

Nexus Green Criminology – Transnational Organized Crime: Trends and Developments

Dina Siegel

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1. Introduction

Today there is not one united field of criminology, but there are many different ‘criminologies’. After the critical criminology of the 1970s and cultural criminology at the beginning of the 21st century, we see the emergence of positive criminology, narrative criminology, Southern criminology, queer criminology, feminist criminology, activist criminology - all based on specific themes, methodology, or geography. Unfortunately, these ‘criminologies’ are often disconnected and authors are not always aware of, or not interested in, the research of their colleagues. Such is also green criminology.

2. Green Criminology

Green criminology is the study of harms against the environment, human and non-human animals committed by either individuals or powerful institutions (*Beirne/South* 2007). There are numerous ‘green harms’, including the (over)exploitation of ecological systems, damage to land, water and air, smuggling of natural resources, animal abuse and more. Studying these green crimes becomes more and more popular in the last years, and many researchers turn their attention to this rapidly growing field, as one can see in numerous publications (*Nurse* 2015; *Lynch/Stretesky* 2016; *White* 2021; *Sollund* 2019).

Especially scholars who have been involved in studies of transnational organized crime (both in organizations, such as mafia, cartels, triads; and specific activities: human and drug trafficking, gambling, extortion, money laundering), discover the importance of green criminology and a clear link to their theoretical approaches and empirical findings on organized crime (*Van Uhm* 2023; *South/Wyatt* 2011; *Siegel* 2009).

The focus of green criminology on environmental crimes and harms, including ecosystems and non-human entities and the relations between people and nature are increasingly becoming topics of discussion on the international agenda. The global destruction of ancient rainforests, the mass extinction of species, the pollution of the air, land and water – they all have far-reaching impacts on human lives and present threats to our very existence and safety. In addition, we observe that the rising global scarcity of natural resources increasingly attracts transnational criminal organizations. In the research in green criminology there is therefore an increased attention to globalization of organized crime and its corporation with legal businesses.

Environmental crime has become one of the largest black markets following in the footsteps of drugs and weapons with estimates of between 91 and 159 billion USD (*Van Uhm* 2023). The increase in environmental crime each year reflects the importance of understanding the involvement of criminal organizations in environmental crime.

In recent years, organized crime has become especially involved in illegal trade in natural resources alongside traditional criminal activities. Organized crime reacts to socio-economic, political and ecological changes by looking for opportunities to diversify their illegal activities. This is what *Marc Galeotti* (2004, p. 1) called the ‘process of globalization of organized crime’. *Galeotti* identified five drivers of this process, including vanishing borders, improved communication techniques, advanced transportation methods and the growth of cyberspace, we now see new collaborations, alliances and fluid criminal networks developing.

In order to better understand the nexus between environmental and organized crime, it is important to analyze power dynamics and the motives behind the switch from traditional to green crimes.

3. Nexus Environmental-Organized Crime

Daan van Uhm (2023) proposed the Environmental Crime Continuum, a model which consists of five points, which display a convergence between organized crime groups and environmental crime. It shows the levels of diversification of organized crime into environmental crime increases during the stages gradually.

First, alliances between organized crime and environmental crime groups are established for sharing expert knowledge or operational services similar to cooperation within legitimate business settings. These alliances can be one-off, short- or long-term relationships. For example, alliances emerge to share information about routes for smuggling minerals and metals, which are the same routes as for other criminal activities, such as drugs or human smuggling.

Second, crime mutualism may be established in a long-term symbiotic relationship that includes both illegitimate and legitimate activities for mutual benefits. It can include barter trade such as wildlife being exchanged for drugs and stolen vehicles or using a legitimate company as a shield for illegal wildlife trafficking. A good example is the network of Chinese traditional medicine shops around Europe, which sells legal and illegal products at their facilities.

Third, the convergence, when crime groups might mingle completely, representing the merging of different illegal activities as well as the ability to diversify. For example, these criminal activities include human trafficking and illegal timber trade simultaneously. The groups involved are hybrid and multifaceted.

