Water Crimes and Governance: The Slovenian Perspective

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Abstract
The demand for water is increasing due to its finite availability and a water-dependent world whose population is growing every day. It is important that there is not only enough water, but that the water is safe for human consumption and use in agriculture. Water crimes include various offences ranging from the pilfering of water from pipelines, to water pollution, to the illegal trafficking of water. These crimes are challenging to detect, investigate, and prosecute. This article presents a case study from the Republic of Slovenia. Owing to its geographical position, Slovenia has a wealth of natural resources, and even though it is one of the smallest countries in Europe, it is one of the richest regarding water resources. In this study, the nature of crimes against water resources, as well as challenges regarding water governance and the policing of water crimes, will be discussed from the perspective of green and rural criminology. Although Slovenia is one of the few countries in the world that within its Constitution has protected the right of people to have access to water, water resources have once again become endangered in 2021 owing to the alleged greed of politicians, corporations and individuals who treat water as an attractive target for profit by illegal means. Rural (green) criminology must expand to include the fields of water protection and prevention of water crimes.

Keywords Water · Water crimes · Policing · Slovenia

Water—From a Natural Source to the Subject of Crime

The scarcity of water has become one of the most significant problems of the twenty-first century. Even though we live on a “blue planet” with around 70 percent of the Earth’s surface covered in water, the amount of fresh water is decreasing. As humans, we are dependent on this dwindling water supply, as clean, safe water presents a biological, social, economic and spiritual necessity for contemporary society (White & Eman, 2020). Besides its sustenance, water is also used for energy production, industry, farming, among other uses.

Green criminology1 and rural criminology2 try to answer the basic questions, such as ‘Who has access to water? How

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1 Green criminology is a social study that uses a multidisciplinary and interdisciplinary approach to the research of environmental crime, environmental harm, environmental legislation, environmental regulations, environmental protection measures, and public responses to caused violations. Green criminology is based on critical criminological conviction to defend the environment as one of the basic human good and human rights. Its research agenda is based on the assignment to study the known forms of deviant behaviour against the natural environment. Green criminology observes the dynamics between the human and the natural environment, especially human behaviour, and acts towards environment. It is interested in humans as perpetrators or victims of environmental crime and harm, and in possible crime prevention methods of environmental crime (Brisman & South, 2020; Eman, 2021).

2 Rural criminology focuses on the study of rural crime and rural policing. Even though criminological studies on this topic are rare, a literature review of past studies revealed some interesting findings of the rural environment’s impact on crime and policing (Donnermeyer, 2016; Eman & Bulovec, 2021).
and for what purpose water is used? and Who has enough water? In considering “who has enough water?”, two extremes make up the parameters within which there are possible answers. On the one hand, there are people who lack water, resulting in poverty, starvation, disease and death. Yet, at the other end of the spectrum, unforeseen amounts of water by flooding, hurricanes or tsunamis can cause pollution of water sources alongside various diseases and death. Brisman and South (2012) stress that the reason for such extremes is climate change, caused by global warming and accelerated by human interference. Likewise, it seems that progress and technological developments have reached a critical limit in terms of the (ab)use of the environment, causing humans to be teetering on a precipice where only a slight touch is necessary, and humanity will begin to slide towards the (unstoppable) destruction of civilisation (Brisman & South, 2012; Brisman et al., 2018). Nowadays, green criminology discourse is framing concerns over water crime, particularly concerning environmental effects. Green criminology takes ‘harm’ as a central concept (Carrabine et al., 2020) of its focus. Therefore, it is a study that focuses on deviations against the environment and violations of environmental protection legislation. It is especially interested in reasons for committing environmental harm, environmental crime, disorder, the resulting consequences and society’s responses (Eman & Meško, 2014). Water crime has been recognised as one of the environmental crime phenomena and placed on the green criminology agenda approximately a decade ago (Eman et al., 2020). On the other hand, rural criminology focuses on rural crime in with its related phenomena. As water usually springs in rural areas, water crimes often occur in rural environments, leading to the recognition that green criminology and rural criminology can deal with the same subject of study—water crimes.

Water distribution is unequal, and this can be seen when comparing rural areas (villages or hamlets) with urban areas (towns or cities). The main difference between urban and rural areas is that the latter are usually located near local vegetation and fauna. In contrast, urban settlements are planned (Tisdale, 1942). In urban areas, drinking water is supplied by a public water supply service, but drinking water is not always available in rural areas. However, goods provided as public services, such as clean water, are not public goods in the strictest sense. Clean water, for example, is subject both to rivalry and excludability and, given the limited availability of clean water, one person’s use of that water directly impacts its availability to other individuals. Given the equipment and infrastructure necessary to transport clean water and deliver it to households, governments can exclude certain people from accessing it while at the same time making it more available to others. For example, a study of access to water in the Mexico City metropolitan area revealed large discrepancies between various groups. These discrepancies were usually in correlation with the amount of political power held by the groups (Gonzalez Rivas 2014). Similar cases of unequal distribution of fresh water occurred in Brasilia where the Indigenous people were forced to drink the same water as their cattle for decades before private companies bought the land. The almost dried out Aral Sea on the Kazakhstan–Uzbetistan border, Lake Chad in central Africa and the Ogallala Aquifer in the USA offer excellent examples of human impacts on water sources (Slaček, 2016). Karnani (2014) emphasises that the world is already facing a water crisis as one in seven people do not have adequate access to safe drinking water daily. These cases open various unanswered questions for rural (green) criminology, which has been developing over the last three decades, a great deal of which focuses on the study of environmental crime in rural settings (Donnermeyer & DeKeseredy, 2013; Hacin & Eman, 2019).

