport/report_international.pdf) p. 10 and p. 11
- 88 For more information, please see: [czzs.org/message-from-kamengrad-sana-moral-looking-for-solar/?lang=en](http://czzs.org/message-from-kamengrad-sana-moral-looking-for-solar/?lang=en)
- 89 According to an interviewed villager, the price went from EUR €100 euros per m<sup>2</sup> to several thousands.
- 90 FIAN has sent a letter to Lager d.o.o. to comment on this. No reply was received.
- 91 The Sana in Bosnia-Herzegovina is one of the six most important rivers for the globally threatened Danube Salmon (Hucho hucho). For more information, please visit: [balkanrivers.net/en/photos/sana-river](http://balkanrivers.net/en/photos/sana-river)
- 92 FIAN has sent a letter to Lager d.o.o. to comment on this. No reply was received.
- 93 For more information, please see: [czzs.org/message-from-kamengrad-sana-moral-looking-for-solar/?lang=en](http://czzs.org/message-from-kamengrad-sana-moral-looking-for-solar/?lang=en)
- 94 For more information, please see: [www.just-transition.info/seeds-for-just-transition-in-sanski-most-bosnia-and-herzegovina/](http://www.just-transition.info/seeds-for-just-transition-in-sanski-most-bosnia-and-herzegovina/)
- 95 According to information shared by CZZS.
- 96 According to Majda Ibraković, former Energy and climate change program officer at Center for Environment (CZZS) in Banja Luka. Also, as per information shared by CZZS, Lager d.o.o. continues to exploit lignite in “Zlauša - Fajtovci - G. Kamengrad” located in the municipality of Sanski Most. Their activity is based on a decision of the Federal Ministry of the Environment and Tourism, which allows established plants and facilities to carry out mining without environmental permits. CZZS filed a lawsuit challenging the decision. The case is pending before the Sarajevo Cantonal Court. CZZS has also submitted an appeal to the Constitutional Court of Bosnia and Herzegovina. The current situation on the ground is such that due to the floods in the northwestern part of Bosnia and Herzegovina, the mine was submerged, affecting the water quality of the Bliha river and its tributaries, as well as the Bliha waterfall which has been under national protection since 1954.
- 97 For more information, please visit: [www.gem.wiki/Kamengrad\\_Thermal\\_Power\\_Plant](http://www.gem.wiki/Kamengrad_Thermal_Power_Plant)
- 98 For more information, please see: [czzs.org/when-citizens-decide-no-to-thermo-power-plant-kamengrad/?lang=en](http://czzs.org/when-citizens-decide-no-to-thermo-power-plant-kamengrad/?lang=en)