Fourth, organized crime groups can transform into business organizations, departing from traditional criminal activities to infiltrate the new environmental crime market. For example: drugs cartels switching to smuggling of cobalt, tin or copper - metals used in mobile phones and computers-, adapting to consumers' demand worldwide.

Fifth, criminal organizations can monopolize and control specific areas or supply chains by using violence, extortion, blackmail and intimidation. A good example is the case of illegal Russian caviar, in which different legal and illegal partners serve organized crime in poaching, smuggling and illicit trade worldwide.

4. Selection of Empirical Studies: Nexus Organized/Environmental Crime

Although the Environmental Crime Continuum model is a solid theoretical basis to explain various links between environmental and organized crime, empirical studies are still limited.

Therefore, one of the aims of research which was conducted by criminologists in the last ten years was to provide concrete cases focusing on involvement of organized groups in environmental crimes. The data was collected in different countries worldwide by using qualitative and quantitative research methods. An attempt will be made here to illustrate, using different empirical studies, how and why transnational organized crime became interested in these illegal activities.

4.1 Dirty Business

While green criminology is a relatively new field, organized green crimes are not a new phenomenon. The classic example is the involvement of the Italian Mafia in particular waste trafficking and dumping, which has been well documented (*Massari/Monzini 2004; Germani/Pergolizzi/Reganati 2018, Favarin/Thachuk 2022*).

For example, different *modi operandi* were reported by American law enforcement showing how the Italian mafia in the US monopolized the waste industry, bribed officials and regularly disposed toxic waste in the New York and New Jersey region in the 1970s and 80s. They used violence and threats to force other firms to cooperate and obey their rules. Trash hauling and land-filling were historically controlled by the mafia (*Block/Scarpitti 1985; Block 2002*).

Another example is the developed illicit market for handling urban waste in southern provinces in Italy, under control of the Sicilian mafia, the Calabrian 'Ndrangheta and the Neapolitan Camorra (*Pasotti 2010*).

4.2 Mining and Organized Crime

The increasing involvement of organized crime in mining activities around the world is another visible trend (*Zabyelina/van Uhm 2020*). Already in the early 1990s, the infamous Medellin and Cali cartels in Colombia used the gold

business to hide the proceeds of illicit trade in cocaine, by transferring illegal cash from drug trafficking into the stable assets of gold. However, the interest of drug cartels in illicit gold mining became prominent in the 2000s, when they became key players in the whole chain of production and supply of illegal gold to the US and Europe. Some drug cartels diversified their operations from cocaine production to gold mining, often in the same regions, profiting from the high gold price on the international market. Today, informal gold mining generates profits of about 2,5 billion USD a year and has allegedly surpassed drug trafficking.

In addition, the increasing profits of illegal gold mining activities has sparked a conflict between different criminal groups over territorial control (*Idrobo/Mejía/Tribin* 2014).

In *Yulia Zabyelina* and *Nicole Kalczynski's* (2020) research on illicit mining and trade of amber in Ukraine, they collected evidence on how these illicit enterprises have been run by organized crime in Ukraine showing extortion and protection by organized crime and corrupt police. Some criminal groups did also run illegal amber trade alongside cigarettes, drugs and other illicit commodities.

In my own research on the diamond industry, I found the presence and activities of the Russian and Georgian mafia in Antwerp, the 'world leader of diamond industry' but also activities of local criminal groups involved in informal mining in Sierra Leone, Angola, Liberia and Congo. And also in this case of diamond illicit markets organized crime used corruption, which manifested itself at different levels in the whole diamond pipeline along different organized crime activities such as smuggling from the legal diamond mines, money laundering, falsifications and use of violence (*Siegel* 2009).

4.3 Wildlife Trafficking

Important research has been conducted by green criminologists in the last years on wildlife trafficking (*Wong* 2015; *Wong* 2019; *Sollund* 2019; *Gastrow* 2001; *Hubschle* 2016).