Water can be found almost everywhere on Earth and is “one of the world’s greatest renewable resources and is a natural monopoly essential to health and wellbeing” (Whelan & White, 2005, p. 135). Water is the second most important natural element, besides air, for the survival of the human race and other species (approximately 75% of the human body is composed of water) and it can be defined as a natural transparent liquid that is colourless, odourless and tasteless. From a criminological point of view, Eman et al. (2017) describe water as an environmental resource damaged by crime, the object of crime, or the means to commit crime. Water management infrastructure may also be threatened by terrorism and cyber-attacks.

Crimes against water are an emerging global issue and have significant impacts on humans and the environment. Intelligence about these crimes and their consequences is scarce and the information is fragmented (Brisman et al., 2018). Mattioli et al. (2017) define water crime as any punishable contravention or violation imposed by national criminal legislation, which limits human behaviour by using surface water, groundwater, or water services as a means for committing other crimes. Kim and Swain (2017) characterise water crimes in procedural and moral terms as wrongdoings determined within legal justice systems and social norms. Gleick (2006) emphasises that the biggest problem is that water resources and systems are attractive targets because there is no substitute for water. Whether due to a physical supply interruption, natural scarcity, or contamination, a community of any size will suffer greatly from a lack of water (Eman et al., 2017).

On 9 March 2016, The UK Business Insider (2016) announced the world’s “greenest” countries. Yale’s Environmental Performance Index (EPI) used these rankings for their annual comparison of environmental protections, which

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3 It takes the form of oceans, seas, lakes, rivers, streams, waterfalls, thermal springs, glaciers, as well as underground reservoirs.
compared how each country protects human health and vulnerable ecosystems. The top five countries on the list were European, and unsurprisingly Slovenia was ranked fifth. The description is as follows:

Slovenia came in fifth, scoring 88.98 overall. It took the eighth spot for biodiversity and habitat, and the 15th for forests. Air quality hurt Slovenia’s rankings, as nitrogen dioxide and PM2.5, common airborne pollutants, continues to pose problems for Slovenia’s residents. But Slovenia is also the global leader for habitat protection—it received perfect scores for terrestrial protected areas and species protection. (UK Business Insider, 2016)

Slovenian citizens should be proud that Slovenia is ranked so highly on the list. From a green criminology perspective, it is important to be aware of the decrease in natural resources and related security issues that it raises. The first attempt by the European Union Directive to legalise ‘forced water privatisation’ was not accepted by EU member states. Nonetheless, Slovenia’s ranking is bittersweet and poses questions such as: ‘Is there a hidden intention behind all of this?’; ‘Who is paying for these analyses and comparative studies and why?’; and ‘Are Slovene natural resources and with them, national security, endangered?’.

Most clean drinking water resources are situated in rural environments and, from a rural criminology perspective, are therefore less protected. This can lead to the appearance of various forms of water crimes ranging from the pilfering of water from pipelines and water pollution to fraud and the illegal trafficking of water. Thus, one cannot overlook a green criminology perspective of water-related security and safety issues, and its intersectionality with rural criminology. As noted by Nurse (2017): “Green criminology applies a broad ‘green’ perspective to environmental harms, ecological justice, and the study of environmental laws and criminality, which includes crimes affecting the environment and non-human nature”. This can easily be applied to water-related issues. To effectively respond to water crime issues, green criminology needs to collaborate with other sciences, such as rural criminology.

Water is facing crucial challenges from external forces and emerging trends that influence its demand and availability. It is a problem contemporary society needs to resolve. It should be noted that access to water is still not a human right in many countries. When water cannot be a guaranteed or are more scarce, water crimes more likely occur. Thereby, this paper aims to discuss the issue of water scarcity and pollution globally and locally and to present the typology of water crimes. Furthermore, the paper presents the case of the attempted forced privatisation of water resources in the Republic of Slovenia, focussing on human rights violations. This is undoubtedly a new area for green criminology focus. The presented case study of Slovenia is an excellent example of rapid changes to legislation for water protection. Less than five years later, water resources are endangered once again due to the appetites of politics and capital. In addition to this case study, the nature of crimes against water resources, as well as challenges regarding water governance and the policing of water crimes will be discussed, where green criminology and rural criminology perspectives can sometimes collide and should not be ignored.

**Water, Crimes and Governance**

**Water**

Water is essential because it is an element of our planet that cannot be bartered. It is not only necessary for the survival of the human race, but for all of biodiversity. The fact that more than two-thirds of the planet’s surface is covered with water leads to the conclusion that water is the essential living environment for numerous species. Water is particularly important for the preservation of sustainability in ecosystems. Ecological balance is achieved when each species plays its specialised role. Sometimes it seems that all other living species, except humans, remember and fulfil their roles. Only humans have (apparently) forgotten not only where they came from and what is indispensable for their existence on planet Earth. The scarcity of drinking water is increasing as well as the related threats to places that have a large supply of water as a natural resource.

