The Criminal Law Protection of our Common Home

(7th AIDP Symposium for Young Penalists,
Rome, Italy, 11-12 November 2019)

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SETTING THE SCENE

THE CRIMINAL LAW PROTECTION OF OUR COMMON HOME: AN INTRODUCTION TO THE VII AIDP SYMPOSIUM FOR YOUNG PENALISTS

By Manuel Espinoza de los Monteros de la Parra[*], *Antonio Gullo*[*] *and Francesco Mazzacuva*[*]

1. This issue of the RIDP builds upon the contributions to the VII AIDP Symposium for Young Penalists, which convened on 11 and 12 November 2019 in Rome, Italy. The Italian National Group of the International Association of Penal Law and the Luiss Guido Carli University jointly hosted the event, which was organised by the editors of this issue.

The Symposium was opened with a speech by Paola Severino, Vice-President of Luiss Guido Carli University and President of the AIDP Italian National Group. During the sessions, young academics discussed to what extent criminal law can contribute to an integral ecology and how does the protection of climate, environment and biodiversity relate to the respect of human dignity, to distributive justice and to justice between generations. The conference was closed by the remarks of John A.E. Vervaele, President of the AIDP, who is author of a post-scriptum of this issue. The conclusions of the Symposium were presented during the XX International Congress of Penal Law in the session on 'Corporate Criminal Law and Environmental Protection' on 15 November 2019.

2. The first part of this volume is dedicated to the *international framework,* which clearly shows the emerging idea that the protection of humankind's 'common' home cannot rely exclusively on the sovereign will of States.

This idea is particularly evident in the proposals examined in the contribution of Liemertje Julia Sieders and aimed to introduce the crime of 'ecocide' in the International Criminal Court (ICC) Statute or to create a dedicated international environmental tribunal. All 'ecocide proposals', in fact, endorse the necessity of a substitutive role of international authorities in case national ones fail to protect the environment. Without neglecting the criticisms about the heterogeneity and the different degree of 'seriousness' of ecocide with respect to other international crimes (which are matters that largely depend on the definition given to the offence), we may observe that this mechanism appears to be consistent with the rationale of international criminal law expressed by Article 5 of the ICC Statute, namely the need to face the

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discrepancies which may emerge between national criminal policies and the 'concern of international community as a whole'[1].

The same idea can be noted also in regional experiences, as pointed out in the contributions of Gonzalo Guerrero and Edoardo Mazzanti, which are dedicated respectively to the environmental protection directives arising out of the American Convention of Human Rights system and from the dialogue between the European Union and the European Court of Human Rights. In both contexts, in fact, 'positive obligations' have emerged, according to which member States are obliged to criminalise serious environmental harm. In other words, again, their sovereignty in criminal law is not absolute, because they are held responsible in case of failure to comply with this obligation[2].

The emergence of positive obligations, however, raises doubts on the grounds of legitimacy and of individual guarantees. As to the first issue, it could be considered that the debate which arose with regards to the admissibility of obligations to criminalise environmental offences in European Union law foreshadowed the introduction of an explicit competence in criminal law by the Treaty of Lisbon. Therefore, it may be asked whether the same substantial result can be reached through an evolution of the case law of the Courts of Human Rights, without any amendments to the respective Conventions. As to the second issue, it should be considered that the failure to comply with the above-mentioned positive obligations should only involve a responsibility for the State (through a procedure of infringement, a judgment before a Court of Human Rights, etc.) but never entail detrimental consequences for individuals (which is the typical feature of international criminal law)[3].

Furthermore, the evolution of the international framework has led scholars to reflect on the existence of a 'paradigm shift' from an anthropocentric approach to an eco-centric and bio-centric approach under which the environment must be protected regardless of the risks to individuals. For instance, Liemertje Julia Sieders points out that this process underlies the proposals of inclusion of the ecocide in the Rome Statute, whereas international criminal law has always been intended to protect human beings. In addition, Gonzalo Guerrero underlines the fact that in the Advisory Opinion 23/17, the Inter-American Court of Human Rights expressly stated the right to a 'healthy environment that protects the components of the environment, such as forests, rivers

[1] On this rationale of International criminal law and the tensions with State sovereignty, see Robert Cryer, 'International Criminal Law vs State Sovereignty: Another Round?' (2006) 16(5) European Journal of International Law 979ff.

[2] On this topic, see especially Andrew Ashworth, *Positive Obligations in Criminal Law* (Hart 2013). In the Italian literature, see Stefano Manacorda, '"Dovere di punire"? Gli obblighi di tutela penale nell'era della internazionalizzazione del diritto' (2012) 4 Rivista italiana di diritto e procedura penale 1364ff; Francesco Viganò, 'L'arbitrio del non punire. Sugli obblighi di tutela penale dei diritti fondamentali' in *Studi in onore di Mario Romano* vol IV (Jovene 2011) 2645ff.

[3] On both issues, see lately Vittorio Manes and Michele Caianiello, *Introduzione al diritto penale europeo* (Giappichelli 2020) 296ff.

and seas, as legal interests in themselves, even in the absence of the certainty or evidence of a risk to individuals'.

However, firstly, it must be observed that an anthropocentric approach still seems to prevail within the case law of the European Court of Human Rights (see again Edoardo Mazzanti) and the international criminal justice framework. In this last regard, Renata Barbosa demonstrates a trend not centralised in the environment as an end in itself, which represents a gap in the appropriate framework to tackle conflict in the scope of transitional justice.

Secondly, it may be asked whether some kinds of approaches are really aimed at protecting the 'common home' itself or, instead, in cases where little relevance is given to the consequences for the ones who live (or will live) in it, whether this arises from an influence of the precautionary principle. This phenomenon, for instance, is particularly evident in European Union law, in which the opening to the protection of environment values themselves[4] could be linked to the relevance given to the precautionary principle[5]. Finally, the shift to an eco-centric approach in the international framework seems far from being complete and, to a certain extent, not always appropriate.

3. The second part of the volume focuses on the *opportunities, limits and alternatives to criminal law* related to the protection of the environment. On the one hand, in fact, it is accepted that criminal law should face violations of the essential legal interests at stake and that justice undone[6] is especially relevant for the matter of environmental crimes, where a more substantive response from States may be needed. On the other hand, in this chapter, the authors reflect on criminological problems regarding different aspects of environmentally harmful behaviour as well as the consequences and limits of criminal law concerning the prevention and prosecution of environmental crimes.

The protection of the environment is a priority and it requires the observation and understanding of diverse aspects of environmental crime including its historical evolution, current and future challenges, the role of corporations and States, as well as the economic and cultural background. In the past decades there have been major developments in the study of environmental crime, resulting in what we currently understand as *green criminology*[7]. Nevertheless, some matters still require further evolution, as pointed out by the contributions of Aleksandar Stevanović, Luis Fernando Armendariz Ochoa, Andrea Chines, Giacomo Salvanelli and Alessandra Cecca. This is necessary in order to draft a more adequate legal framework for preventing,

[4] See again the contribution of Edoardo Mazzanti.

[5] See also the contribution of Mario Iannuzziello in the second part of this volume.

[6] William S Laufer and Robert C Hughes, 'Justice Undone' (2020) 58 American Criminal Law Review (forthcoming).

[7] On this matter, Lorenzo Natali, 'The Contribution of Green Criminology to the Analysis of Historical Pollution' in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017).

investigating and sanctioning environmental crimes, ensuring ecological justice and enabling a more sustainable lifestyle.

Certainly, it remains uncontested that criminal law has to be the *ultima ratio*. Criminal prosecution should be reserved for cases in which other laws and especially administrative fines do not provide sufficient deterrence. In this sense, criminal law faces limitations regarding the protection of the environment and should thus be supplemented with diverse aspects of green criminology, especially those aiming for more effective prevention of and damage reparation derived from environmental crimes.

Regarding the opportunities that criminal law offers, and as further discussed in the third part of this volume concerning corporate criminal liability and compliance, corporate self-regulation represents an alternative or a complement to criminal and administrative law. In this sense, Luis Fernando Armendariz Ochoa indicates in his contribution the importance of fundamental aspects of financial criminal law in setting an adequate legal framework for the protection of the environment. Here, corporate criminal liability represents an interesting opportunity for the development of suitable environmental policies, especially in those countries that currently do not consider criminal liability of corporations within their legal regimes. Unquestionably, there is a relevant link between environmental crimes and corporate liability that has to be developed more at national and international level.

Notwithstanding the importance of the above-mentioned considerations regarding the opportunities offered by criminal law, further studies are required. This is especially true regarding the methods used to evaluate the positive impact that green criminology, compliance and corporate criminal liability have on the prevention of environmental crimes. Comparable to the field of financial crime law, more data, trends and statistics are required to evaluate the effectiveness of these legal and regulatory frameworks[8].

Certainly, criminal law provides other alternatives for sustainability and the protection of the environment. Nevertheless, in this regard there are different aspects that require special discussion, such as the controversial role of precautionary principle in the protection of environment. Mario Iannuzziello in his contribution argues in favour of the functional role this principle could play in the prevention of risks and potentially harmful situations for the environment. In particular, the author proposes that, beyond the concept of *actus reus* and causation, the precautionary principle could be significant for both the criminal policy and the imputation model since on one hand it serves to regulate dangerous activities and protect specific legal goods, whilst on the other hand

[8] On this topic, William S Laufer, 'The Missing Account of Progressive Corporate Criminal Law' (2017) 14(1) New York University Journal of Law and Business 71ff.

it contributes to set the adequate criterion to ascribe a fact to an author[9]. In fact, there is a vast list of legislation, international legal instruments and soft law regulations that addresses the precautionary principle concerning the protection of the environment, for example the United Nations Agenda 2030 for Sustainable Development Goals and, in the context of this volume, the Encyclical Letter *Laudato Si´* of Pope Francis[10].

This section additionally addresses a possible connection between environmental crime and corruption in the case of CO2 Carbon Trading Crime. Certainly, this topic has won the attention of international organisations, governments and scholars because of the increasing importance of the Emission Trading System (EU) and the global Carbon Trade Market globally, as well as the lack of an effective legal framework regulating this activity, resulting in a failure by public entities to prevent conduct that alters the registered CO2. Similar to other crimes, environmental crimes appear to benefit from corruption, which may facilitate, for example, the undertaking of activities without the proper safety measures or even licenses and permits, the protection of extractive industries by public authorities allowing the overexploitation of natural resources, the lack of controls regarding waste management or the use of chemical products. The authors, Chines, Salvanelli and Cecca point out the difficulties faced by criminal law and ask for further research on the link between corruption and environmental crimes, including relatively new and less studied harmful activities, such as CO2 trading.

4. The third strand covered by the contributions published in this volume touches on a crucial aspect of strategies to combat environmental crime, namely, *corporate criminal liability*. The topic of the criminal law protection of the environment is approached from a broad perspective, as shown by the references made to the somewhat related sector of food security[11].

The central role of corporations in this area is hardly surprising. This is borne out by the technical complexity of the matter at stake – where reference to best available techniques and ISO certifications is a recurring factor – and the technological development of control systems, which suggest that the focus should be on public-private partnerships in preventing environmental crime. In the same way, legal persons are drawn into the equation as far as punishment is concerned by the frequent

[9] In practice, it is evident that environmental disasters could be caused by dangerous corporate behaviour. For instance, in the case of Samarco in Brazil, the corporation ignored the observations made by experts and organisations as well as public opinion regarding the dangers of using 'low cost' materials for the construction of a dam. On this matter, Eduardo Saad-Diniz, 'Justicia restaurativa y desastres socioambientales en Brasil' (2019) 10 Revista de Derecho Penal y Criminología 10ff. and, in this volume, the contribution of Daniela Arantes Prata.

[10] Pope Francis, *Laudato Si'. Encyclical Letter on Care for Our Common Home* (Libreria editrice Vaticana 2015).

[11] This theme has been comprehensively addressed in a special issue of the Revue Internationale de Droit Pénal: see Adàn Nieto Martin, Ligeia Quackelbeen and Michele Simonato (eds), *Food Regulation and Criminal Justice* (International Colloquium Section II of the AIDP World Congress, Beijing, China, 23rd-26th September, 2016) (Maklu 2016).

difficulties in reconstructing the responsibility of individuals – due to the fragmentation of decision-making and the difficulty within multinational groups of retracing the chain of command[12] – and the need to design reparatory or restorative measures, such as the clean-up of polluted sites, which see corporations as key agents[13]. Moreover, EU legislation – both Directive 2008/99/EC on the protection of the environment through criminal law (article 6) and Directive 2009/123/EC on ship-source pollution (article 1) – is clear in including legal persons in the list of those liable for environmental offences and that very criminological dynamic, often concerning cases of environmental disaster, highlights the importance of effective controls and sanctions vis-à-vis legal persons[14].

We will limit ourselves to pointing out some of the main features arising from the contributions presented here. The three pillars on which a modern system of corporate criminal liability should be based are represented by: imputation mechanisms to attribute liability that are able to truly 'motivate' legal persons to cooperate in the fight against economic crime in general; forms of controls that ensure a real implementation of the mechanisms so structured; finally, an adequate level of deterrence combined with an overall balance in allocating sanctions between natural persons and legal persons.

On the first front, a trend that emerges – in a clearer way in some contributions[15] – is a need to go beyond the criteria of holding legal persons liable on the basis of purely strict liability. The experience of common law countries has highlighted the limits of vicarious liability and identification theory, and on the other hand, for several years now there has been a debate aimed at pushing legal persons towards cooperation and self-reporting, also with a view to strengthening the scope for imposing liability on the top management involved in the commission of the crimes in question[16]. That in turn raises the issue of combating forms of 'cosmetic' compliance. This entails the need

[12] See the contributions of Emanuele Birritteri and Daniela Arantes Prata.

[13] Regarding the topic of historical pollution, see the US experience of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). On this subject see David Uhlmann, 'Protection of the Environment through Criminal Law: an American Perspective' in José Luis de la Cuesta and others (eds), *Protection of the Environment through Criminal Law* (AIDP World Conference Bucharest, Romania, 18th-20th May 2016) (Maklu 2016) 63ff; Joseph Di Mento and Ava Badiee, 'Historical Pollution and Criminal Liability in the United States' in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017) 206ff.

[14] See the case studies and observations made, with respect to the Brazilian experience, by Eduardo Saad-Diniz and Felipe Fagundes de Azevedo, and by Daniela Arantes Prata.

[15] See the article by Emanuele Birritteri.

[16] Emblematic is the debate that led to the Yates Memo, as well as the current discussion on the revision of mechanisms, such as negotiated settlements, which are widespread in the US. For a critical analysis of major developments in this area, see Jennifer Arlen, 'Corporate Criminal Enforcement in the United States: Using Negotiated Settlements to Turn Potential Corporate Criminals into Corporate Cops' in Camilla Beria di Argentine (ed), *Corporate Crime and Negotiated Justice: Comparative Experiences* (Giuffrè 2017) 91ff.

upstream to identify the contents of compliance programs in a sufficiently detailed manner and downstream to ensure reliable forms of controls, as to guarantee the real effectiveness of the tools in question. This is a recurring theme in the various legal systems, and is particularly felt in those that have focused on organisational fault as the main criterion for holding legal persons liable[17], which calls into question the role of legislators and supervisory agencies. The combination of hard law (think of the recent *Loi Sapin II* in France and the effort to outline the contents of anti-corruption compliance programmes) and soft law (for instance, the guidelines prepared by the Department Of Justice in the US, the Serious Fraud Office in the UK, the anti-corruption agencies that are proliferating in the various legal systems, and the primary actors in the fight against corruption such as the OECD) is helping to build a common language in the prevention of crime within corporations and in the identification of the measures to be adopted.

Regarding controls, the experience of certain legal systems, reported in some of the contributions, testifies to the key importance of the work undertaken by supervisory agencies. And here two basic issues intersect: the choice between a public system or one with a private sector imprint – for example, the model of the French anticorruption agency (AFA) and the Supervisory Body (*organismo di vigilanza*) provided for by the Legislative Decree No. 231/2001 in Italy – and establishing the requirements to be met by members of the body and the latter as a whole. Autonomy, independence and professionalism should be prerequisites for members of such agencies and continuity of action should be one of the essential traits of the activity of the body in itself. The recent history of anti-corruption agencies shows that, to this end, a key aspect is their financial autonomy and the provision of human resources to ensure adequate controls and at the same time the effective management of the many functions – including regulatory ones, as mentioned above – entrusted to them. The danger of overcompliance, stressed in the work of Eduardo Saad-Diniz and Felipe Fagundes de Azevedo, certainly has a regulatory background – and could be contained if legislators were to take on a clear guidance role in this matter (although it must be recognised that the sectors mentioned, i.e. extraction of raw materials, involve organisational burdens difficult to simplify) – but has its roots above all in the realm of controls. On closer analysis, what needs to be tackled is that of superficial overcompliance, in terms of countering the introduction of non-essential regulatory constraints through legislation, and above all in terms of strengthening the system of checks regarding implementation in practice and the actual functioning of compliance programmes.

[17] For an overview of such theorisation in Italy see Carlo Enrico Paliero and Carlo Piergallini, 'La colpa di organizzazione' (2006) 3 La responsabilità amministrativa delle società e degli enti 167ff. At international level see William S Laufer, *Corporate Bodies and Guilty Minds. The Failure of Corporate Criminal Liability* (University of Chicago Press 2006).

Finally, as regards sanctions, we are well aware of the fact – as mentioned in some contributions – that the logic of 'too big to deter' and 'too big to fail' must be reversed[18]. It is not possible here to address these basic issues of the corporate criminal liability, but it is sufficient to highlight two features. The first aspect concerns the arsenal of sanctions that can be deployed against legal persons: the response of the system must be such that sanctions cannot be 'internalised' by the corporation as a cost. From this viewpoint, the provision of a wide range of options, including disqualification, is important. The second point concerns recourse to negotiated settlements[19] and the possibility for the legal person to bring the matter to an end, without facing the economic costs and damage to image a public proceeding would entail, under advantageous conditions on the whole and without a real change in company policy. In this regard reference should be made to the contributions regarding the approach adopted in the Brazilian legal system. How to deal with these risks? The debate that has been going on for some years now in the United States, and the one that is now taking shape in Europe with regard to non-trial resolutions[20], underlines the importance of constraints on the discretion of prosecutors[21] in legal systems characterised by discretion in bringing criminal prosecutions and the importance of legislative provisions that clearly set out the preconditions for not punishing legal persons in other systems. The objective that should in any case be pursued is to ensure a balanced allocation of liability between natural and legal persons[22]. A distribution of liability capable of preventing the legal person from becoming a protective shield for the material perpetrator of the crime, but at the same time such that it does not become an easy means of gathering evidence against natural persons, perhaps with a weakening of the fundamental guarantees that they enjoy. In the background is also the issue of an overall proportionality of the punishment between the material perpetrators and the legal person that they belong to and also with respect to the legal person itself, so as to tackle the risk of duplication of sanctions at an international level.

We close this introduction with an eye to the future of compliance, a perspective towards which Rossella Sabia's contribution on the use of AI tools in the field of

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[18] Brandon Garrett, *Too Big to Jail. How Prosecutors Compromise with Corporations* (Harvard University Press 2014).

[19] Cindy R Alexander and Mark A Cohen, 'The Evolution of Corporate Criminal Settlements: An Empirical Perspective on Non-prosecution, Deferred Prosecution, and Plea Agreements' (2015) 52(3) The American Criminal Law Review 537ff; Colin King and Nicholas Lord, *Negotiated Justice and Corporate Crime: The Legitimacy of Civil Recovery Orders and Deferred Prosecution Agreements* (Palgrave Macmillan 2018).

[20] On this trend, with a focus on anti-corruption, see Tina Søreide and Abiola Makinwa (eds), *Negotiated Settlements in Bribery Cases: A Principled Approach* (Edward Elgar 2020).

[21] As regards the US experience see Jennifer Arlen, 'Removing Prosecutors from the Boardroom: Limiting Prosecutorial Discretion to Impose Structural Reforms' in Anthony S Barkow and Rachel E Barkow (eds), *Prosecutors in the Boardroom: Using Criminal Law to Regulate Corporate Conduct* (New York University Press 2011) 62ff.