In China, the increasing economic prosperity has allowed more people to buy expensive luxury objects and traditional Chinese medicine products, including endangered wildlife. Chinese Triads became involved in smuggling ivory, tiger bone, rhino horn, abalone and shark fin. They also made alliances with local African gangs, involved in hunting and poaching of endangered wildlife

in wild forests and in protected national parks. Described as ‘rhino wars’ (*Rademeyer 2012*) between poachers and rangers in different African countries, organized criminal groups make use of advanced technology, helicopters, tranquilizers, rifle silencers, night vision equipment, and even automatic weapons against park rangers to gain profits from those endangered species.

The scarcity and criminalization forced prices on the black market to reach extreme heights; the price of rhino horn is nowadays worth more than gold and cocaine (> 35,000 USD per kilo). The horns are smuggled from Africa to Hong Kong or Myanmar by so-called ‘mules’ (someone who personally smuggles contraband across borders for criminal organizations) or in containers by ships. Border controls discovered that rhino horn shipments are sometimes combined with drugs, weapons or illegal timber. In Asia, the horns are then transferred to their destinations in China and Vietnam. This all under control and supervision of Chinese organized crime groups.

In South Africa, organized crime groups, or better ‘rhino crime syndicates’, are involved in multinational operations that include other criminal activities like the trade in drugs, diamonds, humans and other wildlife products such as elephant ivory and abalone. For example, in 2019, members of a South African criminal enterprise were charged with large-scale trafficking of rhino horns valued at more than 3.4 million USD, in combination with heroin distribution, ivory trade and money laundering (*Van Uhm 2023*).

4.4 Fishery and Organized Crime

In 2015 and 2016 we conducted research on the illicit production and distribution of black caviar from Russia to Europe (*Van Uhm/Siegel 2016*). Organized crime is always strong in weak states and in regions where the government has not succeeded in using the effective monopoly of violence. The remote, relatively poor areas around the Caspian Sea are particularly vulnerable to the involvement of organized crime groups, especially concerning one of its most valuable resources: the sturgeon and its caviar.

The dissolution of the Soviet Union in the early 1990s led to the collapse of existing management and control systems, the subsequent overexploitation of wild sturgeon stocks, and the involvement of criminal networks. Currently, the international trade in sturgeon and caviar is only allowed when shipments are accompanied by the appropriate import and export certificates. Since 2007, when the sturgeon population had declined significantly, Russia

completely banned wild sturgeon harvesting because of pressure from different international organizations. This ban was joined by all Caspian littoral states in 2014.

There are, however, several criminogenic factors that make the illegal caviar trade very attractive for organized crime: its scarcity, the extremely high prices that are paid for caviar, social instability and corruption in the region, a relative lack of control and loopholes in the regulations. Organized crime groups are active at all levels of the trade: from the poaching areas where criminal groups cooperate with law enforcers and possess top-notch equipment, such as GPS, expensive boats and helicopters, to major smuggling operations in the hands of sophisticated criminal networks that cooperate with local officials. A large part of the illegal trade is controlled by Russian organized crime. Poachers pay ‘taxes’ to criminals or the police to gain access to the Caspian Sea and they usually hand over a certain percentage depending on the size of the catch. Most of the legal and illegal fishermen enjoy a ‘krysha’ (literally a ‘roof’), which is protection against petty thieves, but also against competitors and amateur extortionists.

Like the illegal diamond trade and rhino horn trade, the ‘caviar mafia’ is an excellent example of the intertwinement between the illegal and legal world. These criminal groups are regularly embedded in legal enterprises that are being used to shadow their illegal activities. For example, legally registered companies use various methods to launder illegal caviar: by using false or forged documents or labels, lids of illegal caviar tins and jars imitating well-known brands or bogus information about the producer.