In the last one hundred years, the consumption of drinking water has increased sixfold, and the main reasons for this are population growth, making the loss of water resources due to climate change an even more critical issue. Furthermore, water sources are rendered useless due to the increasing number of toxic emissions polluting them (ARSO, 2016). Karnani (2014) emphasises that the world is already facing a water crisis as data reveal that one in seven people today do not have adequate access to safe drinking water. Drinking water issues represent the second biggest problem of this century, after global warming.

Ninety-seven percent of the water on Earth is salt water and three percent is fresh water, but only one percent of this three percent is drinkable because two percent of freshwater takes the form of ice. This means that the entire human race is dependent on only one percent of the water on our planet.

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4 Felbab-Brown (2017) defines water trafficking/smuggling as “any transportation and distribution of water in violation of existing regulations. Thus, it is warranted to brand as criminal water enterprises those entities who commercially appropriate and distribute water in violation of existing regulations, such as by taking it from a river without permission—by law or by a specific license—from a water authority”.
Moreover, the rich and powerful attempt to gain control over these freshwater resources, often through various illegal methods (i.e. corruption or intimidation). Furthermore, water is also polluted as a side effect of other crimes against the environment, such as illegal waste disposal, air pollution (i.e. acid rain), or pollution of soil.

Unlike in developing countries, water supply pipelines and cleaning systems enable the adequate supply of drinking water in developed countries. For two decades, companies have been buying up water resources to sell back to the public. Beverage companies sell bottled water obtained from springs. It requires three litres of spring water to obtain one litre of bottled water. Bottled water also contains various additives to enable a longer shelf life, and the quality of bottled water is much worse than tap water, although its consumption is increasing (Brisman & South, 2012; Evropska komisija, 2021; Medical News Today, 2020).

**Water Crimes**

White and Eman (2020) believe that risks to water supplies are associated with multiple causes, ranging from industrial pollution and water theft to global warming. The importance of water personally, socially, economically and in terms of health and wellbeing has resulted in increased criminological interest. There is an urgent need to consider the nature, dynamics and impacts of water crimes from an environmental drivers’ perspective (e.g. land use, climate change and infrastructure). If present and future water issues are to be adequately addressed, then new crime typologies, methodologies for research and modes of social control must be created (White & Eman, 2020).

Water crimes include any intentional act that poses potential harm or damage to water. Water-related crimes are often recorded under other offences, such as fraud (provided by public services with concessions), corruption, trafficking, or falsification of documents. The three most common water crime cases identified in European countries are the deliberate contamination of drinking water or groundwater, water pollution and water theft (losses to the public water supply system) (Eman et al., 2017). A survey conducted in 2016 by The Water Crimes Project revealed that water-related crimes lack the following five considerations: (i) an standardised international classification of crime types; (ii) a standard working definition; (iii) a critical body of criminological studies; (iv) mapping or development of criminal behaviours, motivations, or threats related to water crimes; and (v) complex data collection concerning water crimes in the European Union and abroad.

Water crimes are classified as environmental criminality, and a wide range of crimes against water have emerged historically. Numerous countries and institutions have compiled lists of various crimes against water, some of which are presented below (Barclay & Bartel, 2015; Eman and Meško 2021; Interpol/UNEP Environment 2016; Kuhar & Meško, 2020; Water Crimes Project, 2016):

1. **Water contamination and pollution** (i.e. the intentional contamination of water, industrial contamination, contamination due to the depletion of underground and surface water sources, degradation of soil, contamination of surface water and groundwater by fertilisers, chemicals, or effluent runoff from farmland);
2. **Water fraud** (e.g. the alteration of sampling techniques or results to avoid treatment costs, thus causing negative health implications or fiscal artifices aimed at adulterating registered water consumption, thereby generating an illicit gain);
3. **Violation of water compliance and enforcement** (i.e. violation of water quality regulations and forced privatisation of water);
4. **Water theft** (i.e. the unauthorised use and consumption of water before it reaches the intended end user including the pumping, impoundment, or diversion of water from irrigation channels, river systems, dams, or groundwater bores without a licence or in contravention of licence conditions that cause changes to the water flow and reduce water access to neighbouring farms, livestock and riparian zone management);
5. **Water-related corruption** (includes acts involving political decision-makers, the illegal exploitation of natural resources, large-scale investments and procurement contracts or daily actions of payments to gain access to water services or to avoid controls and fines);
6. **Water-related organised crime** (i.e. the activity of criminal organisations that have taken control of the management of water or water services within a particular territory);
7. **Water(-related) terrorism** (i.e. activities, such as the threat of terrorist attacks on the water sector, targeting the quality (e.g. poisoning) or availability (e.g. an attack on critical infrastructure) of water or taking control of water services to finance terrorist activities illicitly); and
8. **Water(-related) cyber-attacks** (these may occur by way of intrusion into an ICT (information and communication technology) system, manipulation of information or networks, or data destruction of water management companies. Such incursions often include attacks with ransomware and malware).