[22] On this issue see Vincenzo Mongillo, *La responsabilità penale tra individuo ed ente collettivo* (Giappichelli 2018).

environmental compliance is leading. Here we are dealing with a reality that is already looming and certainly already present within large corporations. There is no doubt as to the advantages of such tools in a broad sense for the purposes of preventive compliance, in terms of both risk assessment and risk management. It is also a powerful instrument for corporations in internal investigations and subsequent disclosure for self-reporting. However, there is no shortage of what is defined in the above-mentioned contribution as the dark side: remote monitoring of workers, automated data processing, and collection of potential evidence against the 'suspect' in the absence of fundamental guarantees. These are also challenges that nowadays law scholars cannot shy away from on the basis that it is difficult to dominate the technology in question. Rather, they must seek to exercise oversight and control, again setting the conditions and limits for use of AI algorithms.

5. The questions which have been outlined in this preface, and many other considerations on the issues connected to the criminal law protection of the environment, are further explored in the following contributions, for which we would like to thank all authors. Furthermore, also on behalf of the Young Penalists, we would like to thank the AIDP and in particular Gert Vermeulen for granting the opportunity to put together this issue of the Revue, and Nina Peršak for her valuable editorial support.

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THE PROTECTION OF THE ENVIRONMENT THROUGH CRIMINAL LAW. PRELIMINARY REMARKS

By Paola Severino[*]

The impact of scientific developments and technological progress on modern society sets new, and increasingly difficult, challenges that force law scholars to leave their comfort zones to become familiar also with concepts that are not part of their traditional cultural baggage. In this perspective, the protection of the environment constitutes one of the greatest tests of the criminal law's capacity to deal with the issues of modernity.

Environment is a central topic of public debate, as it is a legal good of particular significance whose protection involves not only the political and institutional planes, but also society at large. In his encyclical '*Laudato si'* on Care for Our Common Home' dedicated to environmental matters, Pope Francis stressed that 'the natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone'[23]. 'We are the beneficiaries of two centuries of enormous waves of change', and yet – the Holy Father goes on to say – 'contemporary man has not been trained to use power well, because our immense technological development has not been accompanied by a development in human responsibility, values and conscience'[24].

Today more than ever, it thus appears necessary to strike a delicate balance between environmental protection and the needs posed by the modern world, above all those linked to productive activities[25]. In fact, although the calls to protect the ecosystem are getting louder, in the light of the increased awareness of the effects of polluting activities on strictly individual goods such as human health, life and physical safety, there are still many questions to be addressed.

The identification of its scope, as well as the existence of a single or pluralistic concept of 'environment' has raised and raises doubts over interpretation: we are confronted with a legal good whose protection fluctuates between an 'ecocentric' view– aimed at preserving the conditions of health of the environment considered in itself – and an 'anthropocentric' theory[26], where safeguarding the environment is instrumental to the

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[23] Pope Francis, Encyclical Letter *'Laudato Si',* on Care for Our Common Home, section 95 <http://www.vatican.va/content/francesco/it/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html> accessed 30 October 2020.

[24] ibid sections 102 and 105.

[25] For a critical stance in the ecological economics framework, see Mathis Wackernagel and William E Rees, *Our Ecological Footprint: Reducing Human Impact on The Earth* (New Society Publishers 1996).

[26] This is a *tòpos* in environmental criminal law which has been widely discussed in the literature. For insights on the Italian perspective, see Mauro Catenacci, *La tutela penale dell'ambiente. Contributo all'analisi delle norme penali a struttura «sanzionatoria»* (Cedam 1996) 33ff.

protection of health and human life. Today, also new and more nuanced goods such as sustainability and the welfare of future generations are emerging[27].

Against this background, we might ask what role criminal law should play[28]. As mentioned, the theme of protection of the environment cannot be compartmentalised, because the whole of society needs to be involved, at all levels. Such complexity and stratification affect the more strictly legal aspects too, making the coexistence and interaction of different areas of intervention – civil, criminal and administrative law – and a constant dialogue between international and national sources inevitable[29].

As a matter of fact, in post-modern world, characterised by unprecedented technological risks, criminal law plays an increasingly prominent part in the protection of common goods such as the environment, but this is not without difficulties. Unlike other fields, criminal law is often the preferred channel for imposing sanctions whose scope is extending continuously, ending up by performing more symbolic functions of reassuring national communities rather than providing real protection – and this course of action may take it dangerously away from its proper vocation of being an instrument of *extrema ratio*. Thus, if on the one hand it seems essential to adapt the structural categories of criminal offences to the questions of contemporary society, on the other hand it is likewise fundamental to counterbalance the use of criminal law and the preservation of guarantees and basic principles.

Moreover, it is now more and more frequent that the protection of interests of primary importance and the regulation of wide sectors and activities are taken out of the remit of national legislators and subjected – to a greater or lesser extent – to supranational sources, that provide also for specific duties of criminalisation. The environment in particular has been distinguished by this 'two-dimensional' significance, so that a large set of domestic provisions in this matter – Italy is an example in this respect – reflect the indications contained in the European acts. The main reference is to Directive 2008/99/EC on the protection of the environment through criminal law[30] – followed by Directive 2009/123/ EC on ship-source pollution – that represents an historic turning point in the relationship between national law and European law, as for the first time a Community directive has explicitly obliged Member States to *criminalise*, rather than imposing general obligations to take measures to provide the desired protection.

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[27] Edith Brown Weiss, 'Our Rights and Obligations to Future Generations for the Environment' (1990) 84 American Journal of International Law 198ff.

[28] This topic has long been on the AIDP thematic agenda. See in particular the conference proceedings of the Second AIDP World Conference: José Luis de la Cuesta and others (eds), *Protection of the Environment through Criminal Law* (AIDP World Conference Bucharest, Romania, 18th-20th May 2016) (Maklu 2016).

[29] See Ricardo Pereira, *Environmental Criminal Liability and Enforcement in European and International Law* (Brill Nijhoff 2015).

[30] For a comment see Michael G Faure, 'Effective, Proportional and Dissuasive Penalties in the Implementation of the Environmental Crime and Ship-source Pollution Directives: Questions and Challenges' (2010) 19(6) European Energy and Environmental Law Review 256ff.

Looking beyond European borders, it appears clear that the overall strengthening of the system of prevention and repression of environmental offences involves standardising international regulations, considering the often transnational character of the polluting factors. However, the reaction of international politics to environmental issues is still weak, as shown by the failure of numerous summits that have so far not managed to reach successful global agreements. Apart from the lack of political will, drafting effective legislative proposals, especially in the criminal law area, comes up against the difficulty of regularly adapting sectoral rules to the constant evolution of knowledge in a context of substantial scientific uncertainty[31].

In this framework, attention should be paid to the now indispensable contribution provided in the environmental matter by guidelines and Best Available Techniques (BATs)[32]. These are specific technical solutions that identify the conditions to be adhered to when choosing potentially polluting production methods in any business, these conditions being set at the European level and implemented by national legislation, and being updated periodically in the light of innovations and technological progress achieved.

These rules are drawn up to reconcile the need to protect the planet with the performance of productive activities that tend to harm environmental systems, but are nevertheless able to create jobs and wealth. In this sense, to identify the 'best available technique' means to find the point of equilibrium between production and environmental needs. Thus, if in general and from a purely technical perspective using BATs aims at preventing or at least reducing the impact of human activities on the environment, it cannot be hidden that within the narrower criminal law context there are tensions concerning the interaction between primary and secondary sources and the ascertainment of the elements of the offence, in particular in terms of negligence. Indeed, using obsolete techniques does not necessarily cause *actual* environmental harm or danger, just as applying techniques corresponding to those defined in the Community reference documents does not *per se* ensure the absence of harmful events.

In these circumstances, the decision to permit conducts that may have criminal relevance challenges the precautionary principle[33]. Suffice it to say that the necessity to contain the grave threats to which humans can expose the environment, following the idea that the lack of absolute scientific certainty must not be a pretext to delay taking suitable or effective preventive measures, is hardly compatible with the need for legal certainty required by criminal law protection models; and it is also hardly compatible with the role of the criminal law as an instrument for guiding human conduct and with

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[31] For further considerations in the context of the historical pollution phenomenon see Paola Severino, 'Foreword' in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017) v.

[32] See Maria Lee, *EU Environmental Law, Governance and Decision-making* (2nd edn, Hart Publishing 2014) 108ff.

[33] On this subject see the volume by Luca D'Ambrosio, Geneviève Giudicelli-Delage and Stefano Manacorda (eds), *Principe de Précaution et Métamorphoses de la Responsabilité* (Mare & Martin 2018).

the retrospective nature of the assessments that judges make. The natural place for resorting to the precautionary principle should be the production of law, and environmental regulations are in fact one of the areas where the precautionary approach is used most significantly. This means that it must act as a driver of choices at the legislative or political-administrative level because, if this principle is applied to ascertain the existence of the offence, there is the risk that the well-known 'hindsight' perspective comes in.

Furthermore, the role that companies can take for the 'protection of the Common Home' should be addressed[34]. They are the main actors in productive processes that often pollute, but at the same time they are indispensable to ensuring the maintenance of modern standards of living. Again, the conflict between productive needs and protection of the environment is very difficult to settle. On the global scale, the interests of so-called developed countries are often obstacles, because – although these countries are more aware of environmental problems in some ways – they do not wish to forgo their wellbeing by limiting the consumption of land, water, biological and energy resources; and developing countries riding on economic growth do not, for their part, want to slow productivity in the name of environmentalism that, at least in the short term, could adversely affect their increasing prosperity.

In this scenario, above all in the past, it happened that large corporations took advantage of existing legal differences to pursue profit to the detriment of countries and systems with weak regulations. This is known as 'social dumping', and it may include a wide range of abusive practices that permit the development of unfair competition, by illegally reducing operating and labour costs, giving rise to infringements of workers' rights and to their exploitation. Thus, because developing countries find it difficult or even impossible to adopt new production models that reduce the impact on the environment – as there is often a specific preparation for the required processes, in addition to the essential financial cover – it is the developed countries, through the collaboration of the corporations working in them, that could contribute to promote development policies and programmes increasingly geared to sustainability.

The spread of corporate social responsibility can only be welcomed. The financial players are more and more aware that their economic success – also in terms of reputation – does not only depend on company balance sheets but also on corporate ability to respond to wider responsibilities, related to the ethics and integrity dimensions. Businesses have in fact every reason to show their stakeholders and potential consumers that they are 'good corporate citizens', engaged in contributing to the common wealth by adopting responsible practices.

[34] For an overview of different corporate criminal liability models in the international scenario, see Mark Pieth and Radha Ivory, *Corporate Criminal Liability: Emergence, Convergence, and Risk* (Springer 2011).

The environment is an area of particular significance in this view: an ethically responsible business is an ecologically sustainable business. Sustainability is reflected in the productive cycle and in more general respect for and protection of the surrounding ecosystem, which, in turn, is closely connected to the need to foster the protection of human rights. It should be mentioned that in the current economic and social context it is no longer sufficient for socially responsible practices to be a code of conduct used by corporations as 'window dressing' to facilitate access to the market for their businesses; it is necessary to ensure that conducts that are socially responsible and ethically correct become an integral part of corporate strategies.

Which function can criminal law – and, more generally, punitive law – play in the implementation of development policies that are as sustainable and as respectful of human rights as possible? One of the most important regulatory options is to establish the criminal liability of legal entities at least for offences that are characterised by a significant social and ecological impact. This is a route that has already been taken by many European countries – including Italy – also in the light of the provisions of the aforementioned Directive 99/2008/EC, which obliges Member States to follow the path of making also legal persons liable for environmental crimes[35]. The inclusion of environmental offences among the predicate offences that may entail corporate criminal liability has an impact on businesses, and it is not symbolic: in addition to the already significant dissuasive effect of sanctions, it cannot be denied that mechanisms of this type – especially if they are linked, as in the Italian case, with some incentive for cooperation – favour the development of a corporate *culture of prevention* of illegality. It must also be stated that this legislative approach is not deprived of aspects that are open to criticism. Reference is made, in particular, to the need to ensure that the forms of liability of corporations are uniform at the international level; acting otherwise, a competitive disadvantage would arise for businesses operating in countries with more restrictive legislation that would have to shoulder greater costs.

In addition, there is the difficulty of devising models that are adequate – but at the same time respect the fundamental guarantees – as regards groups of companies, especially multinationals[36]. The activities of the multinational groups, if nothing else because of their geographical diversification, is an area in which conduct harming the environment is likely to occur, just as it is not always easy to find out who the guilty persons are. The possibility of making the group as such, or the individual parent company liable for the offences committed by the subsidiaries, must take account of the separate legal personality of the individual companies. In fact, imposing punitive sanctions against the holding would come into conflict with the principle of personality of criminal liability, if there is no participation of the holding in the crime committed by the subsidiary and if there is no concrete benefit for the holding. In this complicated

[35] For a broad picture of environmental criminal laws across Europe see Andrew Farmer, Michael Faure and Grazia Maria Vagliasindi (eds), *Environmental Crime in Europe* (Hart Publishing 2017).

[36] See the pioneering work by Mireille Delmas-Marty and Klaus Tiedemann, 'La criminalité, le droit pénal et les multinationales' (1979) I La Semaine Juridique (J.C.P.) 2935ff.

panorama, in order to fight effectively against corporate crime and to enable multinational groups to manage properly the risk of offences being committed in their business, it could be important to gradually standardise the liability regimes across different legal systems in a more integrated and global perspective.

Regarding a greater accountability of corporations and in particular multinational groups, as well as the adoption of ethical and sustainable business policies, the French *loi sur le devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre* enacted in 2017 should be recalled[37]. This law imposes an obligation of vigilance on companies meeting certain size and turnover requirements, to adopt supervisory plans (*plans de vigilance*) and due diligence measures concerning operations carried out within subsidiaries, subcontractors or suppliers in relation to risks associated with supply chains. Apart from the judgment of the French Constitutional Court, which certainly reduced its scope (especially from the punitive point of view)[38], this law relates to the significant decision of the French legislator to implement a sort of positivisation of what are the main tenets of *corporate social responsibility*, thus emphasising the role of the company in guaranteeing legality and promoting the respect of human rights.

Lastly, it is worth mentioning a significant innovation in protection of the environment, although it is still in embryonic form: the considerations by the Office of the Prosecutor of the International Criminal Court (ICC), as set in the policy paper on case selection and prioritisation of September 2016, where it is stated that the Office will take account of the *environmental harm* inflicted on the affected communities (in particular, 'crimes that are committed by means of, or that result in, *inter alia*, the destruction of the environment, the illegal exploitation of natural resources or the illegal dispossession of land')[39]. Although the Rome Statute does not at present assign to the ICC jurisdiction over environmental crimes nor provide any specific liability to corporate bodies, there are still stimuli and arguments for discussing a possible extension.

Such a choice would eventually be another instrument for promoting corporate accountability and the investment on prevention, with salutary effects for the global community and for the environment.

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[37] *Loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre* <https://www.legifrance.gouv.fr/eli/loi/2017/3/27/2017-399/jo/texte > accessed 30 October 2020. See the interesting contributions in the *Dossier thématique* on the French law on the corporate duty of vigilance published in the *Revue internationale de la compliance et de l'éthique des affaires*, *Supplément à la semaine juridique entreprise et affaires* n° 50 (2017) 1ff.

[38] French Constitutional Court, Decision No. 2017-750 DC of 23 March 2017 <https://www.conseil-constitutionnel.fr/en/decision/2017/2017750DC.htm> accessed 30 October 2020.

[39] ICC, Office of the Prosecutor, 'Policy Paper on Case Selection and Prioritisation' (15 September 2016) para. 41 <https://www.Icc-Cpi.Int/Itemsdocuments/20160915_Otp-Policy_Case-Selection_Eng.Pdf> accessed 30 October 2020.

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THE INTERNATIONAL FRAMEWORK

THE BATTLE OF REALITIES:

THE CASE FOR AND AGAINST THE INCLUSION OF 'ECOCIDE' IN THE ICC ROME STATUTE

By Liemertje Julia Sieders[*]

Abstract

With a view to providing teeth to the global fight against environmental destruction, calls have been mounting for the inclusion of 'ecocide' in the Rome Statute as a crime against peace within the jurisdiction of the International Criminal Court (ICC). While the time may be ripe for the discussion, and the current environmental crisis in dire need of an urgent response, codifying an international crime of ecocide in the Rome Statute may not necessarily be the answer. The case for the inclusion of ecocide in the Rome Statute presents significant limitations, including a lack of agreement on the definition (whether it should be a strict liability offence, whether it should punish causing future environmental damage, and others), the lack of ICC jurisdiction over States and corporations (largely responsible for environmental damage), and the very question whether the ICC is an adequate forum for the fight to preserve our planet. In assessing these questions, this paper will highlight some of the main arguments being made in favour of and against the inclusion of ecocide within the jurisdiction of the highest criminal court.

1 Introduction: ecocide as legal and moral duty or a case of creative legislating?

'*We need all hands on deck…*'

Statement of EU Ambassador of Vanuatu
to the ICC Assembly of State Parties,
calling for Ecocide to be included in the
Rome Statute

2 December 2019

Over the past five decades, climate has risen to become one of the most vexing and polarising topics in international discourse. As scientific opinion consolidates and calls for action mount, the international community has scrambled for solutions that might strike the right balance between effectiveness and political acceptability. In the first instance, a fragmented response emerged combining hard and soft law provisions against environmental destruction at a variety of levels and legal fields, including international humanitarian law[1] (applicable only in conflict), environmental law[2]

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[1] See among others: Articles 35(3) and 55(1), Additional Protocol I to the Geneva Conventions of 12 August 1949 (1977) 1125 UNTS 3; Article 1, United Nations Convention on the Prohibition of Military or

(mostly administrative and regulatory), international human rights law[3] (requiring litigation by victims) and national civil and public interest law[4] (often resulting in fines accepted by corporations as a mere cost of doing business). None bore the power to reverse the course of the environmental crisis.

It became clear that hard international rules with true deterrent and punitive effect were needed. Particularly since the 1990s, provisions of 'environmental criminology' have emerged in international conventions.[5] However, most resulting treaties are limited in scope and merely require or encourage States to criminalise environmental harm at national level, leading to a piece-meal enforcement effort diluted by individual States' discretion.[6] As aptly articulated by Prof. Laurent Neyret, we are now in a paradox where the most serious and dangerous environmental issues are left to soft laws, extra-judicial forums or 'locked into the non-justiciable space between state sovereignties'.[7] A consolidated regime of international environmental criminal law is yet to materialise.

In the ongoing search for solutions, the case has been made for a fifth international crime against peace, namely the crime of 'ecocide', to be included in the remit of the International Criminal Court (ICC). The term 'ecocide' derives from *eco* (from ancient

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any other Hostile Use of Environment Modification Techniques (ENMOD) (1976) 1108 UNTS 151; Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW), and its Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons (1980) 1342 UNTS 137; *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, 1996 I.C.J. 95, 140 (Advisory Opinion of July 8) (Weeramantry, J., dissenting).

[2] See United Nations Stockholm Declaration on the Human Environment (1972) and following agreements, as outlined extensively in Edith Brown Weiss, 'The Evolution of International Environmental Law' (2011) 54 Japanese Yearbook of Int'l Law 1.

[3] Donato Vozza, 'Historical Pollution and Human Rights Violations: Is There a Role for Criminal Law?' in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution* (Springer 2017).

[4] See for example: *Urgenda Foundation v The State of the Netherlands (Ministry of Infrastructure and the Environment)*, [2015] HAZA C/09/00456689 (24 June 2015), <blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2015/20150624_2015-HAZA-C0900456689_decision-1.pdf> accessed 10 February 2020.

[5] See among others: International Convention on the Prevention of Pollution from Ships (1973); Washington Convention on International Trade in Endangered Species of Fauna and Flora (CITES) (1973); Montreal Protocol on Substances that Deplete the Ozone Layer (1987); UNEP, Conference of Plenipotentiaries of Transboundary Movement of Hazardous Wastes: Final Act and Text of Basel Convention (1989) Doc. IG.80/3, 28 I.L.M 649; Principle 2, Rio Declaration on Environment and Development, Report of the United Nations Conference on Environment and Development (1992) A/CONF.151/26/Rev.1 (Vol. 1); Council of Europe Convention on the Protection of the Environment Through Criminal Law (1998) ETS No. 172; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998). See also: UNEP, *The State of Knowledge of Crimes that have Serious Impacts on the Environment* (2018).