- 100 For more information, please see: [czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en](https://czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en)
- 101 For more information, please see: [eko-unia.org.pl/raport/report\\_international.pdf](https://eko-unia.org.pl/raport/report_international.pdf). p. 8
- 102 Western Balkan coal power plants polluted twice as much as those in the EU in 2019. Center for Research on Energy and Clean Air (CREA) and Bankwatch Network (CEE). Briefing paper. July 2021.  
According to information provided by CZZS, the Official Gazette of the Republic of Srpska number (3/15, 51/15, 47/16, 16/19) highlighted that the operation of the Ugljevik I thermal power plant complies with the Rulebook on measures to prevent and reduce pollution and improve air quality of the Republic of Srpska. This regulation has classified Ugljevik as an “old large combustion plant”, enabling it to exceed the discharge of polluted substances until January 2, 2018, defined by the Directive of the European Parliament and Council (2010/75/EU) issued on November 24, 2010 on industrial emissions (integrated pollution and control). Available at: [bankwatch.org/uploads/2021/7](https://bankwatch.org/uploads/2021/7)
- 103 For more information, please see: [bankwatch.org/project/ugljevik-power-plant-bosnia-and-herzegovina#key-issues](https://bankwatch.org/project/ugljevik-power-plant-bosnia-and-herzegovina#key-issues)
- 104 As per information provided by CZZS, the implementation of the project for the construction of a flue gas desulphurization plant began in 2009, trial work was carried out in 2020, and a Certificate of Technical Acceptance of the plant was issued in 2021. The results of the test work showed that all values are below the prescribed values. The plant has not yet been put into operation because no adequate solution has been found regarding the appearance of a side product - synthetic gypsum.
- 105 For more information, please see: [czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en](https://czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en)
- 106 For more information, please see: [scindeks-clanci.ceon.rs/data/pdf/2334-8836/2015/2334-88361504041R.pdf](https://scindeks-clanci.ceon.rs/data/pdf/2334-8836/2015/2334-88361504041R.pdf)
- 107 For more information, please see: [citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=a77796f4b94f6af51c07efc705f6cf28f8486883](https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=a77796f4b94f6af51c07efc705f6cf28f8486883), p. 69
- 108 For more information, please see: [www.cin.ba/energopotencijal/en/istrazivacke\\_price/zagadenje-gusi-zagadivaca.php](http://www.cin.ba/energopotencijal/en/istrazivacke_price/zagadenje-gusi-zagadivaca.php)
- 109 For more information, please see: [czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en](https://czzs.org/ugljevik-european-chernobyl-what-was-taken-away-does-not-measure-what-we-actually-have/?lang=en)
- 110 For more information, please see: [czzs.org/locals-and-environmentalists-concerned-about-the-continuation-of-ugljevik-3-coal-power-plant-project/?lang=en](https://czzs.org/locals-and-environmentalists-concerned-about-the-continuation-of-ugljevik-3-coal-power-plant-project/?lang=en)
- 111 *Ibid.*
- 112 The human rights explicitly recognized are, among others, the right to life, the right to rehabilitation and compensation, the right to information, the right to property, and the right to protection of their mental and physical health for Serbia, and the right to private and family life, home and correspondence, the right to property and the right to fair hearing in civil and criminal matters, and other rights related to criminal proceedings.
- 113 De Schutter, O. (2009). *Report of the Special Rapporteur on the right to food* (A/HRC/13/33/Add.2). Para. 15.  
Available at: [documents-dds-ny.un.org/doc/UNDOC/GEN/G09/177/97/PDF/G0917797.pdf?OpenElement](https://documents-dds-ny.un.org/doc/UNDOC/GEN/G09/177/97/PDF/G0917797.pdf?OpenElement)
- 114 For more information, please see: [www.rferl.org/a/serbia-mining-lithium-expropriation-/31577972.html](https://www.rferl.org/a/serbia-mining-lithium-expropriation-/31577972.html)
- 115 Kostolac A was constructed in 1967 and Kostolac B in 1987. Negotiation position for the Chapter 27 of the Republic of Serbia, Annex 10 - Specific Implementation Plan for Directive 2010/75/EU on Industrial Emissions. Available at: [www.mei.gov.rs/srl/dokumenta/eu-dokumenta/pristupni-pregovori-sa-eu/pregovaracke-pozicije/pregovaracke-pozicije-za-poglavlje-27/](https://www.mei.gov.rs/srl/dokumenta/eu-dokumenta/pristupni-pregovori-sa-eu/pregovaracke-pozicije/pregovaracke-pozicije-za-poglavlje-27/)
- 116 Reported information on large combustion plants under the Energy Community Treaty.  
Available at: [www.eea.europa.eu/data-and-maps/data/reported-information-on-large-combustion-2](https://www.eea.europa.eu/data-and-maps/data/reported-information-on-large-combustion-2)
- 117 For more information, please see: <https://www.ohchr.org/en/civic-space/declaration-human-rights-defenders#:~:text=The%20Declaration%20on%20Human%20Rights%20Defenders%2C%20adopted%20by%20the%20General,In%20legally%2Dbinding%20international%20instruments>
- 118 For more information, please visit: [www.etoconsortium.org/en/what-are-etos/](https://www.etoconsortium.org/en/what-are-etos/)

- 119 For more information, please see: [undocs.org/Home/](https://undocs.org/Home/)
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- 120 For more information, please visit: [www.etoconsortium.org/en/the-maastricht-principles/](https://www.etoconsortium.org/en/the-maastricht-principles/)
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- 121 For more information, please see: [tbinternet.ohchr.org/\\_layouts/15/treatybodyexternal/](https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/)
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- 122 For more information, please see: [www.europarl.europa.eu/delegations/en/dsee/home](https://www.europarl.europa.eu/delegations/en/dsee/home)
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- 123 For more information, please see: [www.europarl.europa.eu/delegations/en/d-rs/home](https://www.europarl.europa.eu/delegations/en/d-rs/home)
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*“It is high time the authorities take actions to protect the interest of the population, rather than those of the polluters.”*

-Denis Žiško, Aarhus Center, Bosnia and Herzegovina

*“The Village is sinking as we speak”*

Zvezdan Kalmar, Coordinator for Energy and Climate Change, CEKOR.

*“Policies and laws are there to be respected and duly followed. What is the point of having them if they are simply ignored? We need to keep our environment clean, alive, and for people and communities to be able to live on their land for as long as they wish to.”*

Dragan Ostić, Energy and Climate Change, CZZS.