The 2016 survey on water crime in European countries conducted by The Water Crimes Project revealed that criminal groups have found an ideal business in which to make an easy profit. This is mainly due to various loopholes in national environmental protection legislation and
considerable discrepancies between countries (Eman & Meško, 2021). Moreover, as long as climate change, conflict and poverty continue to aggravate the Earth’s dwindling water supply, crimes against water will increase as a global problem. Another obstacle is that water crimes are still viewed as petty offences or minor crimes within a national context, rather than issues of transnational organised crime by individuals, corporations and governments. They do not receive the required attention from law enforcement authorities and will likely never be effectively resolved without external actors. Gleick (2006) views the protection of adequate water resources and water systems as a combination of physical barriers, extensive biological and chemical monitoring and treatment, and the development of smart and rapid integrated response strategies.

The Policing of Water Crimes

Crime policing, in addition to crime prevention, is one of the fundamental ways of responding to water crimes. Water crimes consist of fraud, corruption, organised crime and terrorism which represents a real challenge for police investigators as these crime are difficult to detect, investigate, prosecute and study. In water crime cases, the police are continually adapting to investigative challenges because water is a ‘living source’ that continuously moves and changes which can complicate the investigation. Eman, Meško and Kuhar (2017) note that environmental crimes are often related to other forms of crime; for example, theft and fraud fall in the scope of property crime investigation and corruption falls in the scope of white-collar and organised crime investigation, while the depletion of natural resources is often related to higher economic interests and thereby to bribery and other types of white-collar or organised crime.

White and Heckenberg (2014, pp. 222–223) believe that the key obstacles related to the policing of water crimes include difficulties in detection, a lack of specialist knowledge and the involvement of a range of criminal actors. Eman and Meško (2021) emphasise that law enforcement officers must possess a certain amount of knowledge and experience related to water crimes, including knowledge and experience in various fields of social and natural sciences. A subsequent particularity in the policing of water crimes is that the police must rely on well-organised coordination and cooperation with other formal social control entities, such as inspectorates and institutes.

An analysis of the policing of water crimes in Slovenia revealed that conventional environmental policing has more than enough work with responding to water-related crimes. To make responding to and investigating water crimes more effective, “policing water crimes should go beyond conventional methods and also include specialised forms of policing, such as problem-oriented policing, community-oriented policing and, where necessary, even intelligence-led policing” (Eman and Meško 2021, p. 82). The types of policing presented below would make the policing of water crimes more straightforward (Brisman et al., 2020; Eman et al., 2017; Eman and Meško, 2021; Eman & White, 2020):

1. Community-oriented policing indicates a partnership between law enforcement agencies and local communities, including a partnership regarding water protection. In such a partnership, environmental agencies encourage community members to monitor and report environmental violations, especially among communities who share the same watersheds. When it comes to water crimes, some types of offences (such as water contamination, water theft, unauthorised taking of surface water or groundwater and the violation of rules surrounding water protection) occur directly in the community, thus creating an opportunity for the community to monitor the situation and report any violations. Such cooperation between the police and citizens, known as citizen water monitoring, was developed as part of community-oriented policing efforts in the 1990s in the USA.  

2. The problem-oriented policing model enables the police to systematically analyse (environmental) problems identified in the community, search for practical solutions and evaluate the impact of the implemented changes. This model focuses on the issues instead of on the perpetrators, therefore problem-oriented policing is a suitable method for solving problems related to water crimes. It can be instrumental in responding to certain types of water crimes occurring in the community which are more frequent or concentrated in particular areas such as water pollution, water theft, water fraud, waterway diversion (e.g. water theft through the illegal damming of waterways, filling of tankers and deep drilled water bores) and water-related consequences of other types of illegal or unregulated activity (e.g. the impact of toxic chemicals and hazardous waste materials swept up in floodwaters and polluting freshwater systems).

3. The intelligence-led policing model means that the police collect and analyse information related to crimes to create intelligence outputs that target investigations and tactical responses to disrupt, prevent and reducing crime by targeting serious offenders (Gibbs

5 Citizen water monitoring activities represent a form of social control over the threat of water pollution and foster a sense of community as people work together in their attempts to protect a stream, lake, bay, or wetland located close to where they live, work, or play. This is a well-known practice in the USA, where citizens developed a partnership with environmental enforcement agencies for the purpose of water monitoring (Meško & Eman 2020).
et al., 2015). This model can be beneficial in cases of water-related corruption and fraud, organised crime, white-collar crime, terrorism and cyber-attacks or other water-related threats.

(4) Environmental forensic scientists apply scientific methods to investigate environmental crimes, which can include water crimes such as incidents of contamination. More complicated water-related crime cases would undoubtedly be solved sooner if they were dealt with by using forensic methods.

(5) Harm-oriented policing for water crimes tends to be reactive instead of proactive (Ratcliffe, 2008). The goal of harm-focused policing is to identify which aspects of the case should be a priority by weighing the severity of harms, as well as considerations of law-breaking crime and disorder caused to human and animals populations when offences occur. The results would then be used to focus police resources on reducing water crimes and damage (Ratcliffe, 2008, p. 3).6

Policing is the most crucial element in responding to water crime issues. To successfully react to water-related crimes, the police should use a combination of conventional and specialised forms of policing. Furthermore, the police must also think beyond traditional approaches and focus more attention on crime prevention (i.e. a combination of law enforcement, self-regulation, smart regulation and self-policing). As water crimes affect water quality, water scarcity and water insecurity, Gleick (2006) emphasises the benefits of combining the improvement of physical barriers, more extensive real-time biological and chemical monitoring and treatment and developing smart and rapid integrated response strategies to water crime issues.