[6] Byung-Sun Cho, 'Emergence of an International Environmental Criminal Law' (2000) 19 UCLA J Envt'l L & P 11, 21.

[7] Bronwyn Lay and others, 'Timely and Necessary: Ecocide Law as Urgent and Emerging' (2015) 28 J Juris 431, 449.

Greek *oikos*, meaning house or home) and *cide* (from Latin *caedere*, meaning to cut or strike down). Literally, ecocide means 'killing our home'. The etymology of the word already reveals a certain *gravitas*, unique to vast environmental destruction. As an international crime prosecutable by the ICC, ecocide would, at first glance, be the ultimate gap-filler, granting the highest criminal court of our planet the power to prosecute top-level individuals, and perhaps even corporations, for grave environmental damage perpetrated against that very planet. Nevertheless, the inclusion of ecocide among the ICC crimes does not come without its own limitations, and its compatibility with the founding document of the ICC – the Rome Statute[8] – is far from obvious.

This article, in taking a critical look at the arguments being made in favour of and against the inclusion of ecocide in the Rome Statute, seeks to reveal the 'battle of realities' at the heart of the ecocide debate. Proponents for ecocide, on the one hand, view the criminalisation of ecocide as a legal and moral imperative, at the risk of overlooking valid questions around the compatibility of the proposed crime with the fundamental tenets enshrined in the Rome Statute and the very feasibility of its inclusion. Skeptics and 'positivists' view ecocide proposals as mere 'outbursts of utopianism',[9] and cite lack of consensus and established international criminal law standards to argue that ecocide and the ICC simply do not fit, losing sight of the fact that reality evolves and the law must evolve with it. Both can be accused of straying from reality.

After looking at the history of the notion of ecocide and the process that saw an autonomous international environmental crime escape ICC jurisdiction during the drafting of the Rome Statute (Part 2), this article will outline the current provisions of the Rome Statute on environmental destruction (Part 3) and the proposals advocating for the inclusion of ecocide therein (Part 4). An analysis is then provided of the main arguments raised for and against such inclusion (Part 5), to then draw some concluding considerations (Part 6).

2 The crime 'that never was': ecocide as the missing crime from the Rome Statute

The term 'ecocide' emerged five decades ago and in varying forms has been the subject of discussion since, with the idea of an autonomous environmental crime filtering even into the preparatory works of the ICC Rome Statute. The history of the term has been extensively outlined elsewhere.[10] This section highlights only some of the momentous

[8] UNGA, Rome Statute of the International Criminal Court (1998, last amended 2010) A/CONF.183/9 (hereinafter the 'Rome Statute').

[9] Frederic Megret, 'The Problem of an International Criminal Law of the Environment' (2011) 36 Colum J Envtl L 195, 254.

[10] Human Rights Consortium University of London, *The Ecocide Project – 'Ecocide is the missing 5th Crime Against Peace'* (2013); Anastacia Greene, 'The Campaign to Make Ecocide an International Crime: Quixotic Quest or Moral Imperative?' (2019) 30 Fordham Envt'l L Review 1.

acknowledgements of ecocide in international discourse (2.1.) and the featuring of an environmental crime in the negotiations leading up to the Rome Statute (2.2.) to get a sense of the extent to which the notion has backing among States, without which ecocide bears little hope of becoming international law.

2.1 International discourse on ecocide

The term 'ecocide' was born in the science community. It was first publicly used in 1970 by Prof. Arthur Galston, a plant biologist and chair of the Department of Botany at Yale University, whose research led to the invention of Agent Orange, a highly toxic herbicide used by the U.S. during the Vietnam War. At a Conference in Washington in 1970, Prof. Galston strongly denounced the use of Agent Orange in Vietnam, calling for a new international agreement to ban ecocide.[11]

The notion gained increasing international attention. In 1972, the Swedish Prime Minister opened the UN Stockholm Conference on the Human Environment (the first major UN event on international environmental issues) by speaking of the Vietnam War as 'ecocide'.[12] In unofficial parallel events to the Stockholm Conference, a Working Group on the Law of Genocide and Ecocide was established, which drafted an Ecocide Convention, eventually submitted to the UN in 1973. A member of the group, war crimes expert Prof. Richard Falk, later published a proposed International Convention on the Crime of Ecocide.[13]

In 1978, the UN Sub-Commission on Prevention of Discrimination and Protection of Minorities discussed proposals to include ecocide and cultural genocide in the 1948 Genocide Convention,[14] but it was decided not to proceed on the ground that ecocide had only a distant connection to genocide.[15] Some say this marked the beginning of ecocide's institutional history within the UN. Indeed, over the next forty years discussions were held from time to time before different commissions to define a crime to protect the environment.[16] However, at no point during these discussions has ecocide gained official recognition as a crime in its own right at international level.

2.2 The Rome Statute drafting history

The notion of extensive environmental damage, though not in the express name of 'ecocide', featured in discussions and negotiations surrounding the Draft Code of

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[11] Human Rights Consortium (n 11) 5, citing B. Weisberg, *Ecocide in Indochina* (1970).

[12] ibid.

[13] Richard A Falk, 'Environmental Warfare and Ecocide: Facts, Appraisal and Proposals' (1973) <pdfs.semanticscholar.org/df88/e51dbae6284224760d5e664b47fdd7fbb83f.pdf> accessed 12 February 2020.

[14] UNGA Convention on the Prevention and Punishment of the Crime of Genocide (1948) 78 UNTS 277.

[15] UN Human Rights Committee, Sub-comm. on Prevention of Discrimination and Protection of Minorities, Study of the Question of the Prevention and Punishment of the Crime of Genocide (the Ruhashyankiko Report) (1978) E/CN.4/Sub.2/416.

[16] Human Rights Consortium (n 11) 6; Anastacia Greene (n 11) 10-15.

Crimes Against the Peace and Security of Mankind that was to become, in 1998, the founding document of the International Criminal Court. Between 1984 and 1996, the *travaux preparatoires* of the International Law Commission (ILC) – tasked by the UN General Assembly with drafting the Rome Statute – bear trace of a proposal for the creation of an autonomous international crime against the environment. This process too has been detailed in academia,[17] and will thus be only briefly summarised here.

At its 43rd Session in 1991, the ILC adopted on first reading a Draft Code containing 12 crimes.[18] One such crime, in Article 26, was '*Wilful and Severe Damage to the Environment*', broadly punishing '*an individual who willfully causes or orders the causing of widespread, long-term and severe damage to the natural environment*'. Among the 23 replies received by the Secretary-General from Member States on Article 26, some states were in favour (while still disagreeing *inter alia* on the form of intent and the potential conflict with the war crimes provision) and a few expressly opposed the provision.[19] The Nordic Countries stated that 'it is clear that the article does not have the degree of precision required for a penal provision'.[20] The United Kingdom opposed the crime outright, stating that the crime would be 'extending international law too far',[21] and the United States referred to the provision as 'perhaps the vaguest of all the articles'.[22]

In 1995, at the ILC's 47th Session, a working group (including ILC member Christian Tomuschat) was established to examine Article 26.[23] By this point, the pool of crimes had been reduced to six crimes. The working group concluded that an environmental crime should be included in the Draft Code as either a war crime, a crime against humanity or an autonomous offence.[24] However, by the time the Draft Code was submitted to the General Assembly for a vote in 1996, Article 26 had vanished. The reason for this has been said to be attributable not to an agreement between ILC members but rather, at least in part, to a mysterious oversight.[25] With some members requesting more time to consider the proposals, it is reported that the Chairman suggested to 'leave aside' draft Article 26 and take a decision at the following meeting

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[17] Sciences Po – Human Rights, Economic, Development and Globalization (HEDG) Law Clinic, *Report on Ecocide* (2013) (hereinafter the 'Science Po Report'); Human Rights Consortium (n 11), 1-12; Anastacia Greene (n 11), 15-19.

[18] ILC 43rd session (1991), Yearbook of the International Law Commission, Vol. II (Part Two), 94-97, available at <legal.un.org/ilc/publications/yearbooks/english/ilc_1991_v2_p2.pdf> accessed 28 January 2020.

[19] ILC 45th session (1993), Yearbook of the International Law Commission, Vol. II (Part One), available at <legal.un.org/ilc/publications/yearbooks/english/ilc_1993_v2_p1.pdf> accessed 28 January 2020.

[20] ibid 91.

[21] ibid 102.

[22] ibid 105.

[23] ILC 47th session (1996), Yearbook of the International Law Commission, Vol. II (Part Two), available at <legal.un.org/ilc/publications/yearbooks/english/ilc_1996_v2_p2.pdf> accessed 28 January 2020.

[24] Document on crimes against the environment, Christian Tomuschat, ILC(XLVIII)/DC/CRD.3, Yearbook of the ILC (1996), Vol. II (Part One), available at <legal.un.org/ilc/documentation/english/ilc_xlviii_dc_crd3.pdf> accessed 28 January 2020.

[25] Anastacia Greene (n 11) 16-18.

on referral to the Drafting Committee. At the next meeting, the Chairman did not raise Article 26, which was never voted upon by the ILC.[26] What was finally put to vote was a more narrow decision, namely whether to include environmental damage as a war crime or as a crime against humanity. As will be seen in Part 3, only the former remained.

Tomuschat published a paper in 1996 in which he hints that considerations around nuclear arms testing may have played a role in the elimination of the provision.[27] Either way, the result is that, at present, no provision for environmental crimes in peacetime exists. This omission has led authors to refer to ecocide as 'the missing 5th crime against peace'[28] or as 'the international crime that could have been but never was'.[29]

3 The current Rome Statute: a gaping lacuna with a (possible) silver lining

The Rome Statute enshrines only four 'crimes against peace' within the jurisdiction of the International Criminal Court: genocide (Article 6); crimes against humanity (Article 7); war crimes (Article 8); and the crime of aggression (Article 8-*bis*). The war crimes provision is the sole provision under international criminal law that expressly holds a perpetrator responsible for environmental damage. Article 8(b)(iv) includes as a war crime: '*intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, longterm and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*'

This provision is extremely limited in scope for a variety of reasons. First, the crime applies only in the context of an international armed conflict, excluding the majority of environmentally harmful acts that occur in peacetime (see the rising land-grabbing phenomenon).[30] Second, the crime can only prosecute 'the most invidious offender' as the perpetrator must know that the attack will cause '*widespread, long-term and severe damage to the natural environment…*', and, not withstanding this knowledge, commit the act with full intention of causing such damage, therefore excluding cases of negligence or recklessness.[31] Third, the crime is prosecutable only to the extent that the damage would be '*clearly excessive in relation to the concrete and direct overall military advantage anticipated*', overriding the proportionality standard under Article 51(5)(b) of the Additional Protocol I to the Geneva Conventions. The latter prohibits attacks that '*may*

[26] Anastacia Greene (n 11) 16-17.
[27] Christian Tomuschat, 'Crimes Against the Environment' (1996) 26 Envt'l P and L 6, 243.
[28] Human Rights Consortium (n 11) 1.
[29] Saloni Malhotra, 'The International Crime that Could Have Been But Never Was: an English School Perspective on the Ecocide Law' (2017) 9 Amsterdam L. F. 49.
[30] Payal Patel, 'Expanding Past Genocide, Crimes against Humanity, and War Crimes: Can an ICC Policy Paper Expand the Court's Mandate to Prosecuting Environmental Crimes?' (2016) 14 Loy U Chi Int'l L Review 175, 179.
[31] Mark A Drumbl, 'Waging War Against the World: The Need to Move from War Crimes to Environmental Crimes' (1998) 22 Fordham Int'l L J 122, 125.

be expected to cause' (not '*will cause*') injuries or damage to civilians '*which would be excessive*' (not '*clearly excessive*') in relation to the '*concrete and direct* (not '*overall*') *military advantage anticipated*'. The ICC environmental war crime creates a greater degree of flexibility in proving proportionality and thus evading the justice of the Court.[32] The highly circumscribed nature of this provision may explain why an individual is yet to be charged under Article 8(b)(iv).

So-called 'green interpretations' of the Rome Statute have been put forward to bring environmental damage within the remit of pre-existing ICC crimes.[33] For instance, environmental harm might be deemed to constitute an act of genocide under Article 6(c) of the Rome Statute by '*deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part*'.[34] The second warrant of arrest of the ICC against Al Bashir, charged among others for the act of genocide under Article 6(c), cited reasonable grounds to believe that in furtherance of the genocidal policy, GoS forces '*at times, contaminated the wells and water pumps of the towns and villages*'.[35] Yet even if such reading were accepted, it also creates a significantly high threshold for environmental damage to be prosecuted before the ICC, as it would require the dramatic complementarity of the genocidal intent to destroy, in whole or in part, a national, ethnical, racial or religious group which is at the heart of the Article 6 crime. A similar hurdle would arise in attempting to read environmental damage into the crimes against humanity provision under Article 7 of the Rome Statute, for instance 'extermination' (b) – intended to include '*intentional infliction of conditions of life, inter alia the deprivation of access to food and medicine, calculated to bring about the destruction of part of a population*' – or '*forcible transfer of population*' (d), which would have to be committed '*as part of a widespread or systematic attack directed against any civilian population, with knowledge of the attack*'.[36]

The current Rome Statute provisions have thus proved to be dissatisfactory when it comes to prosecuting grave environmental damage before the ICC. However, recent developments appear to show a renewed sensitivity to the issue.

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[32] James Kilcup, 'Proportionality in Customary International Law: An Argument Against Aspirational Laws of War' (2016) 1 Chicago Journal of International Law 244, 254. For an extensive analysis of Article 8(b)(iv) see Mark A Drumbl, 'International Human Rights, International Humanitarian Law, and Environmental Security: Can the International Criminal Court Bridge the Gaps?' (2000) 6 ILSA J Int'l & Comp L 305.

[33] Rosemary Mwanza, 'Enhancing Accountability For Environmental Damage Under International Law: Ecocide As A Legal Fulfilment Of Ecological Integrity' (2018) 19 Melbourne J of Int'l L 1, 11.

[34] Laurent Neyret (sup.), 'From Ecocrimes to Ecocide: Protecting the environment through Criminal Law' (2015), 99, <blog.uclm.es/repmult/files/2019/12/EcocideGB-072016.pdf> accessed 15 February 2020.

[35] ICC Pre-Trial Chamber I, Situation in Dafur Sudan, *The Prosecutor v Omar Hassan Ahmad al Bashir*, Second Warrant of Arrest for Omar Hassan Ahmad Al Bashir, 12 July 2010, ICC-02/05-01/09.

[36] Peter Sharp, 'Prospects for Environmental Liability in the International Criminal Court' (1999) 18 Virginia Envt'l L J 217, 235-240.

In 2016, the Office of the Prosecutor (OTP) of the ICC issued a Policy Paper on Case Selection and Prioritisation.[37] The OTP has discretion in the selection and prioritisation of cases for investigation and prosecution before the ICC. In the exercise of its discretion, gravity is the predominant case selection criteria adopted by the OTP.[38] Pursuant to Reg. 29 of the OTP Regulations,[39] the factors guiding the gravity assessment include scale, nature, manner of commission and impact of the crimes. The 2016 OTP Policy Paper expressly stated that environmental damage may filter into the evaluation of the latter two elements, namely manner of commission and impact of the crimes in question. With respect to the manner of commission of the crimes, the OTP indicated that such manner may be assessed in light of among others '*the existence of elements of particular cruelty, including … crimes committed by means of, or resulting in, the destruction of the environment or of protected objects.*' [40] The impact of the crimes may be assessed in light of among others '*the social, economic and environmental damage inflicted on the affected communities. In this context, the Office will give particular consideration to prosecuting Rome Statute crimes that are committed by means of, or that result in, inter alia, the destruction of the environment, the illegal exploitation of natural resources or the illegal dispossession of land.*' [41]

These statements are a crucial nod in the direction of environmental accountability. However, they do not render prosecutable before the ICC crimes that are not enshrined in the Rome Statute.[42] They merely affirm that crimes committed by or resulting in environmental destruction will be considered more *serious* and thus prioritised for investigation and prosecution by the OTP, provided the necessary thresholds of the existing crimes are met. Despite simmering hopes, the OTP did not hereby fill the void in the Rome Statute left in 1996 and create an autonomous environmental crime applicable in peace and wartime.

4 The ecocide proposals and the unique characteristics of the crime

The lacuna left in the Rome Statute has prompted widespread calls at academic, civil society and institutional level for the establishment of an autonomous international environmental crime. Amidst these calls, the term 'ecocide' has reemerged, with various proposals – collectively referred to here as the 'ecocide proposals' – being drafted for the criminalisation of ecocide at international level.[43] Not all proposals call for the codification of ecocide in the Rome Statute. Some envision criminalisation

[37] ICC Office of the Prosecutor, *Policy Paper on Case Selection and Prioritisation*, 15 September 2016 (the 'OTP Policy Paper').
[38] ibid para 6.
[39] ICC Regulations of the Office of the Prosecutor (2011) ICC-BD/05-01-09.
[40] OTP Policy Paper (n 38) para 40.
[41] ibid para 41.
[42] Payal Patel (n 31) 182.
[43] For an extensive list of existing doctrine on ecocide, see Sciences Po Report (n 18).

through the drafting of a regional directive (for instance, at EU level),[44] and others propose a draft international ecocide convention with the creation of a dedicated international environmental tribunal. A comparative study of the variety of proposals put forward thus far would be interesting with a view to identifying common elements and drafting a uniform proposal for ecocide,[45] but exceeds the scope of the present analysis, focused rather on a compatibility and feasibility assessment of the inclusion of the crime – howsoever constructed - in the Rome Statute. This section draws on three ecocide proposals with a view to gaining a clearer picture of what an ecocide crime would look like and what its more controversial features might be.

The first ecocide proposal underlying this analysis is perhaps the most cited, namely the 'Ecocide Law' proposed by English barrister and campaigner Polly Higgins.[46] With a view to developing 'one law to protect the Earth', Higgins turned to existing legal mechanisms and fora, centering in on the ICC and advocating for the inclusion of ecocide in the Rome Statute as the fifth crime against peace. She passed away in April 2019, never seeing her vision codified into law.[47] However, her work gained significant traction among activists and scholars who developed their own ecocide proposals. The second proposal was put together between 2015 and 2016 by a group of legal experts convened by the End Ecocide on Earth organization. This document draws up 17 draft amendments to the Rome Statute to add ecocide to the jurisdiction of the ICC.[48] The third proposal is the result of a research project carried out in 2015 by a Working Group of 16 jurists supervised by Prof. Laurent Neyret on the desirability and feasibility of establishing the crime of ecocide at international level.[49] The resulting Group Report contains a vast study of ecocide doctrine and two draft international conventions: an Ecocrimes Convention (regarding transnational crimes and inter-state cooperation) and an Ecocide Convention (regarding supranational crimes requiring an international response). The latter would, among other things, require States to criminalise ecocide at national level and establish a new International Criminal Court for the Environment to try the crime.

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[44] European Citizens' Initiative, *End Ecocide in Europe: A Citizens' Initiative to give the Earth Rights - Draft Ecocide Directive*, Ref. Ares(2012)1378266, 21 November 2012, <europa.eu/citizens-initiative/initiatives/details/2013/000002_en> accessed 14 February 2020.

[45] See Sciences Po Report (n 18).

[46] Polly Higgins, *Eradicating Ecocide: Laws and Governance to Prevent the Destruction of Our Planet* (Shepheard-Walwyn 2010); Id., *Earth is Our Business: Changing the Rules of the Game* (Shepheard-Walwyn 2018).

[47] The Ecocide Law Group carried forward Higgins' work: <ecocidelaw.com/the-law/factsheet/> accessed 12 February 2020.

[48] End Ecocide on Earth, Ecocide Amendments Proposal, <www.endecocide.org/en/amending-the-rome-statute/> accessed 12 February 2020 (hereinafter the 'End Ecocide on Earth Amendments').

[49] Laurent Neyret (sup.), From Ecocrimes to Ecocide: Protecting the environment through Criminal Law (2015), 99, <blog.uclm.es/repmult/files/2019/12/EcocideGB-072016.pdf accessed 15 February 2020 (hereinafter the 'Neyret Working Group Report' for general considerations, and 'Neyret Ecocide Convention' for the draft convention).