Fish attracts organized crime in different parts of the world. In Japan, since the 1990s the Yakuza has been linked to the smuggling of whale meat, which is considered a delicacy (sashimi). Yamaguchi-gumi, Inagawa-kai and Sumiyoshi-kai, the most powerful Yakuza groups were mentioned in different law enforcement records in illicit activities of hunting protected whales and distributing their meat illegally to Japanese shops (*Hill* 2003). Recently, Sea Shepherd (marine conservation NGO) discovered the long-standing cooperation between several fishing unions and the Yakuza, which facilitated the illegal trade in whale meat from docks to markets (*Kazmar* 2000).

4.5 Gambling on Animals

Illegal dogs, crickets and roosters' fights, cockroaches' races like other illegal gambling activities, are often linked to organized crime. Organized crime groups' involvement in gambling is over-documented, from films to media news and scientific reports. Gambling is a traditional activity of organized crime around the world. Jay Albanese described one of the forms of illegal gambling involving animal fighting and betting on dogs for high stakes. 'Customers bet a total of '\$5,000 and \$200,000 on a single fight, averaging \$100,000 per fight' (*Albanese* 2018, p. 275). In addition to illegal gambling, other criminal activities may also take place during dog fights, such as illegal drugs and weapons trafficking. One case investigated by the Organized Crime Drug Enforcement Task Force (OCDETF) in the United States targeted a drug trafficking organization that had allegedly organized and conducted large-scale illegal dogfighting operations throughout the Northern District of Florida between 2014 and 2020.

The most violent dogfighters are said to be gang members who attend organized fights to gamble and traffic in drugs (*Gibson* 2005). Also in Europe some researchers studied the rise of clandestine and illegal dogfighting in the northeast of Scotland and linked it to underworld drug dealing (*Bell* 2008). Thus, they reported that amongst the drug dealing fraternity it is seen as a mark of 'prestige' to own a top fighting dog or even to be invited to attend a dogfight. We found the same in our research on dog fighting in the Netherlands (*Siegel/Van Uhm* 2021).

In different countries gambling on insects and organizing what some consider as 'animal sport events', for example cockroach races and cricket fights are forbidden and usually take place in clandestine settings (for example in China, Indonesia and Thailand). And no surprises: local criminal groups are involved in the illegal organization of these events (*Siegel* 2025).

My very recent research on illegal camel races among Bedouin criminal clans in the Middle East, similar to dog fighting events, show how different *ham-ullas*, criminal clans, mainly involved in protection racket and drugs and weapon smuggling use these events to manifest their power and wealth not only to the competing clans, but to the whole world, by sharing the images: photos and videos of the illegal events on social media (*Siegel* 2024).

These images, where participants are easily identifiable, are an example of the 'irony of secrecy' dilemma, described by the Adlers during their fieldwork

among drug dealers in California at the end of 1970s (*Adler/Adler* 1980). ‘Irony of secrecy’ is a paradox, which is the conflict involving a choice between rational goals and strategies to hide the illegal activities in order not to be caught by law enforcement on the one hand and a hedonistic lifestyle and impulsive behavior on the other, demonstrating success and power of criminal activity. The risk of being arrested weighs less in this calculation than emotional drive to brag on criminal success.

5. Conclusion

There is growing evidence of the involvement of organized crime in environmental crimes. Vanishing borders and improved communication and transportation methods facilitate contact with faraway, tropical and conflict regions where the monopoly on violence is in the hands of such organized crime groups. In these areas, there is a clear overlap with other serious crimes. The interconnectivity between the underworld and the upperworld emphasizes that many environmental crimes are forms of organized crime.

In the last twenty years, criminologists observe a shift from traditional organized crime activities to environmental crimes. This contributes to the disastrous consequences for the ecosystem and the living conditions for human and nonhuman inhabitants. The political, public and academic debate is urgent in this context.

Green crimes are relevant particularly for criminology as many crimes and harms occur with connections to organized crime groups. Criminology can definitely contribute to our understanding of ‘green’ crimes by providing empirical data on specific crimes and violations, and by an in-depth analysis of their nature.

In other words, criminology has a mission to empirically study and to theoretically explain deviant and harmful behavior and its consequences for society. In this regard, research in green criminology becomes an inevitable part of this mission.

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