Policing water crimes must go beyond conventional policing, otherwise, it could hardly be successful. Thus, new policing methods such as problem-oriented policing, community-oriented policing, intelligence-led policing and the use of environmental forensic scientists are suggested. Most of these are based on problem-solving approaches and partnerships with local communities (Eman & Meško, 2021). Considering that water is a natural living resource that uncontrollably spills and flows everywhere without a specific form, a definitive manual on the biological and chemical treatments required in the event of a water crime (i.e. water pollution or contamination) and integrated response strategies would enable the police to respond to water-related crimes much more quickly and effectively.

Kuhar and Meško (2020) analysed the policing of water crimes in Slovenia and concluded that the level of regulation enforcement is satisfactory, and their cooperation with other agencies and organisations is improving. They suggested educational courses and training at the local level and that officers at individual police stations be informed on new and emerging issues with water crimes. Wright (2011) justifiably states that the pre- eminent role of policing needs to be called into question and that new policing efforts must be tailored to meet the unique nature of water crimes. This means that, concurrently, measures that reduce demand and supply and aim to prevent the commission of water crimes must be implemented and supported.

**Water Crimes in Slovenia: Case Study**

The Republic of Slovenia is situated in the heart of Europe, at the top of the Balkan Peninsula in Central and South-Eastern Europe and is an area rich with natural resources (including water). The area is well known for four bio-geographical regions—Mediterranean, Central European, Alpine and Panonian—making it geographically diverse and characterised by varied ecosystems (Slovenia, n.d.). In the 1990s, the collapse of the socialist political system and various conflicts led to the disintegration of the Socialist Federal Republic of Yugoslavia along with several regional changes. Environmental protection was among these changes, including new and broader environmental protection legislation and stricter financial regulations. However, the overall lack of coordination and the presence of inconsistencies in the administration of various criminal justice agencies were not favourable to the enforcement of environmental crime, including water theft. Unfortunately, an in-depth search for relevant sources revealed a lack of previous studies focussing on water-related crimes in this area.

The Republic of Slovenia has had tremendous luck concerning water reserves. According to the Environmental Agency of the Republic of Slovenia (Agencija Republike Slovenije za okolje—ARSO, 2020), Slovenia had 2500 cubic metres of groundwater per capita available in 2018 (i.e. high-quality drinking water). Furthermore, 3.6 percent of this water was pumped from aquifers for use as drinking water, for manufacturing beverages, and health resorts in the same year. ARSO (2016) states that the quantitative status of groundwater in Slovenia is generally favourable, except in the Murska basin where the groundwater level is gradually being reduced. Slovenia is one of the richest countries in terms of the availability of water, but this exceptional strategic advantage does not mean that water is taken for granted, unlimited, or always available. Still, at this moment, it is vital to understand that water is an increasingly desirable commodity.

Slovenian territory covers just 20,273 square kilometres, but it has numerous underground rivers, gorges and caves, the

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6 Eman and White (2020) note that the police deal with environmental harm more often than environmental crime, therefore harm-oriented policing would help to change the standard police approach to environmental issues.
majority of which are situated between the capital city Ljubljana and the coast. There are 59 major rivers in Slovenia. The total length of all waterways in Slovenia is 26,989 kms. Slovenia’s territory is mainly located in the Black Sea basin (16,423 square kilometres, 81% of the territory), with a smaller part in the Adriatic Sea basin (138,600 square kilometres, 19% of the territory). These two parts are divided into smaller units, which are concentrated around the main rivers: the Mura River basin, the Drava River basin, the Sava River basin, the Kolpa River basin and the basin of the Adriatic rivers (ARSO, 2020; Kuhar & Meško, 2020, p. 159; Slovenia, n.d).

In Slovenia, drinking water is used in households for washing, dishwashing, bathing, sanitation and cleaning. Households also contribute to water pollution due to everyday household activities, such as washing and sewage. The agriculture sector, which uses artificial fertilisers such as in the Drava River basin, is another contributor to water pollution and it uses large quantities of water for cooling and other technological processes, such as cleaning, dissolving and diluting also contribute significantly to water contamination. Eman, Meško and Kuhar (2018) emphasise that such pollution introduces highly toxic heavy metals at high concentrations to the human body through drinking water, affecting human health and causing tremendous damage. The critical problem surrounding water quality in Slovenia arises because of the pollution of surface water and groundwater with nutrients, organic and hazardous substances, excessive water abstraction from the surface and underground sources, changes to the natural water course, certain dredging practices used in rivers, lakes and the sea, as well as the introduction of non-native species of fish into surface waters (i.e. Lake Bled and Lake Bohinj). Nevertheless, fundamental problems occur owing to the lack of water for the growing needs of the population, over-abstraction, shrinking wetlands, poor regulation of rivers, flooding, water erosion and water pollution (Eman & Meško, 2021).

Types of Water Crimes in Slovenia

From a legal perspective, criminal offences against water fall into the category of crimes against the environment, as defined in Sect. 32 of the Criminal Code of the Republic of Slovenia (2008). The Water Act (Zakon o vodah [ZV] 2002) is the general legislation and regulatory framework for water management in Slovenia. In 2002, the Water Act defined water as a natural public asset, and since then water has been a public commodity managed by the state. Additionally, various other regulations are essential for the protection of water and the quality of surface water and groundwater in Slovenia: (i) the Decree on Groundwater Status (Uredba o stanju podzemnih voda 2009); (ii) the Rules on Drinking Water (2006) (Pravilnik o pitni vodi 2004); and (iii) the Decree on Surface Water Status (Uredba o stanju površinskih voda 2009).