The paragraphs that follow provide an outline of some of the main features that characterise the proposed ecocide crime, from the very definition of the crime, to the *actus reus* element, *mens rea*, causation, categories of perpetrators and of victims, as well as the sanctions and remedies envisioned. As will be seen, the proposals present points of similarity and points of dissonance. A common thread, however, is that the unique characteristics of the crime tend to somewhat bend traditional legal principles, and international criminal law principles in particular.

The definitions of ecocide differ from proposal to proposal, constituting a first important obstacle – as will be seen later in Part 5 – in its quest for international recognition. Higgins defines ecocide as '*the extensive destruction damage to or loss of ecosystem(s) of a given territory, whether by human agency or by other causes, to such an extent that peaceful enjoyment by the inhabitants of that territory has been or will be severely diminished*'.[50] The End Ecocide on Earth Amendments define the crime of ecocide as causing '*significant and durable damage to: (a) any part or system of the global commons, or (b) an ecosystem function relied upon by any human population or sub population*.'[51] The Neyret Ecocide Convention broadly defines ecocide as one among a series of listed intentional acts '*committed in the context of a widespread and systematic action that have an adverse impact on the safety of the planet*'.[52] As a result, the *actus reus* elements of the proposed ecocide crimes differ. They do however present a common element of involving the causing of environmental damage of a significant scale. Indeed, most ecocide proposals contain a high gravity threshold, restricting the crime to the most serious cases. Moreover, with a view to filling the void left by the diluted environmental war crime in the Rome Statute, all ecocide crimes envisioned are applicable in both peace and war time.

The positions around the *mens rea* element also vary, the most contentious point being whether to require *mens rea* at all. Some proposals require a form of intent and/or knowledge, whether specific or broad, for ecocide to be punishable, '*given the exceptional nature of the mechanisms triggered by supranational criminal law*'.[53] Others argue that requiring intent would be tantamount to depriving the crime of any real force and prefer a strict liability offence, with mental states constituting – at most – aggravating or mitigating circumstances.[54] Higgins proposed that ecocide be a strict liability crime for four main reasons: (i) ecocide is a crime of consequence (it is not the conduct itself that is in question but the consequences thereof); (ii) the gravity of extensive environmental damage and destruction justifies such an approach; (iii) without strict liability the legislation would be largely ineffective; (iv) strict liability places the focus on preventing the harm, rather than on blaming the accused. In this sense, Higgins

[50] As cited by the Ecocide Law Group at <ecocidelaw.com/the-law/factsheet/> accessed 14 February 2020.

[51] Article 8*ter*, End Ecocide on Earth Amendments.

[52] Article 2(1), Neyret Ecocide Convention.

[53] Neyret Working Group Report (n 50) 81; Article 2(3), Neyret Ecocide Convention.

[54] Articles 8ter(3) and 9(3), End of Ecocide on Earth Amendments.

argues, ecocide is more of a '*quasi-crime, a regulatory offence*' where '*the concept of fault … is based upon the reasonable care standard*'.[55]

When it comes to causation, proving direct causation of ecocide – and environmental crimes generally – can be a daunting task given the multiplicity of factors at stake and the difficulty of having scientific certainty of cause. As a result, some ecocide proposals make reference to the precautionary principle, according to which '*where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation*.'[56] As will be seen later, this may prove difficult to reconcile with traditional criminal law standards of proof beyond reasonable doubt.

The ecocide proposals also tend to take a unique approach to the type of harm envisaged, as many proposals provide for the prosecution of conduct not only that has already caused the environmental destruction, but that will cause such harm in the future or carries the potential (or risk) of doing so. Higgins' ecocide encompasses damage such that peaceful enjoyment '*will be severely diminished*'. The End Ecocide on Earth Amendments include punishing conduct which causes an '*increased risk of consequential environmental effects arising from the damage, as determined by the United Nations Environmental Programme, or other internationally recognised institution*'.[57] Besides constituting a departure from traditional international criminal law principles (which looks at potential harm only when assessing the knowledge of the perpetrator *ex ante* with a view to establishing the mental element under Article 30), this approach would further deeply complicate proving causation.

Another worthy point of reflection introduced by the ecocide proposals is the category of perpetrators that can commit ecocide and whether this would include legal persons. When it comes to individual liability, many proposals extend the notion to include responsibility of persons 'of superior responsibility' or of persons 'exercising control' (hinting at the 'superior responsibility' notion contained in Article 28 of the Rome Statute, whereby a commander or superior can be held criminally liable for crimes committed by forces or subordinates under his or her effective command and control as a result of his or her failure to exercise control properly over such forces).[58] This would see CEOs, directors, partners, majority shareholders, members of government, ministers, and the like being called before the ICC to respond for ecocide committed by persons subject to their command and control. In taking a step even further, most proposals also provide for liability of legal persons (often formulated in a way that reflects the legal traditions of the author's jurisdiction on corporate liability).[59] This is

[55] Polly Higgins, *Eradicating Ecocide* (n 46).

[56] Principle 15, UNGA Rio Declaration on Environment and Development (1992) A/CONF.151/26; End Ecocide on Earth Amendments, 2; Mark Allan Gray, 'The International Crime of Ecocide' (1996) 26 California Western Int'l L J 215, 218-219.

[57] Article 1(5), End Ecocide on Earth Amendments.

[58] Articles 25(1)(b) and 9(2), End Ecocide on Earth Amendments; Article 5, Neyret Ecocide Convention.

[59] Article 5, Neyret Ecocide Convention.

ever more controversial given that there is no normative basis for this (yet) in the Rome Statute. But these proposals consider that an ecocide crime incapable of holding legal persons to account is largely futile, given the overwhelming evidence that ecocide is 'inextricably linked' with corporate activity.[60]

A particularly contentious feature of ecocide is that it seeks to protect a broad range of 'victims' that fall beyond the traditional (human) legal subjects protected by international criminal law.[61] The ecocide campaign is premised on the idea that current legal thinking must fundamentally shift away from anthropocentrism and embrace the protection of the environment (and all its parts) as a legally valid objective in and of itself. As a result, ecocide places at its centre the protection of the environment, ecosystems, flora and fauna, alongside the communities affected by environmental damage.[62]

Finally, when it comes to sanctions and remedies, the proposals stress the importance of requiring remedies that bear an actual impact, beyond traditional criminal sanctions and civil compensation. These would include injunctive measures, restoration and consequential loss, rehabilitation and transitional justice measures.[63] The Neyret Ecocide Convention interestingly envisions that the restoration of damage may take the form *inter alia* of compliance programmes, establishing an Environment Fund, local development measures and '*symbolic restoration measures adapted to the cultural dimension of the damage caused*'.[64]

5 The cases for and against the inclusion of ecocide in the Rome Statute

The lack of a consolidated body of international environmental criminal law makes importing ecocide into a pre-existing regime, established and widely recognised by the international community, an attractive proposition. Yet the desire for accountability and prevention risks overshadowing valid questions as to the compatibility of the crime with the Rome Statute and the feasibility of its inclusion therein. Authors focusing on the international criminal law framework as it stands and the current state of international consensus (or lack thereof) around the idea, have stressed that such a proposition presents a number of practical, legal and policy difficulties.[65] This section outlines some of the main points of tension in the ecocide debate.

It is worth noting that the considerations that follow are specific to the proposed crime of ecocide as an autonomous fifth crime against peace as delineated in the ecocide

[60] Vanessa Schwegler, 'The Disposable Nature: The Case of Ecocide and Corporate Accountability' (2017) 9 Amsterdam L. F. 71, 72.
[61] Rosemary Mwanza (n 34) 22.
[62] Higgins' reference to 'inhabitants' is intended to encompass all life; Article 1(1), Neyret Ecocide Convention broadly protects 'the safety of the planet'; Article 8ter, End of Ecocide Amendments protects 'the global commons' or 'an Earth's ecological system'.
[63] Higgins, *Eradicating Ecocide* (2010); Article 75, End Ecocide on Earth Amendments.
[64] Article 6(4), Neyret Ecocide Convention.
[65] Neyret Working Group Report (n 50) 137. See also: Payal Patel (n 31); Mark A Drumbl (n 32).

proposals presented above (Part 4), and do not purport to apply to any broader discussions surrounding the international criminalisation of environmental crimes more generally.

5.1 The definition issue

The absence of a uniform definition of the crime is a thorn in ecocide's foot. With few, if any, authoritative normative instruments to provide guidance, ecocide remains a malleable concept, bearing seemingly as many definitions as there are authors writing about it. Ecocide advocates argue that the lack of a common definition of ecocide does not affect the emerging common notion that planet safety is a matter of undeniable concern. The divergences on ecocide, it is argued, do not constitute a real disagreement on the need to protect the environment against serious damage but on the ways in which to do so while stimulating economic development. What is lacking, in other words, '*is not agreement on principles of the fundamental nature of the protection of the environment, but an agreement on the conditions for its implementation*'.[66] In any event, it could be argued that a uniform definition of ecocide is not necessary for the first steps to be taken towards codification in the Rome Statute. Aggression did not have an agreed definition during the initial negotiations of the Rome Statute, but a provision was nevertheless included stating that: '*The Court shall exercise jurisdiction over the crime of aggression once a provision is adopted in accordance with articles 121 and 123 defining the crime and setting out the conditions under which the Court shall exercise jurisdiction with respect to this crime…*'.[67]

Skeptics instead argue that the lack of uniformity around the definition of the crime constitutes an important obstacle to its recognition and criminalisation, whether in the Rome Statute or elsewhere, as it denotes an uncertainty and lack of consensus that does not sit well with international law. Moreover, it risks flagrantly conflicting with the *nullum crimen sine lege* principle. Neryet and others, while in favour of an ecocide crime, recognise that this principle '*speaks to the reality that there is no law against criminal mass damage and destruction of ecosystems in peacetime*'.[68]

5.2 The recognition and status issue

On the one hand, authors stress that ecocide has a long history of progressive recognition and its codification in the Rome Statute would constitute a mere formality.[69] The notion has been the subject of international discourse over the past 50 years, there have been several developments towards criminalising grave environmental destruction and increasing jurisprudence at national level condemning its commission,[70] and it was the subject of Rome Statute draft negotiations, rendering

[66] Neyret Working Group Report (n 50) 102.
[67] Article 5(2), Rome Statute.
[68] Bronwyn Lay and others (n 8) 432.
[69] ibid 439.
[70] ibid 437ff.

ecocide a crime in its own right. Ecocide, in other words, is '*an international crime in the making*'.[71] Indeed, no crime is a 'crime' until it is recognised as such.[72] The Rome Statute crimes were also merely moral crimes before they were codified.[73] Mark Allan Gray already wrote in 1996 that '*[i]nternational intolerance towards environmental destruction increasingly mirrors the moral outrage underlying the Nurnberg Charter and Judgment*'.[74] The fundamental point being raised here is that ecocide is '*so self-evidently wrong, morally and legally*' that the lack of a law against ecocide '*seems like legalized madness and violence*': negating its existence based on overly technical approaches flies in the face of the vast destructive impact of ecocidal conduct.[75]

On the other hand, attention is brought to the fact that 'ecocide' has not yet gained the level of international recognition required for its inclusion in the Rome Statute,[76] and thus stands in stark contrast to its pre-existing counterparts. The four crimes against peace were not created by the ICC but were already banned under international law by the time they were included in the Rome Statute in 1998 (and in 2010 for aggression).[77] From enshrined international humanitarian law (codified in the 1899 and 1907 Hague Conventions and the four 1949 Geneva Conventions), to the recognition of war crimes and crimes against humanity as customary international law by the Nuremberg Tribunal, the codification of genocide in the 1948 Genocide Convention, and finally the status of aggression as '*the supreme international crime*' in the 1945 Judgment of the International Military Tribunal, no Rome Statute crime was a novel invention.

It should be specified that the Rome Statute does not expressly require a crime to be customary international law for its inclusion in the Statute (indeed, there is controversy as to whether the latest additions to the war crimes category under Resolution ICC-ASP/16/Res.4 bear customary status).[78] State Parties need merely decide by vote, according to established procedure, to welcome a new addition into the family of ICC crimes. However, if only for the sake of passing the amendment and effectively prosecuting the crime, such an addition necessarily requires a degree of recognition. When it comes to the doctrinal basis of the international criminalisation process, Bassiouni writes that the world social interests underlying international criminal law have '*emerged from common experience in the course of time and reflect certain shared values which the world community has come to recognise as requiring collective coercive or co-*

[71] Neyret Working Group Report (n 50) 102.
[72] ibid 7.
[73] Bronwyn Lay and others (n 8) 436.
[74] Mark Allan Gray (n 56) 269.
[75] Bronwyn Lay and others (n 8) 432.
[76] See for example Payal Patel (n 31) 188.
[77] Dapo Akande, 'Customary International Law and the Addition of New War Crimes to the Statute of the ICC' (2018) *EJIL Talk!* <www.ejiltalk.org/customary-international-law-and-the-addition-of-new-war-crimes-to-the-statute-of-the-icc/> accessed 15 February 2020; L. Grover, *Interpreting Crimes in the Rome Statute of the International Criminal Court* (Cambridge University Press 2014).
[78] Dapo Akande (n 78).

operative efforts to their protection.'[79] Thus far, only ten States explicitly envision ecocide as a crime in their national legislation.[80] This also makes it hard to consider ecocide as falling within the 'general principles of law' category which, while a more dynamic source of international law, requires a *generality* that seems to be missing from a crime still in search of its true identity.[81] Ecocide could be said to have some way to go before attaining the widespread recognition required for codification under international law.

5.3 Pros and cons of turning to an existing forum

The ICC is an internationally-recognised independent body with the power to step in where national courts are unwilling or unable to proceed.[82] This would prove crucial in sensitive environmental cases prone to private and political interference.[83] At the same time, as a court of last resort, the ICC is vulnerable to criticisms and accusations of bias depending on the political sensitivities at stake, and thus exercises caution to maintain the necessary political neutrality to stay operational.[84] A hot topic such as ecocide risks further catapulting the ICC into a political debate and jeopardising its perception of independence.

Moreover, while incorporating ecocide into the Rome Statute would do away with the need to commence an entirely new process of drafting a convention and establishing a dedicated court, with the budgetary demands that would entail, it should also be borne in mind that the ICC judges and prosecutors do not have the environmental expertise or funds required to effectively prosecute ecocide.[85]

5.4 Compatibility: the ICC's *raison d'être* vs. the established principles of ICL

A premise to the compatibility discussion is that the lack of a uniform definition of ecocide means that one cannot yet speak of the compatibility of *the* ecocide crime with

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[79] Mahmoud Cherif Bassiouni, *International Criminal Law: A Draft International Criminal Code 1* (Brill Archive 1980), cited in Rajendra Ramlogan, Creating International Crimes to Ensure Effective Protection of the Environment (2008) 22 Temp Int'l & Comp L J 345, 363.

[80] There are 10 states that expressly penalize ecocide in their national laws (Vietnam, Georgia, Armenia, Ukraine, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan). Most include ecocide among their crimes against peace and war crimes.

[81] Frederic Megret (n 10), 244.

[82] Article 17, Rome Statute.

[83] See for example: Guardian Investigation into murder of Berta Caceres in Honduras, <www.theguardian.com/world/2017/feb/28/berta-caceres-honduras-military-intelligence-us-trained-special-forces> accessed 12 February 2020; Killing of environmental activist Rigoberto Lima Choc after Ecocide ruling in Guatemala, <www.sustainablebusiness.com/2016/01/guatemalas-environmental-crimes-court-hears-first-case-55448/> accessed 12 February 2020; MiningWatch Canada & Institute for Policy Studies and Center for International Environmental Law, *Extraction Casino: Mining Companies Gambling with Latin American Lives and Sovereignty* (2019).

[84] Payal Patel (n 31) 177.

[85] Mark A Drumbl, 'International Human Rights, International Humanitarian Law, and Environmental Security: Can the International Criminal Court Bridge the Gaps?' (2000) 6 ILSA J. Int'l & Comp. L. 305, 327.

the Rome Statute, but rather only make broader considerations as to the hypothetical compatibility of *an* ecocide crime – howsoever defined – with the ICC as a legal forum and the Rome Statute as its founding document.

Authors in favour of an ecocide crime argue that, pursuant to Article 5 of the Rome Statute, the ICC was established to prosecute '*the most serious crimes of concern to the international community as a whole*'. With a growing number of authoritative international reports prospecting a dark future ahead, ecocide seems to be a gaping lacuna among the family of most egregious crimes. Ecocide, it is argued, is compatible with the very reason of being of the ICC and would require, at most, some amendments and adaptations of the Statute to meet the specific characteristics of the crime.

On the other hand, several points have been raised as evidence of incongruity between ecocide and the Rome Statute and the basic principles of international criminal law (ICL).

First, it is argued that, based on the adjudicative coherence test, an ecocide inclusion in the ICC Statute would require such 'interpretative gymnastics' that it would see the feasibility of the proceedings seriously impaired.[86] Indeed, the principles of criminal law and those of environmental law are not easy to reconcile, which speaks to some of the weaknesses that have hindered the creation of a solid body of international environmental criminal law. This is especially the case when it comes to ecocide. The adoption of the ecocide crime in the Rome Statute '*would require the introduction of foundational values that differ from those that ground international law generally and international criminal law in particular*.'[87] Indeed, there are some seemingly intractable tensions between the principles of ICL – as it currently stands and as enshrined in the Rome Statute – and the supposed elements that would make up the international crime of ecocide. As seen above (Part 4), ecocide widely purports to be a strict liability offence, in stark contrast to the proof of *mens rea* required under Article 30 of the Rome Statute, a cornerstone principle of IHL that entails a high standard of proof of intent and knowledge. Ecocide also calls for legal persons to be held responsible for ecocide before the ICC, when the Rome Statute does not expressly provide for this possibility. While statements by the OTP have been interpreted as communicating a potential openness to the possibility of prosecuting legal persons,[88] reflective of the fact that most national legal systems have evolved in this direction, for now the matter remains unresolved.

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[86] Matthew Gillett, Prosecuting Environmental Harm before the International Criminal Court, Leiden University Repository (19 June 2018), <openaccess.leidenuniv.nl/bitstream/handle/1887/62738/06_summa.pdf?sequence=8> accessed 9 February 2020.

[87] Rosemary Mwanza (n 34) 4.

[88] OTP Policy Paper (n 38), stating that the impact of the crimes may be assessed in light of *inter alia* '*the social, economic and environmental damage inflicted on the affected communities*'.

Second, the ecocide addition would require a paradigm shift on the part of the ICC from an anthropocentric approach to an eco-centric and bio-centric approach. The Rome Statute core crimes are expressly intended to protect *human beings* from atrocities and crimes against peace, and may be less favorable to claims that place the earth, its ecosystems and its species at the centre of the proceedings.[89] In particular, this shift carries profound philosophical-legal questions: What does it mean to penalise conduct that harms living things or ecosystems to which we do not bestow legal personality in our global legal order? How can they gain victim status, and enforce their rights as such, without such legal personality? While some argue that these do not constitute insurmountable obstacles, they would entail complex institutional changes.[90]

Third, from a more pragmatic standpoint, the gathering of evidence required to prove the various elements of ecocide poses significant challenges, which the ICC may not be well-equipped to overcome. Causes of environmental damage may be multiple, the effects widespread and the consequences felt over time. Yet the idea of following the precautionary principle to overcome such hurdles would be a far cry from the beyond-reasonable-doubt standard at the foundation of ICC prosecutions. This would only become more challenging should ecocide be deemed to include conduct that will cause future environmental harm or has the potential of doing so.

Finally, the ICC faces infrastructural limitations that would arguably restrict the ICC's ability to prosecute ecocide.[91] It has limited powers and limited remedies at its disposal to meaningfully enforce and provide redress for an ecocide crime. In terms of enforcement, some of the main polluting States would not even be subject to the ICC's jurisdiction as they are not States Parties to the Rome Statute or, in any event, would not sign on to these amendments. The ICC also cannot order recovery, remediation of the harm or injunctions,[92] but its sanctions are limited to imprisonment, fines and forfeiture of the proceeds of crime to the victims (victims which do not include the injured environment itself).