Slovenia also possesses two legal acts related to the water supply. The first is the Water Framework Directive (Direktiva Evropskega parlamenta in Sveta, 2000) which aims to ensure the excellent chemical status of both surface water and groundwater bodies and is implemented in the Water Act (2002). The second is the Environmental Protection Act (Zakon o varstvu okolja [ZVO-1] 2006). The Water Act (2002) is the most important and deals with the ownership, control and use of water as a resource. It also governs public assets and public services in areas containing water, water facilities and installations and other water-related issues.

Water crimes are, statistically speaking, uncommon in Slovenia. The most common water-related crimes are the contamination of drinking water and the pollution of rivers, lakes and so on, which occur approximately five to ten times per year. These crimes are included in the group ‘the Burdening and Destruction of Environment and Space’. An analysis of the criminal offences against the environment, space and natural resources database investigated by the Slovenian Police reveals that water crimes are some of the most problematic environmental offences that occur in Slovenia. The most common crimes are water pollution, intensive agriculture, industrial emissions and uncontrolled discharges of wastewater. Police reports on cases that transpired between 2006 and 2020 show that water crimes are dominated by water pollution offences (85% of all water-related crimes). In Slovenia, the most frequent object of crime is drinking water or free water in nature, such as rivers and ponds. The water sector is threatened by groundwater pollution, the pollution of streams and rivers from factories, theft of water from the supply system and the privatisation of water resources. The most common offence is the pollution of free water sources, and in most cases, the perpetrator is never identified. Moreover, a large amount of water crime cases go unreported, therefore the hidden figures behind these crimes represent the primary problem.

The privatisation of water resources is a distinct problem in Slovenia. It often occurs under the guise of acquiring Slovenian companies holding a concession for water use in beverages and/or food production. The main reason for this is the fact that water in Slovenia is relatively cheap; the fees for using the drinking water supply amounted to approximately EUR 0.08 per cubic metre for beverage and technological purposes (ARSO, 2020). Given the relatively low prices of water resources in Slovenia, it is not surprising that, in 2015,  

7 According to the Slovenian Environment Agency, in 2019 the cost of using the drinking water supply amounted to approximately EUR 0.08 per cubic metre for beverage and technological purposes, while water used for the purpose of bathing areas and natural spas cost EUR 0.11 per cubic metre. Thus, the concession for thousands of litres of bottled groundwater in 2019 amounted to EUR 2.91. Moreover, the State expects that the annual revenue for water used in bathing facilities, heating, would amount to slightly less than one and a half million euros, while producers of beverages would pay more than EUR 470,000 (ARSO, 2020).
the Pivovarna Laško and Union breweries were taken over by the Dutch company Heineken. They also bought a local water supply in Laško, primarily because of the access to water resources. Secondly, private companies expropriated Fructal and Radenska, two of the largest beverage companies in Slovenia. The German corporation WTE Wassentechnik gained a concession for water purification plants in several Slovenian cities. Furthermore, wealthy investors from Russia and Qatar are extremely interested in acquiring water resources, especially through the Costella company in Kastel and thermal water sources in Rogaška.

The cases mentioned above are the most high profile in which Slovenian companies holding a concession for water use were acquired by foreign companies in the last decade. This confirms that Slovenia’s water resources are ‘strategically’ interesting to foreign multinational companies. For this reason, it is even more critical that Slovenia protects all of its natural resources, especially water.

Access to Water as a Fundamental Human Right: The First Fight for Water Protection in Slovenia

Water is vital for survival. Over the last decade, there has been an increase in recognition of how essential it is to provide water and water resources legal protection. A review of the literature revealed that most countries worldwide have no established legal rights to water for their citizens enshrined in their constitutions. The human right to water is generally regulated by other laws and regulations, resulting from higher volumes of water and lower economic interests in water resources in the past. The few countries that have further protected their water resources include Italy, which strongly opposed water privatisation by a referendum; the Netherlands, which introduced a ban on water privatisation in 2006; Bolivia, which entered the right to water into its constitution, thus prohibiting the privatisation of water resources; and Slovenia, which changed its constitution to respect the right to water and protect water resources (Eman & Meško, 2021, p. 471).

Johnson, South and Walters (2015) note that water should be a public commodity, the common heritage of people and nature, as well as a fundamental human right. They believe that water should be provided to everyone without interruptions and in sufficient quantities for personal and household purposes.

While Slovenia is rich in water sources, it does not mean unlimited availability of water. In 2014, Slovenia realised that water was becoming a desirable commodity when the European Commission presented a directive on concession contracts. The adoption of an EU directive means that EU Member States must adapt their national legislation to the EU law, which seeks to harmonise certain aspects of Member States’ legislations. Such harmonisation is achieved by introducing various directives alongside other legal acts and their subsequent transposition into national law. When it came to the awarding of concessions, the newly proposed rules caused concern. The new content of the directive was influenced by entities from various sectors (including the water sector) which would benefit from its adoption (Eman & Humar, 2017).

Slovenia was one of the EU Member States that were somewhat bewildered by the proposed directive. A strong wave of discontent and opposition was triggered among all sections of the Slovenian population. The directive was never adopted thanks to strong public reaction, the resistance of several EU Member States and the establishment of a European Citizens’ Initiative entitled Water Is a Human Right. However, this does not mean that a similar new legal regulation will not be proposed in the future.

The fear of foreign actors taking control of water resources and the privatisation of natural resources prompted action. The members of Slovenia’s National Assembly proposed an amendment to the Slovenian Constitution to protect the human right to water. The proposal was prepared by the Civil Initiative for Slovenia and Freedom (Civilna iniciativa za Slovenijo in svobodo). After overcoming several obstacles (related to the interests of particular groups), the proposal was supported by a group of experts who drafted a new Article in 2016. The Article was added to the Constitution of the Republic of Slovenia (1991) at the beginning of 2017. Article 70.a is entitled The Right to Drinking Water.

After a two-year-long process, Slovenia managed to protect the right to drinking water as a public commodity for everyone in its Constitution. Since then, only a few violations of this right have been reported. Eman et al. (2018) stress that much room remains for manoeuvre and opportunities for violating the water protection legislation still exist. One such problem area is that the drinking water supply system is managed and operated by municipal public services. With operators and private interests, formal control
must be precise and constant, leaving no room for the abuse of authority and concession licences.

Sadly, less than five years have passed since the first successful fight for water protection in Slovenia, and Slovenian water resources are once again in danger. This time, water is threatened by domestic politicians and their financial appetites.

**Water as a Means for Profit for Slovene Politicians and (Foreign) Corporations: The Second Fight for Water Protection in Slovenia**

In mid-March 2020, a new administration began operating the Slovenian government. It was suddenly confronted with problems surrounding the COVID-19 epidemic. Despite the difficult situation, the coalition partners, through their actions, have shown that they are primarily concerned with their own wellbeing, not those of the citizens. This is apparent especially when casting their votes in the National Assembly and their highly negative attitude towards those who think differently than them. They did not even attempt to hide their close ties with capitalists, their benefits and the possibility of corrupt practices. This package of government legislative changes in favour of capital also included water resources.

In March 2021, the National Assembly of the Republic of Slovenia adopted an amendment to the Water Act (2002) which enables interventions in Article 37 on water and coastal lands. This could mean severe risks to the degradation of protected water or coastal land.

The Slovene government’s decision regarding the essential issue of healthy drinking water under an abbreviated procedure was controversial. Owing to this, the amendment to the law did not receive a proper public debate. The government was in a rush to pass the law, therefore the proposal was never harmonised, although professional and non-governmental organisations strongly opposed it. However, it was even more controversial that the Minister, who is responsible for the environment, defended capital but not Slovenia’s water resources.

After numerous unsuccessful initiatives, warnings and rallies by environmentalists who called on the deputies to reject the amendment to the Water Act (2002) are now resorting to a referendum. The authorities declined to hear the voices of the professional, environmental and civil society organisations that filed the petition with more than 53,000 signatures. For many Slovenes, a ‘controversial law’ has been passed, thus environmentalists aimed for a referendum to protect drinking water. A campaign to collect signatures for a referendum began on April 20th, 2021 and in just 35 days, the initiators collected more than 40,000 signatures certified by the administrative units for a referendum against the harmful Novel of Water Act (Za pitno vodo, 2021).

The National Council of the Republic of Slovenia could have voted on a suspensive veto and halted the adoption of the controversial Novel of the Water Act. Still, it has not reached a final decision on this act. The reasons for such a decision are unknown, as is the case regarding the decision of the Minister for the Environment and Spatial Planning not to protect water resources.

On 11 July 2021, at the referendum against the Novel of Water Act, 674,000 voters (86.58%) voted against it because they believed that it would harm basic rights to the water. Only 13.54 percent voted for the Novel. Only twice in the history of Slovenia up to this point has voting turnout been so high, and those were on the issues of independence and EU membership. So for the second time, Slovenes voted to protect water resources as a natural asset.

In contrast to 2016, when Slovenia executed a successful campaign to protect water resources as a public commodity, in 2021 Slovenia became an example of bad practice in protecting water resources. The government was deliberately enabling capital to gain profit at the expense of endangering and possibly destroying Slovenia’s water resources. This slight change in governing policy enabled water in Slovenia to become the most endangered natural resource, whereas it had previously been the most protected natural resource. All this occurred because of the potential earnings to certain individuals and corporations. Obviously, the Slovenian people’s environmental awareness is high; therefore, they voted for the protection of water for the second time. The first time for the amendments of the Constitution in 2016 and again in July 2021 for protecting water regarding prevention of the construction of bigger buildings and facilities on coastal lands. This could mean severe risks to the degradation of these lands and pollution of surface and groundwater. At the same time, the possible restriction of access to water as a public good in Slovenia was refused.