5.5 Feasibility: 'the time is ripe' vs. 'not quite there yet'

Proponents for the inclusion of ecocide in the Rome Statute say that the process is simple: all that is required is for one State Party to propose an amendment to the Rome Statute and for two-thirds of State Parties (i.e. 82) to vote in favour of such proposal.[93] Some States have already expressed support for the idea, stating that 'the time is ripe' to integrate ecocide into amended version of the Rome Statute.[94] In December 2019,

[89] Sciences Po Report (n 18) 4.
[90] Rosemary Mwanza (n 34) 23-24.
[91] Payal Patel (n 31) 185; Mark A Drumbl (n 86) 325-331.
[92] Bronwyn Lay and others (n 8) 451.
[93] Ecocide Law Group, <ecocidelaw.com/ecocide-law-2/> accessed 2 February 2020.
[94] 18th Session of the Assembly of States Parties ICC, Statement by Admed Saleem, Member of the Maldives Parliament and Chair of the Parliamentary Standing Committee on Climate Change and

Vanuatu called upon the ICC Assembly of State Parties to amend the Rome Statute to criminalise ecocide, affirming that '*the criminal justice system, domestic and international, can potentially address the greatest threat to human rights in the Pacific and, ultimately, globally: environmental destruction and climate change.*'[95]

On the other hand, one of the strongest objections to ecocide being prosecuted before the ICC is the (un)likelihood of its approval by States Parties, at least within a timeframe capable of meaningfully turning things around. The current political landscape seems far too polarised to reach the required threshold of unity for such an amendment.[96] The rapid depletion of natural resources is only bound to further emphasise States' attachment to traditional notions of sovereignty and jurisdiction.[97]

In any event, even if States were to succeed in codifying ecocide in the Rome Statute, there are serious questions as to the ICC's ability to effectively enforce such a prohibition, for reasons that range from the likelihood of an environmental crime getting 'lost in the shuffle' amidst the intense prosecution of other ICC crimes to the lack of environmental expertise.[98] This would result in a mere superficial bandage being applied to ecocide and the fight to eradicate grave environmental harm actually halting, rather than progressing, in its tracks.

5.6 An alternative forum?

The argument against ecocide at the ICC is not necessarily an argument against the criminalisation and prosecution of grave environmental damage at international level. On the contrary, criminal law is a fundamental component of the international response to the global threat of environmental harm. This has led to the counter-proposal of moving away from the idea of a 5th ICC crime and toward the establishment of an alternative forum to prosecute ecocide and related crimes, such as an International Criminal Court for the Environment.[99] Such a forum would be set up by a founding document specifically catered to this unique crime and have the expertise required to adequately deal with these cases.

One may wonder how, if there is insufficient political will to amend the ICC, there can be sufficient political will to set up a new environmental criminal tribunal. While merely speculative at this stage, an alternative international tribunal, in providing a clean slate, would seem to carry greater chances of success. Such a forum would be free

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Environment, 3 December 2019, <asp.icc-cpi.int/iccdocs/asp_docs/ASP18/GD.MDV.3.12.pdf> accessed 10 February 2020.

[95] 18th Session of the Assembly of States Parties ICC, Statement by H.E. John H. Licht, Ambassador of the Republic of Vanuatu to the EU, 2-7 December 2019 <asp.icc-cpi.int/iccdocs/asp_docs/ASP18/GD.VAN.2.12.pdf> accessed 10 February 2020.

[96] Mark A Drumbl (n 86) 325; Neryet Working Group Report (n 50) 101-102.

[97] Rajendra Ramlogan (n 80) 400.

[98] Mark A Drumbl (n 86) 326.

[99] Article 18, Neryet Ecocide Convention; Neryet Working Group Report (n 50) 137; Payal Patel (n 31) 184. Mark A Drumbl (n 86) 331.

from the abovementioned limitations of the Rome Statute and from the prejudices that might surround the ICC. Drafting a new founding document would open a fresh discussion in which experts and States can deliberate and uniformly establish the scope of an international crime against the environment (howsoever denominated), as well as clearly delineate the powers of its prosecuting court. Just as the humanitarian crises of World War II led to the Nuremberg Charter and Tribunal in 1945, the climate crisis may yet yield a groundbreaking Environmental Crimes Convention and Tribunal that may change the course of history.

6 Concluding considerations: taking sides and looking forward

With due consideration for the range of arguments raised in the ecocide debate, an amendment of the Rome Statute in this sense does not seem likely at this stage. Gaining consensus over time may be possible but would take far longer than the world is willing to wait. Contriving ways to indirectly read ecocide into the Statute also only risks undermining the credibility of the ICC and the effectiveness of environmental crimes prosecution. Even if consensus were to consolidate around the idea, it is not necessarily true that the ICC would be the right forum to combat environmental destruction. The crisis we currently face presents unprecedented challenges in need of unprecedented solutions that go beyond traditional approaches.

As the legislators of the international arena, it will ultimately be up to States to decide, under the procedures established in the Rome Statute, whether the ICC is the appropriate forum to try ecocide cases.[100] But a few key points can be taken away from the ongoing discussion.

A mere weighing up of the pros and cons is incompatible with the complexity and urgency of the debate. The need for immediate action may outweigh classic considerations of feasibility and political backing. As Mark Allan Gray wrote already in 1998, '*despite raising public consciousness, diplomacy alone has failed to resolve key environmental problems*.'[101] In other words, the arguments against the proposal to prosecute ecocide before the ICC – many of which can in turn be validly counter-argued – should not stop the discussion. Even if the ICC is deemed to be incompatible with an ecocide crime, an effective solution must be found. Whatever appropriate solution is identified, it must consist of a comprehensive effort within which the codification of an internationally recognised criminal threshold for the destruction of the environment is only a part. Combating the current environmental crisis cannot be relegated to the international criminal sphere alone. Harmonisation at national level

[100] Bronwyn Lay and others (n 8) 435.
[101] Mark Allan Gray (n 57) 216.

has an equally important role to play,[102] as do regional efforts,[103] *ex ante* preventive measures and other non-criminal mechanisms.[104]

Most importantly, in finding an adequate solution we must keep an open mind. The discussions around compatibility, feasibility and political tend to stem from a predominantly Western perspective. In many parts of the world, it is beyond question that the Earth has enforceable rights.[105] In this regard, international law is meant to be progressive. Article 13 of the UN Charter dictates that '*[t]he General Assembly shall initiate studies and make recommendations for the purpose of a. encouraging the progressive development of international law and its codification*'. As pointed out by Mehta in relation to the Oslo Principles on Global Climate Change Obligations:

> When our legal systems become overly technical and convoluted they can stray too far from reality. Lawyers and the courts must see to it that their interpretations of the law adhere to reality as closely as possible. Otherwise legal systems become rudderless and stray, from that single trajectory, which must be towards justice, into technicalities.[106]

What is certain is that we find ourselves in a special moment in history to take on this challenge. The climate movement has gained a unique leader in a young woman who has the courage to ask leaders the ground-shaking question: '*How Dare You?*' We must head her call to finding innovative, immediate and effective solutions to save this remarkable planet we call home.

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[102] Rosemary Mwanza (n 34) 27-28; Payal Patel (n 31) 196.

[103] Mark A Drumbl (n 86) 323-324.

[104] Neyret Working Group Report (n 50); Mark A Drumbl (n 86) 332.

[105] Among others, Guatemala (recently passed Law on Ecocide, became the first country in the world to create an environmental court to hear such claims and ruled against Empresa Reforestada de Palma de Petén SA (REPSA) for ecocide in 2016); Ecuador (Article 71, Constitution – Rights for Nature); Nicaragua (Article 60, Constitution: '*The supreme and universal common good, and a precondition for all other goods, is mother earth; she must be loved, cared for, and regenerated.*'); Brazil (Article 225, Constitution – Right to an '*ecologically balanced environment*'); Bolivia (Law on Mother Earth Law 071 of the Plurinational State).

[106] M C Mehta, Commentary to the Oslo Principles on Global Climate Change Obligations (2015) 89, <climateprinciplesforenterprises.files.wordpress.com/2017/12/osloprincipleswebpdf.pdf> accessed 11 February 2020.

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CONFLICT AND ENVIRONMENTAL HARM: IS THERE ENOUGH (CRIMINAL) PROTECTION IN TRANSITIONAL MEASURES?

By Renata da Silva Athayde Barbosa[*]

Abstract

The availability of natural resources in conflict and post-conflict situations is a factor that frequently makes conflict longer and peace harder to achieve or endure. What is the role of criminal justice in offering mechanisms for the protection of the environment in such context? This paper is divided in two main parts. In the first part, the basis for environmental crimes related to conflict and post conflict natural resources exploitation is settled. The paper examines international criminal law and transitional justice's mechanisms of protecting the environment. In the second part, the paper applies the framework to the Democratic Republic of Congo (DRC) case, analysing prosecution of crimes, institutional reforms and reparations. Results demonstrate that, despite some recent advances in environmental protection - especially in the case of DRC, there is still a considerable gap in the framework offered by criminal law, which is filled by transitional justice civil and non-judicial mechanisms.

1 Introduction

"At least eighteen violent conflicts have been fuelled by natural resource exploitation since 1990, and according to one study, between 1970 and 2008 from 29 per cent to 57 per cent of non-international armed conflicts (…) were related to high-value natural resources".[1] Disputes around natural resources are not restricted to the contentions for political power, being frequently related to dispute for economic and financial resources that derive from them. According to the United Nations, in Congo for instance there is the equivalent to 24 trillion dollars in unexploited mineral reserves[2], demonstrating how many different interests can be involved in conflict and post conflict solutions.

This work starts by approaching the contradictory fact that transitional justice's scope to tackle conflict and post conflict[3] situations is traditionally restricted to civil and political rights[4], when, on the contrary, in recent years great part of conflicts are related

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[1] Carl Bruch and Olivia Radics, 'The law of Pillage, Conflict Resources, and Jus post Bellum' in Carsten Stahn, Jens Iverson and Jennifer Easterday (eds), *Environmental conflict and Transitions from conflict to peace* (Oxford University Press 2018) 143.

[2] UNEP, *Post- Conflict Environmental Assessment of the Democratic Republic of Congo* (UNEP, 2011).

[3] It is adopted the concept of Transitional Justice as a normalized mechanism, which offers legal and social instruments for both conflict and post-conflict situations. Ruti Teitel, 'Human Rights in Transition: the transitional justice Genealogy' in *Globalizing Transitional Justice – Contemporary Essays* (Oxford University Press 2014).

[4] In this sense Schmid and Nolan posit that "Despite this, economic and social aspects of past abuses have historically been neglected both in the theoretical literature relating to such processes and in practice. Yet scholars and practitioners increasingly question transitional justice's neglect of

to natural resources and economic power. Such circumstances increase not only the extension of harm, but also the duration of conflict, since in "the presence of lootable natural resources [conflicts] tend to be more prolonged and more destructive; and the longer that a conflict persists, the weaker the rule of law becomes, reducing the possibility of stablishing longing peace."[5] These are conflicts with economic roots, deeply related also to economic crimes, that take advantage of organizational misfeasance. Is there in transitional justice and international criminal law mechanisms to deal with it? The absence of this concern in transitional justice framework leaves an important gap, leading to the potential of enduring conflicts due to the negligence of their root causes.

The paper is divided as follows. Firstly, it sets arguments concerning why transitional justice, environmental and environmental related crimes and international criminal law are linked to each other as a framework: to protect the environment in conflicts based on natural resources exploitation. Secondly, the paper employs the Democratic Republic of Congo case to the environmental framework previously stablished, by using the mechanisms proposed: prosecution, institution reforms and reparations. Finally, the results stated that criminal law still leaves a gap in the mechanisms offered to protect the environment in conflict and conflict related situations, as demonstrated in DRC which still faces high levels of instability caused by natural resources exploitation.

2 Why Transitional Justice and environment?

It is known that the environment can be used during or after conflict as a tool of war. The Sadam Hussein spilled Kuwaiti oil wells in the Gulf, the United States threw the orange agent at Vietnamese forests, these are nothing but illustrative examples. In this work attacks to the environment will be approached under the bulk of economic crimes, a choice that might be contested due to its anthropocentric[6] view on the environment. However, this is not the sole approach possible. First, there are few conducts which constitute international crimes regardless of their human impact, as in "intentionally launching an attack in the knowledge that such attack will cause (…) widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage

socioeconomic considerations." They cite Ruti Teitel's framework as an example of disregarding economic and social rights. Evelyne Schmid and Aoife Nolan, 'Do no harm'? Exploring the Scope of Economic and Social Rights in Transitional Justice' (2014) 8 IJTJ 362-363.

[5] Carl Bruch and Olivia Radics (n 1) 144.

[6] The anthropocentric approach is comprehended as criminalizing conducts that are inhumane and by chance harm the environment, as opposed to conducts that offer no direct harm humans, only to the environment – which would carry an ecocentric perspective. Example of the second approach are article 8(2)(a)(iv) (prohibiting extensive destruction and appropriation of property not justified by military necessity and carried out wantonly and unlawfully), article 8(2)(b)(xvii) (prohibiting the use of poison and poisoned weapons), and article 8(2)(b)(xviii) (prohibiting the employment of asphyxiating, poisonous, or other gases). Mark A Drumbl, 'Accountability for Property Crimes and Environmental War Crimes: Prosecution, Litigation, and Development' <ictj.org/sites/default/files/ICTJ-Development-PropertyCrimes-FullPaper-2009-English.pdf> accessed 20 March 2020, 8.

anticipated."[7] Second, this choice can be understood by the case study, Democratic Republic of Congo (DRC), where economic background is present in the human rights violations perpetrated in the post conflict scenario.[8]

Regardless of any conundrum concerning economic and social rights fitting in transitional justice framework[9], this work starts under the premises that transitional justice needs a broader scope[10]. The assumption is due to conflict holding other causes and consequences which are not only related to political and civil rights, but also to social inequality, private economic interests, environmental factors. As stated by Drumbl "[v]iolations of civil and political rights tend to be multi-causal in origin"[11]. Moreover, war economies are frequently based in exploitive and violent practices, be it to humans or to the environment, as well as are usually led by the same perpetrators targeted by transitional justice mechanisms[12].

Those constituents that cannot be ignored by transitional justice since they can be obstacles to (say the least to) human security. After all, transitional justice's goal includes to help societies to move out of conflict[13]. There are two types of violence connected to transition: the first is the violence related to conflict – against vulnerable groups, drugs, organized crime – and domestic violence.[14] Environmental crimes and natural resources exploitation are directly related to the first type of violence, since there are groups or states that will control them in continuation to the division of powers stablished during conflict. Once demonstrated the inevitable interest of transitional justice in economic and social issues, rather, the concern is to offer alternatives based on its framework to approach economic and social issues caused by conflict.

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[7] Art. 8 (2), B, iv of the Rome Statute. UNGA, *Rome Statute* (1998) <www.icc-cpi.int/resource-library/documents/rs-eng.pdf> accessed 5 March 2020.

[8] See item 3 of this paper.

[9] For more see Evelyne Schmid and Aoife Nolan, 'Do no harm'? Exploring the Scope of Economic and Social Rights in Transitional Justice' (2014) 8 IJTJ 362 And Rama Mani, 'Dilemmas of Expanding Transitional Justice, or Forging the Nexus between Transitional Justice and Development' (2008) 2 IJTJ 253.

[10] In the same sense of the Guidance Note of the Secretary-General United Nations Approach to Transitional Justice (UN Guidance): "Transitional justice should further seek to take account of the root causes of conflicts and the related violations of all rights, including civil, political, economic, social and cultural rights." UNSG, Guidance Note of the Secretary-General United Nations Approach to Transitional Justice (2010) <www.un.org/ruleoflaw/files/TJ_Guidance_Note_March_2010FINAL.pdf> accessed 10 March 2020, 3.

[11] Another reason for such compartmentalized vision is that while political and civil rights demands an abstention from state actors, environmental, economic and social rights demand an expected behavior. Mark Drumbl, 'Accountability for Property Crimes and Environmental War Crimes: Prosecution, Litigation, and Development' <ictj.org/sites/default/files/ICTJ-Development-PropertyCrimes-FullPaper-2009-English.pdf> accessed 20 March 2020, 4.

[12] Rama Mani (n 9) 258.

[13] Rama Mani (n 9) 253.

[14] Rama Mani (n 9) 259.

2.1 What can Transitional Justice Framework offer to environmental protection? The mechanisms

2.1.1 Prosecution and trials[15] – is criminal responsibility enough?

Another reason for addressing environmental harm through an economic perspective is that international criminal law framework does not seem to be ready for the ecocentric perspective. In this item the paper will address the weaknesses of international criminal law system to protect environment, mostly related to crimes that have the potential to directly impact the environment. Within the framework of the Rome Statute environment appears in war crimes of pillage and damaging natural environment.[16] [17]

The elements of the crime of article 8, (2), b, iv of Rome Statute, damaging natural environment, impose by themselves limitations to its application – being considered by some partially ecocentric[18]. The first is related to the vague *actus reus* of "widespread, long-term, and severe" and the certainty of harm, elements which elevate the burden of proof to high levels. The crime *mens rea* is restricted to the intention, giving no space to negligent, willfully blind or reckless behavior. There is also the need for the damage to be "clearly excessive" implementing the condition of the lack of proportionality. Last but not least, the crime is only applicable to international armed conflicts, not comprising non-international armed conflicts.[19]

The second challenge to prosecutions is war crime of pillage previewed in arts. 8(2)(b)(xvi) and 8(2)(e)(v) of the ICC Statute is not primarily related to natural resources exploitation[20], though the International Criminal Court had shed light on it through a

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[15] According to the UN Guidance, institutional reform and facilitating initiatives in the right to truth are, at the side of prosecutions, reparations and national consultations, components of Transitional Justice programmes. UNSG, Guidance Note of the Secretary-General United Nations Approach to Transitional Justice (2010) <www.un.org/ruleoflaw/files/TJ_Guidance_Note_March_2010FINAL.pdf> accessed 10 March 2020.

[16] Mark A Drumbl (n 6) 8-9.

[17] Genocide, through using natural resources to destroy a protected group, and crimes against humanity, through deportation or forcible transfer or using contaminated water to cause severe bodily injury, can also be seen as crimes that harm the environment. However, they are conditioned on harming individuals or their property. Related to war crimes, articles 8, e, xii, xiii, xiv of Rome Statute also previewed crimes that could incidentally be environmental. Matthew Gillet, 'Eco- Struggles: Using International Criminal Law to Protect the Environment During and After Non- International Armed Conflict Bellum' in Carsten Stahn, Jens Iverson and Jennifer Easterday (eds), *Environmental conflict and Transitions from conflict to peace* (Oxford University Press 2018) 226, 229.

[18] Matthew Gillet (n 17) 228.

[19] Matthew Gillet (n 17) 248.

[20] As mentioned by Wisner the crime of pillaged analyzed in the Bemba case was related to the pillaging by Movement for the Liberation of Congo of documents, clothing, furniture, radios, televisions money, etc. See Judgment Pursuant to Article 74 of the Statute, Bemba Gombo (ICC-01/05-01/08), Trial. Sandra Wisner, 'Criminalizing Corporate Actors for Exploitation of Natural Resources in Armed Conflict' (2018) 16 JICJ 963, 970. Chamber III, 21 March 2016, x 646.

policy paper of the Office of the Prosecutor.[21] The elements of the crime are: having the perpetrator in the context or associated to international armed conflict and being aware of it, appropriate certain property by intending to deprive the owner of the property and to appropriate it for private or personal use, without consent of the owner[22].[23]

The element of "private or personal use" unduly conditions the application of the crime, since in armed conflicts natural resources exploitation is not restricted to personal gain or financial advantage. Hence, it excludes the state and warring groups who would use the resources to fund their campaign rather than to achieve personal ends[24]. Radics and Bruch posit that "this restrictive interpretation of pillage could mean that illegal resource exploitation would go unaddressed, at least by the ICC if it could not be shown that the exploitation is for personal gain."[25] Besides, the idea of appropriation is problematic, not only when comprehended by the point of view that human beings can possess natural environment, but also because it disregards the possibilities of destruction and spoliation. Destruction does not necessarily aim at exercising ownership.[26]

In the scope of state responsibility, the International Court of Justice considered Uganda responsible (DRC v. Uganda)[27] for 'looting, plundering and exploitation of natural resources in the territory of the DRC', including the prohibition of pillage. In the case, Ugandans were exploring for their personal use DRC's natural resources, allow the personal use criterion to stand. Thus, it is not possible to affirm that under the Rome Statute the same conduct would be considered criminal, due to the restrict concept of personal or private ends.