**Concluding Remarks**

The scarcity of clean drinking water is a growing contemporary issue for modern society. The human race is dependent on water as it is vital for life, social and economic activities,
and the functioning of ecosystems. A huge stumbling block to the equitable sharing of water and the protection of water supplies is its commodification (White & Eman, 2020). Johnson et al. (2015, p. 149) stress that fresh water has become a highly prized asset and increasingly lucrative investment due to its scarcity and importance for basic survival. Water scarcity has resulted in considerable opportunities for profit causing the commercial water industry to grow rapidly. We agree with Greife and Stretesky (2012) that the ‘treadmill of production theory’, which follows the political-economic explanation of ecological disorganisation, can be used to explain the expanding field of interest and study of green criminology. In our case, consideration of the combination of green criminology with rural criminology is crucial when discussing water crime-related issues.

A lack of drinking water is a problem in many third world countries and countries facing climate problems, which is why there exists an ongoing need to raise public awareness of water crimes. Water-related crimes can have a considerable effect on the quality and quantity of water. White and Heckenberg (2014) believe that the lack of water and poor water quality is most often linked to the over-exploitation of natural resources. Population growth could trigger a substantial global crisis related to water. In most cases, water is treated solely as a commodity and an exploitable natural resource, not as a human right (White & Eman, 2020).

We can find several similarities of our findings with the work of Brisman et al. (2018), whose work offers a detailed criminological explanation of the historical and contemporary relationship between water and crime, based on several case studies from different parts of the world. They drew a similar conclusion that political and economic interests and man’s desire for profit remain the primary reason for the occurrence of water crimes.

From the rural crime perspective, we must not forget how different rural areas can be—that is, ‘the rural’ is not homogenous—and that generalisation and transfer of theories without considering the social background can lead to misinterpretation of the findings. Everything that might be typical for big states and federations is not necessarily typical for smaller countries. For example, Slovenia has only slightly more than two million inhabitants and a landscape where the border between urban and rural is difficult to determine. This is recognised as a challenge of research in non-English-speaking countries outside the United Kingdom, the USA and Australia. Sometimes it is even more difficult to translate these national rural experiences into a local language of a smaller country.

Green criminology is for a long time now facing the issue of unequal water distribution all over the globe, which can be seen when comparing rural areas (villages or hamlets) with urban areas (towns or cities). In urban areas, drinking water is supplied by a public water supply service, but drinking water is not always available in rural areas. However, goods provided as public services, such as clean water, are not public goods in the strictest sense. Clean water, for example, is subject both to rivalry and excludability, and, given the limited availability of clean water, one person’s use of that water directly impacts its availability to another person. Given the equipment and infrastructure necessary to transport clean water and deliver it to households, governments can exclude certain people from accessing it while at the same time making it more accessible to others. For example, a study of access to water in the Mexico City metropolitan area revealed significant discrepancies between societal groups. These discrepancies were usually correlated with the amount of political power held by the groups (Gonzalez Rivas 2014). Similar cases of unequal distribution of fresh water occurred in Brasilia, where the indigenous people were forced to drink the same water as their cattle for decades before private companies bought the land, for example, they almost dried out Aral and Chad lake Ogallala Aquifer in the USA (Slaček, 2016). These cases open various unanswered questions for rural criminology, which have been developing over the last three decades and focus on the study of crime in rural settings (Donnermeyer & DeKeseredy, 2013; Hacin & Eman 2019) and already mentioned green criminology (Walters et al., 2013). As the world is already facing a water crisis as one in seven people do not have adequate access to safe drinking water daily (Karnani, 2014), we believe that there is a ‘new’ wide area of water-related issues where green and rural criminology will meet, collide or learn from each other.

The experience in Slovenia shows that protected natural resources can quickly become endangered. Positive changes made in favour of environmental preservation can be achieved if people come together. In this case, that meant insisting on water being a fundamental human right that must be embodied in the constitution. However, sceptics question the power of such a constitutional provision because it could become meaningless if foreign capitalists are allowed to acquire water resources (Eman & Meško, 2021, p. 480). This is exactly what happened in Slovenia in 2021. Hence, by making alterations to legislation, politics has paved the way for water resources to be utilised for financial gains, not for the general wellbeing of the people.

Rural (green) criminology and environmental protection organisations should focus on “legal and governance frameworks that prioritise the human right to water and ecological sustainability over private interests” (Johnson et al. 2015, p. 160). Unfortunately, various cases throughout history demonstrate how water companies have violated water protection legislation and standards in pursuit of profit, which results in a loss of trust and confidence among the public. For this reason, countries that have an abundance of water resources, such as Slovenia, should be given a guarantee that they will not become targets of other nation states or international water conglomerates.
From the point of view of critical criminology, and more specifically, of both rural and green criminological perspectives, research and policy debates should inform each other. Therefore, future research should examine the impacts of expanding water protection and, in more serious cases, of ways to create effective tactics for water crime prevention. Furthermore, environmental protection should focus on “legal and governance frameworks that prioritise the human right to water and ecological sustainability over private interests” (Johnson et al. 2015, p. 160). The task of green criminology is to conduct a detailed study of the nature of water crimes and water management (including enforcement, prosecution, and sentencing practices) alongside the systems of criminal, civil, and administrative law designed to manage, protect, and preserve water. White and Eman (2020) emphasise that a variety of crimes against water are emerging which present the core issues of social and ecological justice. At this point, greater attention from green and rural criminology is needed because the majority of water crimes are detected in rural areas. We should always remain cognisant, too, that water protection is an important priority of the Sustainable Development Goals of the United Nations aiming at ensuring sustainable development on the global level (UN SDG, 2018).

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