The last challenge to prosecution is that transitional justice mandate related to international criminal law is not ready for non-state, even if companies for instance can be an agent of gross human rights violations[28]. In the same way, ICC jurisdiction is

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[21] ICC Office of the Prosecutor (OTP), Policy Paper on Case Selection and Prioritisation, 15 September 2016

22 International law sets boundaries according to which the natural resources can be used by the invading forces of an occupied territory: '1) to meet the occupant's own security needs in the occupied territory; 2) to defray the expenses involved in the belligerent occupation; and 3) to protect the interest and well- being of inhabitants'. Carl Bruch and Olivia Radics (n 1) 157.

[23] See ICC Elements of Crime, p. 26. ICC, Elements of crime (2011) <www.icc-cpi.int/NR/rdonlyres/336923D8-A6AD-40EC-AD7B-45BF9DE73D56/0/ElementsOfCrimesEng.pdf> accessed 10 March 2020. See James Stewart, *Prosecuting the Pillage of Natural Resources* (Open society institute 2011).

[24] Matthew Gillet (n 17) 231.

[25] Carl Bruch and Olivia Radics (n 1) 151.

[26] Matthew Gillet (n 17) 231.

[27] See ICJ, *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, Judgment of 19 December 2005, ICJ Report 168 (par. 222-229).

[28] See Leigh Payne and others, 'Can a treaty on business and human rights help achieve transitional justice goals?' (2017) 1(1) RIDHE 5.

limited to natural persons[29] leaving the companies that perpetrate or participate in such crime out of the criminal responsibility thus far. Yet, reality shows –as it happened in the case of DRC – that corporate actors can steal natural resources throughout conflict.

Dogmatically, two challenges impose. The need to prove the link between the harm and the corporations' ownership of the good is the first difficulty, due to the long supply chain, subsidiaries and host transnational schemes. The responsibility towards international courts is known to be of those who hold the greatest responsibility[30], which leaves with a space for discretion[31] since not necessarily companies at the direct perpetrator but might be those enabling and strategizing violations.

The Rome Statute does not grant the ICC jurisdiction over legal entities and many argue that corporate accountability for war crimes— for now, at least— is much more imaginable before domestic courts than in international forums. An example illustrates bigger willingness of domestic jurisdictions to act against companies, it is the case of Argor-Heraeus where one of the biggest gold refineries in the world was initially subjected to prosecution in 2013 in Switzerland for pillaging Congolese resources[32].

With those considerations, it is evident that in order for prosecutions for offer a real normative protection to the environment, be in it the anthropocentric or ecocentric contexts, several challenges need to be overcome. Meanwhile, the economic aspect of natural resource exploitation constitutes a difficulty for the due protection that cannot be ignored by any mechanism that aims at providing the best protection.

2.1.2 Truth commissions and Institutions – is accountability enough?

An alternative, especially for the corporate (lack of) responsibility, is to focus on accountability through different mechanisms, truth commissions and institutional reforms. Data has shown that truth commissions, more frequently than not, include in their final reports, which might also have judicial and criminal repercussion, their investigations on corporate actors. It does not, nevertheless, deal with corporation complicity.[33] The first aspect would be relevant reveal and understand what and how it happened to avoid repetition. Besides, it is important to disclose the track of the resources exploitation, which is a necessary measure to enable environmental reparation, as well as retrieve profits.

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[29] See art. 25 of the Rome Statute. UNGA, *Rome Statute* (1998) <www.icc-cpi.int/resource-library/documents/rs-eng.pdf> accessed 5 March 2020.

[30] See OTP's previous policies and strategic plans 2012-2015, 2016-2018, 2019-2021 <www.icc-cpi.int/itemsDocuments/20190726-strategic-plan-eng.pdf> accessed 5 March 2020.

[31] Sandra Wisner (n 20) 972-973.

[32] See James Stewart, 'The Argor-Heraeus decision on corporate pillage of gold' <jamesgstewart.com/the-argor-heraeus-decision-on-corporate-pillage-of-gold/> accessed 11 March 2020.

[33] Leigh Payne and others, 'Can a treaty on business and human rights help achieve transitional justice goals?' (2017) 1(1) RIDHE 17.

Institutions also play a role in fomenting the economic liberalization that follows political liberalization. In this sense, Zinaida Muller alerts that "political liberalization of society in almost every case brings with it a version of economic liberalization, whether through the structural adjustment plans of the World Bank and the International Monetary Fund, negotiations between the new regime and the old rulers or the opening of markets in transitional economies."[34] An unstructured movement might cause population to suffer from the take away of transnational companies, free market, "often constituting a lack of significant socioeconomic redistribution of resources in the post-conflict state".

Institutional reform here acquires big relevance, since it can relate not only to state institutions who were part in the violations, but also of private actors which would be able to changes policies, business models, board members who would not facilitate transformation. On a positive course, both companies and governments can engage in training and incorporating human rights into their politics and policies. It is relevant to attest that both actors should be engaged in institutional reform measures to enforce environment protection, otherwise, there would be a high risk that one of them would prevent the other from moving towards a new attitude.

2.1.3 Reparations – what can restore the damage?

In case of environmental and environmental related crimes reparations play a central role, assuming different forms: restitution, compensation, satisfaction and guarantees of non-repetition[35]. An example of the first is the restoration of a forest; or where restoration of the *status quo ante* is not possible, compensation, in the case of mining or oil extraction, which might also include the affected population. In the case of satisfaction, public apology, with the acknowledgement of the facts and acceptance of responsibility. The guarantees of non-repetition can be to ensure the independence of the judiciary, a serious combat on corruption – which usually follow this type of crimes, ensure companies can only follow their activities with a proven change in policies.

Especially in the case of compensation and reparation, interesting cases can illustrate possibilities. The first is the response given by Iraq's unlawful occupation and the oil spilled in the Gulf, the United Nations Compensation Commission included in the (international) responsibility of Iraq environmental damage, holding it accountable for direct loss and damage.[36] In the case of mining activity, Sierra Leone declared that the

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[34] Zinaida Miller, 'Effects of Invisibility: In Search of the 'Economic' in Transitional Justice' (2008) 2 IJTJ 266 268.

[35] UNSG, Guidance Note of the Secretary-General United Nations Approach to Transitional Justice (2010) <www.un.org/ruleoflaw/files/TJ_Guidance_Note_March_2010FINAL.pdf> accessed 10 March 2020, 9.

[36] Mark A Drumbl (n 6) 8.

diamond earnings payment– which exploitation fuelled the war – should be directed to the alleviation of the war's impact on the victims.[37]

Finally, especially in pillage cases, asset recovery – which is strictly linked to prosecution or some source of investigation – enables not only accounting for environmental crime with economic misdeeds, but also stablishing a narrative for the violations. In Guatemala, the International Commission against Impunity, a hybrid body that investigates corruption in the context of organized crime and human rights violations has a specific focus on economic crimes, including those related to natural resource exploitation, presents focus in asset recovery and repatriation.[38] "These assets, once recovered, could be instrumental in rebuilding and recovery efforts. The repatriation of assets could also help these societies to provide much needed funding for transitional justice mechanisms, without the need to rely solely on international assistance."[39]

2.2 What is enough?

In terms of environmental and environmental related crimes in conflict, criminal justice mechanisms are far away from being enough. The small framework presented shows many flaws and dogmatic difficulties, which are result of long-term anthropocentric systems. Especially because rehabilitating the environment is one of the main parts of the process, quasi-judicial instruments and mechanisms focused on reparations, such as asset recovery, reparations, present the most complete alternatives to criminal sanctions.

3 A test to Transitional Justice mechanisms: Democratic Republic of Congo

To investigate how transitional justice copes with environmental and environmental related crimes in (post) conflict this work will use the case of DRC, a non-international armed conflict, that as demonstrated holds a vast amount of natural resources reservation. The analysis will not only involve the understanding of the past, but also demonstrate how the absence of a proper transitional justice social-economic mechanism is a factor the strengthens the potential for future conflict. Congo's natural resources, as other countries in West Africa, provided the warring factions financial resources to continue with the armed conflict[40]. Factors that do not by any manner help in disarm, demobilize and reintegrate[41] in order to promote reconciliation or consolidate peace in transitional models.

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[37] Rama Mani (n 9) 258.

[38] Carl Bruch and Olivia Radics (n 1) 166.

[39] Carl Bruch and Olivia Radics (n 1) 168.

[40] Daniella Dam-de Jong, 'Natural Resources in Conflict-Torn States' in Carsten Stahn, Jens Iverson and Jennifer Easterday (eds), *Environmental conflict and Transitions from conflict to peace* (Oxford University Press 2018) 170. A general tendency also attested by Sandra Wisner (n 20) 964.

[41] In the Guidance Note of the Secretary-General on the United Nations Approach to Transitional Justice' (March 2010) (hereon Guidance note) coordinating "disarmament, demobilization, and

3.1 Natural resources and conflict in DRC

Preliminarily, natural resources did not start playing an important role in DRC with the conflict, throughout the country's history, its vast stock of natural resources has been a bless and a curse. Before independency in 1960, the country's elites have used freely the country's natural resources for personal enrichment[42]. During Mobutu's rule no better approach was taken towards investing the profits of the vast natural resources in the Congolese people's benefit[43]. With the first war in 1996, a trend changed in the natural resources exploitation in Congo, the activity started to be manipulated by militaries, as well as a number of foreign actors started to be involved in the exploitation. "During the second war [1998], however, natural resource exploitation became increasingly attractive, not only because it enabled these groups to finance their war efforts but also because, for a large number of political/military leaders, it was a source of personal enrichment."[44] The level of complexity that natural resources exploitation involved can be demonstrated by the involvement of international agents[45] and national, were enemies became business partners[46].

Since the beginning of 2000's agreements were settled and peace was gradually brought into the country. However, fight is still going on in Congo, especially in the Eastern part of the country where mining activity is still very present. Two factors collaborate for the prolonging situations: the insurrection forces that took control over

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reintegration (DDR) initiatives with transitional justice processes and mechanisms, where appropriate, in a positively reinforcing manner" is one of the ways to further strengthen Transitional Justice activities. UNSG, Guidance Note of the Secretary-General United Nations Approach to Transitional Justice (2010) <www.un.org/ruleoflaw/files/TJ_Guidance_Note_March_2010FINAL.pdf> accessed 10 March 2020, 11.

[42] Daniella Dam-de Jong (n 40) 173.

[43] Office of the High Commissioner for Human Rights, Report of the Mapping Exercise Documenting the Most Serious Violations of Human Rights and International Humanitarian Law Committed Within the Territory of the Democratic Republic of the Congo Between March 1993 and June 2003 <www.ohchr.org/Documents/Countries/CD/DRC_MAPPING_REPORT_FINAL_EN.pdf> accessed 15 March 2020, 351.

[44] Office of the High Commissioner for Human Rights, Report of the Mapping Exercise Documenting the Most Serious Violations of Human Rights and International Humanitarian Law Committed Within the Territory of the Democratic Republic of the Congo Between March 1993 and June 2003 <www.ohchr.org/Documents/Countries/CD/DRC_MAPPING_REPORT_FINAL_EN.pdf> accessed 15 March 2020, 351-352. See also UN Security Council Resolution 1856, S/ RES/ 1856 (2008), 22 December 2008.

[45] For instance, the relation established with Uganda, which enabled exploitation of the resources also by the country.

[46] Office of the High Commissioner for Human Rights, Report of the Mapping Exercise Documenting the Most Serious Violations of Human Rights and International Humanitarian Law Committed Within the Territory of the Democratic Republic of the Congo Between March 1993 and June 2003 <www.ohchr.org/Documents/Countries/CD/DRC_MAPPING_REPORT_FINAL_EN.pdf> accessed 15 March 2020, 351-352.

mining activities and the relation between DRC, Uganda and Rwanda, being these last two suspect of supporting the armed groups that operate in the region.[47]

In Congo the conflict is still funded by the country's natural resources: control the main mineral resources in the DRC, namely, diamonds, cobalt, gold, copper, germanium, allied to private sector exploitation of resources[48]. In this sense, as Matthew Gillet asserts, "Illegal exploitation of, and damage to, the environment can both intensify conflict during active hostilities and reignite hostilities in the aftermath of conflict. Environmental harm feeds a vicious cycle of resource depletion, increasingly violent inter-group clashes, and environmental expropriation (the assertion of ownership rights or the spoliation of environmental features without lawful right)." On an additional note, companies therefore also play a role, which would vary from complicity to direct participation in armed conflict. [49]

3.2 What did transitional justice offer DRC in terms of criminal law mechanisms?

At this point it was possible to demonstrate the many demands the Congolese case pose to transitional justice in terms of environmental crimes and crimes related to the environment. From now on this work will analyze the gaps and solutions proposed so far within the framework designed in the first part of the text.

In terms of prosecutions, despite demonstrating a strong component of natural resource exploitation relationship, the ICC trials and convictions related to the conflict did not take such circumstances into account. In Bemba, the ICC overturned the conviction related to pillage - which was not related to natural resource exploitation[50]; in Lubanga, the decision merely mentions the natural resources exploitation

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[47] Daniella Dam-de Jong (n 40) 174.

[48] Not to mention the hunting practices - fed by arms deriving from conflict - of elephant and rhinoceros, which contributed to a reduction of 90% of their populations in the area that includes DRC and Central African Republic. Matthre Gillet (n 17) 223.

[49] Sandra Wisner (n 20) 964-965. The UN report of 2003 affirmed "Illegal exploitation remains one of the main sources of funding for groups involved in perpetuating, especially in the eastern and northeastern regions of the Democratic Republic of Congo. Over the last year, such exploitation has been characterized by intense competition among various political and military actors as they have sought to maintain, and in some instances expand, their control over territory." Final Report of the Panel of Experts on the Illegal Exploitation of Natural Resources and Other Forms of Wealth of the Democratic Republic of the Congo, UN Doc. S/2003/ 1027 (2003) <www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/DRC%20S%202003%201027.pdf> accessed 17 March 2020, 14. Office of the High Commissioner for Human Rights, Report of the Mapping Exercise Documenting the Most Serious Violations of Human Rights and International Humanitarian Law Committed Within the Territory of the Democratic Republic of the Congo Between March 1993 and June 2003 <www.ohchr.org/Documents/Countries/CD/DRC_MAPPING_REPORT_FINAL_EN.pdf> accessed 15 March 2020, p. 351-352.

[50] ICC, 'ICC Appeals Chamber acquits Mr Bemba from charges of war crimes and crimes against humanity' (2018) <www.icc-cpi.int/Pages/item.aspx?name=pr1390> accessed 15 March 2020.

contribution to the crimes once[51]; in Ntaganda, despite the prosecution's recognition of the natural resources in fanning flames of the conflict, no further measure was taken[52]. The lack of charges, convictions, or even provisions employed in international criminal law and court to protect natural resources in DRC is a demonstration of the marginal place environment occupies in (post)conflict.
When dealing with companies, assuming that corporate responsibility on international criminal law level is not an option, so far, the analysis lays on sanction imposed on them. The sanctions imposed by the United Nations Security Council focused on corporations, rather than states, aiming at control transactions between private actors and war groups. Resolution 1952 of 2010, previewed including in sanctions list entities that failed due diligence, freezing assets and imposing travel bans. Sanctions, though, lack effectiveness studies, showing only strong political effect.[53] Another alternative, previously mentioned is to rely on domestic prosecutions of companies, which presents a new series of difficulties to the judicial system of any conflict-emerged country – in the *Argos case*, at the end the prosecution did not happen.

Institutionally, in DRC special attention was paid legal resources exploitation, which included the creation of a Panel of Experts on Illegal Exploitation of Natural Resources and other forms of Wealth of Democratic Republic of Congo, as well as a Group of Experts on the Democratic Republic of Congo, which produced reports strengthening accountability on the country's resources misuse.[54] Another aspect is that very frequently, to be able to receive economic help, demand from International Organizations and Bank a movement of economic liberalization. Another demonstration of societal maturity would be also to enable local communities to set pressure to make "unaccountable and unethical agreements that grant resources exploitation rights – usually in exchange for military support, as in DRC – entered into by corrupt political leaders or governments not be honored but rather canceled."[55]
The outcome is that regardless of the actors involved, the conflict in DRC enhances both structural violence and the proper violence of the conflict. In the first case, the government has been questioned about different types of violence perpetrated in the competence of the state, from its participation in the elections held in 2018[56] to killings[57].

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[51] *Prosecutor v. Thomas Lubanga Dyilo*, Judgment Pursuant to Article 74 of the Statute, Trial Chamber I, (ICC- 01/ 04- 01/ 06- 2842, 14 March 2012) ('*Lubanga* Article 74 Decision'). Par 76 <www.icc-cpi.int/CourtRecords/CR2012_03942.PDF> accessed 15 March 2020.
[52] Matthew Gillet (n 17) 223.
[53] Sandra Wisner (n 20) 969.
[54] Rama Mani (n 9) 258.
[55] Rama Mani (n 9) 258. The author argues that the efforts in tackling natural resources can be limited if the focus on international financial institutions do not get involved in the process of securing foreign new investment, at the expenses of revising contracts for fear of scaring investors. As an example, the author cites the Congolese mining sector.
[56] Different perspectives on the success of elections are shared by human rights organizations and the United Nations, while the first point the violations and repressions that enabled elections to happen, the second focus on the outcome (<www.hrw.org/world-report/2019/country-chapters/democratic-republic-

In the second case, potential sources of tension exist in the expulsion of (illegal) miners by the armed Congolese forces, as well as an alarming increase in the numbers of sexual violence perpetrated by non-state and state actors.[58] Thus, presenting a blurred line between the different types of violence, demonstrating the complexity behind natural resources conflict – economic, social and cultural conflict.

4 Conclusions

This paper demonstrated that within transitional justice framework, economic aspect of environmental crime is still prevalent. A trend that could be considered not centralized in the environment as an end in itself, however, within the context of resource exploitation it does demonstrate a more appropriate framework to approach transition. The prosecution mechanism has been underdeveloped and under-employed, presenting serious deficits since it does not enable coverage to the most common issues related to the environmental, for instance by demanding personal use of the environmental exploration. It is relevant to highlight that the deficiencies presented derive not only from an anthropocentric perspective, but from the underdevelopment of the field. Addressing environmental harm during and after conflict is necessary not only to allow the people to subsist – either from a recovered environment or from the natural available resources – but also to suffocate the conflict by eliminating the sources that sustain it.

In the case of DRC, the analysis demonstrated that the natural resources element of the conflict is a component that strengthens and prolongs the conflict, which theoretically was officially over more than 16 years ago. However, due to its nature, exploitation operates as a burning ash that can at any moment set fire in conflict again. Thus, allowing natural resources exploitation to happen in the same rivalry and transnational manner as before, the potential tension remains. Concerning the mechanisms to attenuate and control the effects of natural exploitation, especially the criminal law framework allows warring parts –internal and international – to remain unpunished, both big and small perpetrators, perpetuating conflict as well as exploitation. Despite the many pioneer efforts that were done in terms of recognizing the specificities of

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congo> accessed 10 March 2020; <www.un.org/press/en/2019/sc13662.doc.htm> accessed 10 March 2020).

[57] "Killings and violence targeting ethnic group in DR Congo 'may amount to crimes against humanity'" <news.un.org/en/story/2020/01/1055141> accessed 10 March 2020.

[58] "In 2018, the intensified activity by non-State armed actors, as well as the military operations in response thereto, contributed to an increase in the number of documented cases of conflict-related sexual violence. Non-State armed groups, using sexual violence to enforce control over illicit economic activities, including the exploitation of natural resources, were responsible for most cases." <www.un.org/sexualviolenceinconflict/countries/democratic-republic-of-the-congo/> accessed 13 March 2020. "DR Congo army will remove 2,000 illegal miners from Glencore site" <www.aljazeera.com/ajimpact/dr-congo-army-remove-2000-illegal-miners-glencore-site-190702163153141.html> accessed 16 March 2020.

country's vast natural resources in the conflict, the legal and institutional mechanisms available did not prioritize change, allowing conflicting factors to remain untouched.

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ENVIRONMENTAL RIGHTS AND CRIMINAL PROTECTION: THE DIALOGUE BETWEEN EU AND ECHR

By Edoardo Mazzanti[*]

Abstract

The European legal order generally puts quite a lot of trust in Environmental Crimes: albeit in different form and degree, indeed, both the European Union and the Council of Europe prescribe the use of Criminal Law to tackle serious environmental harm. After having outlined, first, the main features of EU Environmental Criminal Law (part., Dir. 2008/99/EC) and, subsequently, the scope of criminal obligations inferred from the European Court of Human Rights case-law on environmental matters (part., Artt. 2 and 8 ECHR), this work aims at briefly analyzing the convergence between the two legal systems, pointing out advantages, limits and opportunities for further development.

1 Preliminary remarks

The increasing concern for environmental issues at the European level is brightly mirrored by two tendencies: the stabilization of a human right to a healthy environment under the European Convention of Human Rights (ECHR), on the one side[1]; the recognition of the need of criminal protection of the environment under European Union (EU) Law, on the other[2]. This work aims at briefly analyzing the convergence between these two tendencies.

Traditionally, environmental protection policies may be divided into two broad areas: one that refers to the environment in an ecocentric way, another that refers to the environment in an anthropocentric way. In order to strike a comparison between EU Law and ECHR, the author hereby opts for the second perspective: indeed, while, at EU (criminal) level, environment appears to be protected both in an ecocentric and in an anthropocentric way[3], the Court of Strasbourg overtly refuses the recognition of a

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[1] On the established relationship between human rights and environment at the international level, Alan Boyle, 'Human Rights and the Environment: Where Next?' (2012) 23 EJIL 613; Louis J Kotzé and Erin Daly, 'A Cartography of Environmental Human Rights', in Emma Lees and Jorge E Vinuales, *The Oxford Handbook of Comparative Environmental Law* (OUP 2019) 1044; Dinah L Shelton, 'Legitimate and Necessary: Adjudicating Human Rights Violations Related to Activities Causing Environmental Harm or Risk' (2015) 6 JHRE 139.

[2] As correctly argued, the criminalization of environmental offenses «appears to be 'historically contingent' and coincides with the growing awareness about the importance of preserving environmental values and resources». Ricardo Pereira, *Environmental Criminal Liability and Enforcement in European and International Law* (Brill Nijhoff 2015) 48.

[3] Holding to Criminal Law, consider Directive 2008/99 of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through Criminal Law [2008] OJ L 328/28: according to Art. 3 *a*, each Member State should criminalize «*the discharge, emission or introduction of a quantity of materials or ionising radiation into air, soil or water, which causes or is likely to cause death or serious injury to any person or substantial damage to the quality of air, the quality of soil or the quality of water, or to*

'right to environment' as such and requires the danger to loom over a determined victim[4]. Thus, one may maintain the anthropocentric perspective represents the two legal systems' contact-point.

The work is structured as follows. Firstly, the author sketches out the basic features of the criminal obligations in the environmental field according, respectively, to the EU Law and to the ECtHR jurisprudence (§§ 2 and 3). Subsequently, the author analyzes the possible interplay between the two legal systems (§ 4), examining how the ECtHR has used the EU environmental legislation as a parameter to gauge the gravity of environmental offenses, on the one sense (§ 4.1); assessing to what extent the ECtHR case-law may guide the EU Legislator in implementing further harmonization of Environmental Criminal Law, on the other (§ 4.2). After outlining some of its current limits (§ 5), the author finally identifies an aspect in relation to which the interaction between EU and ECHR could improve the environmental protection standards within the European context (§ 6).

2 Environmental Criminal Obligations under EU Law

The relationship between the environmental sector and European Criminal Law (EUCL) is particularly strong[5]. The consolidation of EU competences in criminal matters, indeed, developed from cases related to the protection of the environment: notoriously, in two crucial judgements issued in the pre-Lisbon era, the Court of Justice (ECJ) established a link between the effective protection of the environment and the attribution to the Community of substantive Criminal Law competence[6]. In this sense, one could reasonably argue Environmental Criminal Law has had, within the EU context, a proper *constitutional* value[7]: the protection of the environment has been used

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animals or plants». Conversely, Directive 2009/123 of the European Parliament and of the Council of 21 October 2009 amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements [2009] OJ L 280/52 appears more focused on the protection of the environmental values (the quality of waters) as such.

[4] Cfr. *Kyrtatos v Greece*, App no 41666/98, 22 May 2003, § 52: «*Yet the crucial element which must be present in determining whether, in the circumstances of a case, environmental pollution has adversely affected one of the rights safeguarded by paragraph 1 of Article 8 is the existence of a harmful effect on a person's private or family sphere and not simply the general deterioration of the environment. Neither Article 8 nor any of the other Articles of the Convention are specifically designed to provide general protection of the environment as such*».

[5] On the 'two-ways' relationship between environment and EUCL, Grazia Maria Vagliasindi, 'The European Harmonization in the Sector of the Protection of the Environment through Criminal Law: the Results Achieved and Further Needs to for Intervention' (2012) 3 NJECL 321.

[6] Case C-176/03 *Commission v Council* [2005) ECR I-7879 (the so-called 'Environmental Crime' case, ended up with the annulment of the Council Decision Framework Decision 2003/80/JHA on the protection of the environment through Criminal Law [2003] OJ L 29/55); Case C-440/05 *Commission v Council* [2007] ECR I-9097 (the so-called 'Ship-source pollution' case, ended up with the annulment of the Council Framework Decision 2005/667/JHA to strengthen the criminal-law framework for the enforcement of the law against ship-source pollution [2005] OJ L 255/164).

[7] According to Michael Dougan, 'From the Velvet Glove to the Iron First: Criminal Sanctions for the Enforcement of Union Law', in Marise Cremona (ed), *Compliance and the Enforcement of EU Law* (OUP 2012), 74, the *direct* duty to criminalize certain infringements of EU provisions represents the more

to justify the conferral of Community competence to criminalize and, in turn, Criminal Law has been used as a means to achieve the effective implementation of Community objectives[8].

The ECJ case-law prompted the adoption of Dir. 2008/99/EC (the so-called 'Environmental Crime Directive', ECD)[9], which heavily draws from the annulled Framework Decision 2003/80/JHA[10] and still represents the main source of environmental criminal obligations under EU Law[11].

The act, aimed at defining Environmental Criminal Law's minimum standards within the EU context, is based upon two premises: the Community's concern for the rise in environmental offenses and their effects (rec. 2), on the one side; the opinion that the best compliance with the laws for the protection of the environment encompasses criminal penalties, which demonstrate a social disapproval of a qualitatively different nature compared to administrative and civil remedies (rec. 3), on the other. According to the ECD, Member States are obliged to enact nine types of offenses (Art. 3 *a-i*), generally oscillating between the harm and the concrete endangerment model[12]; the

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constitutionally recent and complex use of criminal penalties for the enforcement of substantive Union Law.

[8] Valsamis Mitsilegas, Malgosia Fitzmaurice and Elena Fasoli, 'The Relationship between EU Criminal Law and Environmental Law', in Valsamis Mitsilegas, Maria Bergström and Theodore Konstadinides (eds), *Research Handbook on EU Criminal Law* (EE Publishing 2016) 275. This view is perfectly reflected in the Conclusions by the Advocate General Colomer in Case C-176/03, where it is stressed that the power to impose criminal sanctions is conceived as an «*instrumental power in the service of the effectiveness of Community Law*». Michael Faure, 'The Implementation of the Environmental Crime Directives in Europe', in Kenneth J Markowitz (ed), *Proceedings from the 9th International Conference on Environmental Compliance and Enforcement* (Whistler 2011), 369, labels the ECD «an important step towards a truly European Environmental Criminal Law».

[9] See Michael Faure (n 8) 360; Id., 'The Revolution in Environmental Criminal Law in Europe' (2017) 35 VELJ 321 part at 344ff; Id., 'The Development of Environmental Criminal Law in the EU and its Member States' (2017) 26 RECIEL 139; Valsamis Mitsilegas, Malgosia Fitzmaurice and Elena Fasoli (see above) 283; Ricardo Pereira (n 2) part. 24ff, 172ff; Grazia Maria Vagliasindi, 'The EU Environmental Crime Directive', in Andrew Farmer, Michael Faure and Grazia Maria Vagliasindi (eds), *Environmental Crime in Europe* (Hart Publishing 2017) 31; Ead., 'The European Harmonization' (n 5) 323ff.

[10] See Proposal for a Directive of the European Parliament and of the Council on the protection of the environment through Criminal Law, COM [2007] 51.

[11] It should be noted that, except for possible connections with organized crime (eg., the so-called 'ecomafia'), the environment is not among the areas listed in Art. 83 § 1 of the Consolidated Version of the Treaty on the Functioning of the European Union [2009] OJ C 290 (TFEU); however, the protection of the environment can surely be encompassed in the areas which have been subject to harmonization measures under Art. 83 § 2. On this aspect, Giovanni Grasso, 'EU Harmonisation Competences in Criminal Matters and Environmental Crime', in Andrew Farmer, Michael Faure and Grazia Maria Vagliasindi (eds), *Environmental Crime in Europe* (Hart Publishing 2017) 21f, 27ff.

[12] In the first sense, eg., the discharge of a quantity of material which causes a substantial damage to the quality of the air; in the second, eg., the discharge of a quantity of material which is likely to cause that substantial damage. In general terms, however, the distinction between harm and endangerment offenses is highly connected with the *type* of the protected interest [see Rudolf Rengier, *Strafrecht Allgemeiner Teil* (CH Beck 2014), 50ff]: in this sense, it seems possible to technically conceive an

conduct should be unlawful (Art. 2)[13] and committed either with intention or at least with serious negligence (Art. 3); these offenses should be punishable by effective, proportionate and dissuasive criminal penalties (Art. 5)[14]. At the same time, Member States are obliged to ensure legal persons can be held liable in case one of the aforementioned offense is committed for their benefit by any person who has a leading position within the legal person (Art. 6); the penalties - albeit not necessarily criminal - should once again be effective, proportionate and dissuasive (Art. 7).

In sum, the ECD requires Member States to introduce criminal penalties for specific forms of conduct that cause/are likely to cause a serious detriment to the environment; on the other hand, however, Member States are left a wide margin of discretion as to the type of the penalties, their level and their application (rec. 10)[15].

3 Environmental Criminal Obligations under ECtHR case-law

Under the ECtHR case-law, the recognition of criminal obligations in the environmental field represents the merger of two distinct and, yet, connected trends. On the one side, stands the stabilization of a 'human right to environment', tied mostly — albeit not solely — to Artt. 2 and 8 ECHR[16]; this trend moves, in turn, from the emergence of the so-called positive obligations' doctrine[17], according to which not only should a State refrain from taking actions that could infringe human rights, but it

environmental crime as 'harm offense' only adhering to the ecocentric perspective and, thus, aiming at protecting the environment as an *autonomous* legal interest; conversely, if the protection of the environment is functional to the protection of human health (anthropocentric perspective), the related crime appears destined to assume the form of the endangerment.

[13] According to Art. 2 *a*, «*'unlawful' means infringing:* (i) *the legislation adopted pursuant to the EC Treaty and listed in Annex A; or* (ii) *with regard to activities covered by the Euratom Treaty, the legislation adopted pursuant to the Euratom Treaty and listed in Annex B; or* (iii) *a law, an administrative regulation of a Member State or a decision taken by a competent authority of a Member State that gives effect to the Community legislation referred to in (i) or (ii)*».

[14] As Michael Faure, 'The Implementation' (n 9) 365ff explains, *effectiveness* requires the penalty further the goals set by the legislature, *dissuasiveness* means sanctions should be of such type and magnitude that the expected costs are higher than expected benefits to the perpetrator and *proportionality* entails the more the protected values is endangered or harmed, the higher the level of the statutory penalty should be.

[15] For the different forms and degrees of implementation at state level, see Michael Faure, 'The Revolution' (n 9) 349ff; Annalisa Lucifora, 'Spunti di comparazione e nuove prospettive di armonizzazione nel diritto penale dell'ambiente: scelte di politica criminale e tecniche di tipizzazione' [2019] RTDPE 204ff.

[16] See *Manual on Human Rights and the Environment* (CoE Publishing 2012); Nicolas De Sadeleer, 'Enforcing EUCHR Principles and Fundamental Rights in Environmental Cases' (2012) 81 NJIL, 60ff; Id., *EU Environmental Law and the Internal Market* (Oxford University Press 2014) 94ff; Ole W Pedersen, 'The Ties that Bind: The Environment, the European Convention on Human Rights and the Rule of Law' (2010) 16 EPL 571; Elisa Ruozzi, *La tutela dell'ambiente nella giurisprudenza della Corte europea dei diritti umani* (Jovene 2011).

[17] However, as it will be said, despite the widespread application of positive obligations, the Court follows a case-by-case approach, expressly refusing to develop a general theory on this topic.

should also take the suitable measures to actively protect them[18]; failing to do so may amount to State liability under ECHR[19]. On the other side, stands the growing 'offensive role' acquired by Criminal Law[20], progressively evoked not only as menace to human rights but also as an instrument to secure their enjoyment[21]: when dealing with grave acts conflicting with fundamental rights, the Court maintains, an effective level of deterrence can only be achieved by the existence of effective Criminal Law provisions backed-up by an effective law enforcement machinery[22].

As for the environmental field[23], although remarking that neither Art. 2 ECHR nor any other provision entail «*the right for an applicant to have third parties prosecuted or sentenced for a criminal offense [...] or an absolute obligation for all prosecutions to result in conviction, or indeed in a particular sentence*», the Court poses on States a duty not to «*allow life-endangering offenses to go unpunished*» both in contexts of dangerous activities[24] and in

[18] See Jean-François Akandji-Kombé, *Positive Obligations Under the European Convention on Human Rights* (COE Publishing 2007); Laurent Lavrysen, *Human Rights in a Positive State. Rethinking the Relationship between Positive and Negative Obligations under the European Convention on Human Rights* (Intersentia 2016); Alastair R Mowbray, *The Development of Positive Obligations under the European Convention on Human Rights by the European Court of Human Rights* (Hart Publishing 2004).

[19] It must be noted that the distinction between state action and inaction is all but clear-cut and, therefore, potentially misleading: as recently argued, «the positive State will rarely be a purely passive bystander, but will typically be somehow involved in a human rights violation, even when it takes place within horizontal relations or within the private sphere […] the real question to be addressed is to what extent the positive State has contributed to a particular human rights violation, and whether it can provide a justification for such conduct - if not, it should be held accountable correspondingly». Laurent Lavrysen (n 18) 307.

[20] Françoise Tulkens, 'The Paradoxical Relationship between Criminal Law and Human Rights' (2011) 9 JICJ 577 part. at 582ff.

[21] See Andrew Ashworth, *Positive Obligations in Criminal Law* (Hart Publishing 2013), 196ff; Francesco Viganò, 'Les obligations de protection pénale des droits fondamentaux', in Geneviève Giudicelli-Delage, Stefano Manacorda and Juliette Tricot (eds), *Devoir de punir? Le système pénal face à la protection internationale du droit à la vie* (UMR de Droit Comparé de Paris 2013) 59ff; Stefano Manacorda, ''Devoir de punir?' Les obligations de protection pénale à l'heure de l'internationalisation du droit', *ibidem*, 21ff; Anna Maria Maugeri, 'Fundamental Rights in the European Legal Order, both as a Limit on Punitive Power and as a Source of Positive Obligation to Criminalize' (2013) 4 NJECL 374.

[22] Notably, *Osman v United Kingdom*, App no 23452/94, 28 October 1998, § 115; more recently, *O'Keeffe v Ireland*, App no 35810/09, 28 January 2014, § 148.

[23] See Kathia Martin-Chenut and Camila Perruso, 'La contribution des systèmes régionaux de protection des droits de l'homme à la penalisation des atteintes à l'environnement', in Laurent Neyret (ed), *Des écocrimes à l'écocide: le droit pénal au secours de l'environnement* (Bruylant 2015), 39, part. 52ff; Edoardo Mazzanti, 'Violazione di diritti umani e responsabilità dello Stato. La prevenzione dei disastri come 'alternativa' al diritto penale' [2016] Crim, 478f; Valeria Scalia, 'The European Court of Human Rights and Environmental Crime', <efface.eu/sites/default/files/EFFACE_ECtHR%20and%20Environmental%20Crime.pdf> last accessed 4 February 2020; Donato Vozza, 'Historical Pollution and Human Rights Violations: Is There a Role for Criminal Law?', in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017) 410ff.

[24] *Öneryildiz v Turkey* [GC] App no 48939/99, 30 November 2004, § 91ff.

contexts of natural calamities[25], even when loss of life hasn't eventually occurred[26]. The focus on threats to human life instead of the environmental damages *per se* reflects the anthropocentric perspective adopted by the ECtHR. Yet, at a second glance, the link between life-endangering offenses and environmental protection through Criminal Law emerges clearly: in the leading-case *Öneryildiz*, while shaping the state positive obligations to protect people's right to life in context of dangerous activities, the Court quotes the Council of Europe (CoE) Strasbourg Convention 1998[27], assuming that «*it is very much in keeping with the current trend towards harsher penalties for damage to the environment, an issue inextricably linked with the endangering of human life*»[28]. In this sense, it is worth considering that, for criminal duties to be triggered, the Court seems to require both a *systematic* control failure by the State and the *collective* nature of the risk[29]: these elements recall two typical features of environmental crimes *stricto sensu* and, at the same time, helps distinguishing the environmental field from nearby areas (eg., medical negligence) where remedies different from Criminal Law have been repeatedly declared satisfying[30].

In a human rights-based perspective, thus, the protection of human life in context of natural/man-made disasters and the protection of the environment substantially overlap; if the personal integrity of more than one individual was seriously put at risk by the systematic failure of the competent national authority, the State should adopt criminal sanctions capable of reflecting the gravity of the consequences involved.

4 A two-fold interplay

Despite the long-standing dynamic interaction between EU and ECHR in the field of human rights' protection[31], in environmental matters there's said to be a 'thundering silence', a departure from an otherwise cooperative disposition between the two legal systems and, in particular, between the two Courts[32]. However, against this silent backdrop, Criminal Law tries and speaks up: in dealing with criminal obligations

[25] *Budayeva and others v Russia*, App nos 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02, 20 March 2008, §138ff.

[26] *Kolyadenko and others v Russia*, App nos 17423/05, 20534/05, 20678/05, 23263/05, 24283/05 and 35673/05, 28 February 2012, § 151.

[27] Convention on the Protection of the Environment through Criminal Law, Strasbourg 4 November 1998, ETS no 172. See Michael Faure, 'The Revolution' (n 9) 342ff; Ricardo Pereira (n 2) 15ff

[28] *Öneryildiz* (n 24) § 61.

[29] Dimitris Xenos, 'Asserting the Right to Life (Article 2, ECHR) in the Context of Industry' (2007) 8 GLJ 250.

[30] Eg., lately, *Lopes de Sousa Fernandes v Portugal* [GC] App no 56080/13, 19 December 2017, § 215ff.

[31] As authoritatively put by Judge Koen Lenaerts, President of the Court of the Justice of the European Union (CJEU), both have the meaning and the scope of rights recognized in the EU Charter of Fundamental Rights (EUCFR) been directly influenced by the ECHR, and has the ECtHR relied upon the EUFCR to update the content of the Convention rights (*Annual Report European Court of Human Rights* [2018] 33).

[32] Ilina Cenevska, 'A Thundering Silence: Environmental Rights in the Dialogue between the EU Court of Justice and the European Court of Human Rights' (2016) 28 JEL 323.

related to the protection of the environment, in fact, an opposite, double-viewed tendency has recently shyly emerged.

4.1 EUCL supporting ECtHR reasoning

The Court of Strasbourg has always drawn inspiration from the law and practice of different legal orders; in particular, having a closer look at the ECtHR case-law, one could notice that, in recent years, the references to EU Law have significantly grown in number and importance; these references, although not explicitly called back in the reasoning, surely help to enhance the legitimacy of the ECtHR decision[33].

This phenomenon can be spotted in a case concerning a charge for serious environmental crimes flowing from the *Prestige* shipwreck[34]. After the tremendous event, the captain was detained for 83 days and granted provisional release when his bail was paid by the shipowner's insurers; he nonetheless filed an application in Strasbourg, complaining the amount of the bail had been disproportioned and, therefore, had infringed his right to liberty (Art. 5 § 3 ECHR)[35]. The ECtHR, nevertheless, declares there has been no violation, in the belief that Contracting Parties may adjust the length of pre-trial detention and the amount of permissible bail according to the particular circumstances of the specific case. One of these circumstances, here, is the «*growing and legitimate concern both in Europe and internationally in relation to environmental offenses*», manifestly mirrored by the tendency «*to use criminal law as a means of enforcing the environmental obligations imposed by European and international law*»[36].

This judgement is particularly significant for three reasons. Firstly, in agreeing with the findings of the domestic courts - based on «*the serious nature of the offense and the public outcry caused*»[37] - the Court validates the arguments in favor of the use of criminal sanctions against the threats to the environment[38]. Secondly, with the reference to the

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[33] Tobias Lock, 'The Influence of EU Law on Strasbourg Doctrines' (2016) 41 ELR 805f, 811; Begüm Belak Uygun, 'CJEU and ECtHR: Two Sides of the Same Coin or Different Currencies?' (2017) 14 HRR 10ff; before the Lisbon Treaty, Sionaidh Scott-Douglas, 'A Tale of Two Courts: Luxembourg, Strasbourg and the Growing European Human Rights *Acquis*' (2006) 43 CMLR 640ff.

[34] In November 2002, the ship *Prestige*'s hull sprang a leak and discharged 70,000 tonnes of fuel-oil into the Atlantic Ocean. The oil-spill caused an ecological disaster whose effects on marine flora and fauna lasted for several months and spread along the Spanish and the French coast. The captain was eventually convicted with two years of imprisonment for aggravated environmental crime committed with negligence (*delito imprudente contra el medio ambiente en la modalidad agravada de daños catastrófico*) (TS 14 January 2016, n 865/2015).

[35] «*Everyone arrested or detained in accordance with the provisions of paragraph 1 (c) of this Article shall be brought promptly before a judge or other officer authorized by law to exercise judicial power and shall be entitled to trial within a reasonable time or to release pending trial. Release may be conditioned by guarantees to appear for trial*».

[36] *Mangouras v Spain* [GC] App no 12050/04, 28 September 2010, § 86.

[37] *Mangouras* (see above), § 82.

[38] In particular, the general/specific deterrence and the unique capacity of criminal sanctions to express moral outrage. Emma Lees, 'Environmental Law and Criminal Law', in Emma Lees and Jorge E

«*public outcry caused*» by the disaster, the Court uncommonly embraces a *subjective*[39] and, above all, *collective* declination of environmental deterioration. Finally - and more importantly for present purposes - in explicitly mentioning Dir. 2008/99/EC within the 'Relevant Law' section[40], the Court establishes a clear link between EU and ECHR, underpinning the existence of a European *consensus*[41] about the need to fight environmental damages with Criminal Law.

4.2 ECtHR case-law supporting EUCL reform

Harmonization is a key-feature of EUCL, in general, and of European environmental Criminal Law, in particular[42]: not only has the ECD represented the first Criminal Law harmonization act within the Community, but, «in pursuing the objective of ensuring the protection of the environment through the elimination of discrepancies among national criminal laws», the European harmonization in the sector of criminal protection of the environment «constitutes a factor of potential renewal of environmental criminal laws of the Member States»[43]. Indeed, while remarking the seminal role played by the ECD, several Authors underline the need to further the harmonization of Environmental Criminal Law at EU level, especially as regards type and levels of sanctions, either through Art. 83 TFEU[44] or, more likely, through the development of common sentencing guidelines[45].

In this light, the ECtHR case-law may provide a precious guidance to the EU Legislator. In general terms, the Humanitarian Rights Law contribution to the EU Law in environmental matters is highly heterogeneous and can be explained in terms of confirmation, conflict or complement; this last kind of interaction, in particular, comes

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Vinuales (see n 1), 1121f; Jacob Öberg, 'Criminal Sanctions in the Field of EU Environmental Law' (2011) 2 NJECL 405ff; Ricardo Pereira (n 2) 56ff.

[39] Armelle Gouritin, *EU Environmental Law, International Environmental Law and Human Rights Law: the Case of Environmental Responsibility* (Brill Nijhoff 2016) 167, 174.

[40] *Mangouras* (n 36) § 40.

[41] See Tobias Lock (n 33) 817ff.

[42] Ricardo Pereira (n 2) 141ff. The Author, however, distinguishes between various models (unification, approximation, coordination), remarking that, at its strongest degree (unification), the process of harmonization might be considered incompatible with the principles of necessity and subsidiarity. It is not surprising, thus, in paving the way for an European common criminal core, the Stockholm Programme declares «*a certain level of* approximation *of laws is necessary to foster a common understanding of issues among judges and prosecutors*» (emphasis added) [*The Stockholm Programme - An Open and Secure Europe Serving and Protecting the Citizens* (Bruxelles), 2 December 2009), 28].

[43] Grazia Maria Vagliasindi (n 5) 321.

[44] Giovanni Grasso (n 11) 28; Annalisa Lucifora (n 15) 234ff; Grazia Maria Vagliasindi, 'The European Harmonization' (n 5) 330f; Ead., 'The EU Environmental' (n 9) 51f.

[45] Andrew Farmer, Michael Faure and Grazia Maria Vagliasindi, 'Environmental Crime in Europe: State of Affairs and Future Perspectives', in Andrew Farmer, Michael Faure and Grazia Maria Vagliasindi (eds), *Environmental Crime in Europe* (Hart Publishing 2017), 321. The Authors, albeit taking the Art. 83 TFEU procedure into consideration, underline the approximation of criminal penalties for all environmental crimes covered by the ECD is not uncontroversial and might not find the necessary political *consensus* within the EU legal bodies.

into play when, being EU Law provisions either unclear or vague, the ECHR contributes to interpret or complete them[46]. In that sense, as accurately argued, «it is possible to draw a kind of 'integrated restrictions' table', built-up from the limitations established by the ECtHR jurisprudence», which «certainly represents a good reference point for the application of the criminal policy principles of necessity, proportionality and effectiveness» for a future Environmental Criminal Law reform[47]. On this point, it's worth noting that this very suggestion has been subsequently picked by the EnviCrimeNet Report 2016, which, in stressing the need to enhance the European criminal enforcement against the environmental harm, explicitly recalls the ECtHR case-law on Artt. 2 and 8 ECHR[48].

One could fear this mutual support between ECHR and EU in the field of criminal obligations would lead to an uncontrollable over-criminalization; it is reasonable to believe, however, that the safeguards patiently erected by the Court of Justice could mitigate the risk that «the Union's obsession with constructing a politically palatable framework for the adoption/imposition of criminal sanctions [distracted] attention from the imperative of offering adequate and consistent standards of judicial protection for accused persons»[49].

5 Currents Limits

Although certainly promising, this reciprocally supportive interplay currently encounters limits of various kind.

First of all, EU and ECHR grant the environment a different legal extent: although *par ricochet*, the latter can now be said to encompass a proper *right* to environment[50]; the EU Charter, on the contrary, treats the environmental protection merely as a principle[51], being «careful not to specify any beneficiary of the environmental policy and [conferring] any right in the sense of an individual entitlement guaranteed to the victims of pollution»[52]. This difference goes along with a general lack of coordination

[46] Armelle Gouritin (n 39) 5f; previously, with specific attention to the problems flowing from the blurring boundaries between Criminal and Administrative Law in environmental liability, Michael Faure and Armelle Gouritin, 'Blurring Boundaries between Administrative and Criminal Enforcement of Environmental Law', in Francesca Galli and Anne Weyembergh, *Do Labels still Matter? Blurring Boundaries between Administrative and Criminal Law. The Influence of the EU* (ULB 2014) 127ff.

[47] Valeria Scalia (n 23) 24.

[48] EnviCrimeNet, *Report on Environmental Crime* (The Hague, 27 May 2016) 6.

[49] The wording, although not expressly connected with environmental matters, belongs to Michael Dougan (n 7) 127.

[50] As said before, according to the ECtHR, the right to environment is necessarily tied up to the *individual* health and well-being of the applicant. Besides the Authors at n 16, see, for instance, *Fadeyeva v Russia*, App no 55723/00, 9 June 2005, § 79ff; *Dubetska and Others v Ukraine*, App n 30499/03, 10 February 2011, § 105.

[51] Elisa Morgera and Gracia Marin Durán, 'Article 37', in Steve Peers, Tamara Hervey, Jeff Kenner and Angela Ward (eds), *The EU Charter of Fundamental Rights. A Commentary* (Hart Publishing 2014) 984.

[52] Nicolas De Sadeleer, 'EU Environmental Law' (n 16) 109; analogously, Marco Tulio Reis Magalhães, 'The Improvement of Article 37 of the EU Charter of Fundamental Rights. A Choice between an Empty

between the CJEU and the ECtHR: their mutual references to each other's jurisprudence in environmental matters, in fact, not only are few[53], but also mostly hooked on *rules* and *principles* rather than *rights*[54].

The imbalance becomes even more pronounced on the criminal playground. In the one sense, it has been argued that the ECtHR generally fails to fully complement EUCL. Consider, for instance, the problems related to the causal link: the ECD is totally vague on the probability degree required to establish the causal link between a certain conduct and an environmental damage; the ECtHR, however, with its case-by-case approach[55], does not help to fill this gap[56]. Nor could the ECtHR, in case the defendant State was a member of the EU, assess its compliance with EU environmental criminal obligations, given that the so-called doctrine of the 'equivalent protection'[57] only applies if Member States are not given discretion when implementing EU precepts[58], which, as previously noted (see § 2), does not happen with the ECD. In the other sense, EUCL - and the ECD in particular - does not seem to fully reflect the principles set out by the ECtHR in the pertinent case-law. Cross-checking the most important decisions, it emerges that the ECtHR considers Criminal Law an important tool to address environmental human rights violations, but neither the only[59] nor the first one to deploy[60]. A discrepancy can be clearly spotted here: indeed, whereas the ECtHR seems

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Shell and a Test Tube?', in Jerzy Jendrośka and Magdalena Bar (eds), *Procedural Environmental Rights: Principle X in Theory and Practice* (Intersentia 2017) 110: «neither a literal and grammatical interpretation nor a teleological, historical and systematic interpretation leads to the conclusion that the catalogue provides a right or freedom regarding environmental protection»; Ludwig Krämer, *EU Environmental Law* (Sweet and Maxwell 2017) 143, believes «this provision is rather misleading, as it is not clear in what sense such a formula which largely corresponds to Art. 11 TFEU, creates 'rights'».

[53] Nicolas De Sadeleer, 'EU Environmental Law' (n 16) 122.

[54] Ilina Cenevska (n 32) 323.

[55] It has been lately observed that the Court often mentions the «'real' and 'immediate' risk test» originally forged in *Osman* (n 22) without clarifying neither the meaning of the concepts nor their application to the concrete circumstances of the case (Vladislava Stoyanova, 'Causation between State Omission and Harm within the Framework of Positive Obligations under the European Convention on Human Rights' (2018) 18 HRLR 339). This ambiguity is particularly evident in environmental cases falling under Art. 8 ECHR, when the degree of probability of the occurrence of the alleged danger is at stake.

[56] Armelle Gouritin (n 39) 174, 350.

[57] Notably, *Bosphorus Hava Yollari Turizm ve Ticaret Anonim Sirketi v Ireland* [GC], App no 45036/98, 30 June 2005, § 155f.

[58] Armelle Gouritin (n 39) 21.

[59] The Court explicitly defines 'primary' the state duty «*to put in place a legislative and administrative framework designed to provide effective deterrence against threats to the right to life […] This obligation indisputably applies in the particular context of dangerous activities, where, in addition, special emphasis must be placed on regulations geared to the special features of the activity in question, particularly with regard to the level of the potential risk to human lives*» [*Öneryildiz* (n 24) § 89f; *Budayeva* (n 25) § 129ff].

[60] For a detailed assessment of the 'preventative machinery' States are required to put in place, see Laurent Lavrysen (n 18) 118ff; Letizia Seminara, 'Risk Regulation and the European Convention on Human Rights' [2016] EJRR, 740ff; with specific attention to the risks stemming from industrial activities, Dimitris Xenos (n 29) 239ff.

to demand an integrated approach between all types of preventive measures, the ECD, on the opposite, shows an over-reliance on Criminal Law, without clarifying its relationships with other regimes and without any attempt to look for alternatives[61].

Finally, in a broader perspective, it must be stressed that, notwithstanding the growing tendency to embrace a human rights-based approach to criminal justice[62], striking a parallel between the human right to environment and the duty to criminalize is far from straightforward. As persuasively argued, «Criminal Law is not necessarily the alpha and the omega of human rights protection»[63]: there's not a full correspondence between the respective types of victims, both because becoming a victim of crime does not automatically constitute a human rights violation[64], and, symmetrically, because a suspected human rights violation is not necessarily to be addressed with Criminal Law[65]. This last assertion is particularly fitting with environmental ECtHR case-law based on Art. 2 ECHR[66]: not only does the Court generally refuse an unconditioned 'right to criminal protection' in context of both natural calamities[67] and industrial pollution[68]; it also declares that, when the environmental circumstances that led to a death are not confined within the knowledge of public officials, the State is not required to start a (criminal) investigation on its own motion[69].

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[61] Michael Faure, 'The Development' (n 9) 142; similarly, although in *de jure condendo* perspective, Grazia Maria Vagliasindi, 'The EU Environmental' (n 9) 55; Federico Consulich, '*Il giudice e il mosaico*. La tutela dell'ambiente, tra *diritto* dell'Unione e *pena* nazionale' [2018] LP 7ff, stresses that the EU 'unreasonable preference' for the criminal option «without any comparative analysis with other types of penalties» reflects the significant divide between EUEnvCL and the more developed continental Criminal Law grammar; in broader terms, on the advantages of administrative/criminal combination, Michael Faure, 'Environmental Crime', in Nuno Garoupa (ed), *Criminal Law and Economics* (EE Publishing 2009) 320 part. 326ff.

[62] As for the EU, see, lately, the Report by the Special Adviser Joëlle Milquet, *Strengthening Victims' Rights: from Compensation to Reparation. For a New EU Victims' Rights Strategy 2020-2025* (2019) part. 14f.

[63] Laurent Lavrysen (n 18) 125.

[64] As correctly pointed out by Marc Engelhart, 'Victims and the European Convention on Human Rights', in Gabrio Forti, Claudia Mazzucato, Arianna Visconti and Stefania Giavazzi (eds), *Victims and Corporations. Legal Challenges and Empirical Findings* (Wolters Kluwer 2018), 118, «there must in addition be some (missing) State action that hinders the victim in dealing with his situation as a victim».

[65] As for the violation of Art. 2 ECHR in case of unintentional killings, see *Calvelli and Ciglio v Italy* [GC] Appl no 32967/96, 17 January 2002, § 51; *Vo v France* [GC] App no 53924/00, 8 July 2004, § 94. Apropos, it has been thoroughly explained that an overreach in criminal duties may end up transfiguring Criminal Law basic features: Vico Valentini, 'European Criminal Justice and Continental Criminal Law. A Critical Overview' (2011) 1 EUCLR 192, severely claims that the shift from an offender-centered to a victim-centered criminal justice paradigm obliges «the State apparatus to embrace a logic significantly different from the one imposed by the principle of subsidiarity and *extrema ratio*»; similarly, Stefano Manacorda (n 21) 49ff.

[66] In claims under Art. 8 ECHR, viceversa, the Court never invokes the recourse to Criminal Law. For a seeming openness in this sense, see Valeria Scalia (n 23) 16f.

[67] *Murillo Saldias and Others v Spain*, App no 76973/01, 28 November 2006.

[68] *Smaltini v Italy*, App no 43961/09, 16 April 2015, § 52ff.

[69] *Brincat and Others v Malta*, App no 60908/11, 62110/11, 62129/11, 62312/11, and 62338/11, 24 October 2014, § 124ff, in matter of exposure to asbestos. All the same, the Court declares violation of Artt. 2 and

6 Looking for further interaction

The perpetual dialogue between EU and ECHR makes it impossible to draw conclusions of any kind. At this time, one could simply recognize both EU and ECHR, albeit in different forms, prescribe the use of Criminal Law to tackle serious environmental harm; in spite of the aforementioned contact points, though, the coordination between the two still appears deficient.

However, notwithstanding the current deficiencies, there seems to be room for future developments. One possible ground for further interaction is that of procedural environmental rights[70], considering it is on this very issue the respective Courts have up to now proved more forthcoming[71].

Procedural environmental rights, notoriously carved in the Aarhus Convention[72], refer to access to environmental information, public participation in environmental decision-making and access to justice; besides increasing participatory democracy[73], they represent a vital tool to monitor the compliance with Environmental Law and grant protection to victims of environmental harm, both effective and potential[74]. However, the system currently appears in need of further improvements: while, in general terms,

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8 ECHR in its substantial limb, having the State failed to legislate and take other practical measures apt to protect the people under exposure.

70 At a substantive level, instead, one may think about the intertwined cases stemming from the so-called 'waste crisis' happened in Campania (Italy) since the '90: in 2012, in particular, the ECtHR declares the violation of Art. 8 ECHR because of «*the protracted inability of the Italian authorities to ensure the proper functioning of the waste collection, treatment and disposal service adversely [affecting] the applicants' right to respect for their homes and their private life*» (*Di Sarno and Others v Italy*, App no 30765/08, 10 April 2012, § 112); in corroborating its decision, the ECtHR expressly quotes a CJEU judgement [Case C-297/08 *Commission v Italy* (2008) 2010 I-01749] holding Italy liable for insufficient implementation of some EU directives on the quality of the air and the soil [*Di Sarno* (see above), § 55f, 111].

71 Ilina Cenevska (n 32) 323.

72 Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, done at Aarhus, Denmark, on 25 June 1998. The EU Member States are all Party to the Convention, and so is the EU in its entirety (see Council Decision 2005/370/EC of 17 February 2005 on the conclusion, on behalf of the European Community, of the Convention on access to information, public participation in decision-making and access to justice in environmental matters, OJL 124, 17.5.2005; Regulation (EC) No 1367/2006 of the European Parliament and the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access Information, Public participation in Decision-making, and Access to Justice in Environmental Matters to Community institutions and bodies, OJL 264, 25.9.2006).

73 On the linkage between participation and environmental enforcement, Giuseppe Rotolo, 'Deliberative Democracy and Environmental Law Enforcement', in Toine Spapens, Rob White and Wim Huisman (eds), *Environmental Crime in Transnational Context. Global Issues in Green Enforcement and Criminology* (Routledge 2016) 174, part at 182ff.

74 See, miscellaneously, Áine Ryall, 'Access to Justice in Environmental Matters in the Member States of the EU: the Impact of the Aarhus Convention' [2016] Jean Monnet Working Papers; Ludwig Krämer, *EU Environmental Law* (n 52) 141ff; Id., 'The EU and Public Participation in Environmental Decision-Making', in Jerzy Jendrośka and Magdalena Bar (eds), *Procedural Environmental Rights* (n 52) 121.

EU compliance mechanisms with the Aarhus Convention still prove incomplete[75], the EU legislation encompassing criminal penalties for the infringement of Environmental Law mainly concentrates on offenses and substantially neglects the *status* and rights of victims[76].

On this issue, some help may be provided by the Strasbourg case-law: in recent years, indeed, the ECtHR has taken the opportunity to apply and develop its idea of a 'system of effective control' on cases concerning environmental matters[77], inferring a conspicuous range of *procedural* rights from both Art. 2 and Art. 8[78] which, although not necessarily exercised within criminal trials, equally aim at preventing environmental impairment and victimization[79]. In this scenario, since EU Law now explicitly regulates many procedural victims' rights[80] while the ECHR still remains their backbone, the dialogue between the two legal orders may lead to an improvement also in the environmental rights' enforcement at European level, paving the way for a 'victim-friendly' - yet, not 'victim-oriented' - environmental criminal justice system[81].

The road towards a higher level of environmental protection within Europe appears long and winding; an enhanced coordination between EUCL and the ECtHR represents one possible good point serving the cause.

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[75] See, in particular, the Aarhus Compliance Committee report published in March 2017 (*Findings and Recommendations of the Compliance Committee with Regard to Communication ACCC/C/2008/32 (part II) Concerning Compliance by the European Union*, available at <www.unece.org/fileadmin/DAM/env/pp/compliance/CC-57/ece.mp.pp.c.1.2017.7.e.pdf>, last accessed 16 February 2020).

[76] Gabrio Forti, 'Introduction', in Gabrio Forti, Claudia Mazzucato, Arianna Visconti and Stefania Giavazzi (eds), *Victims and Corporations* (n 64) 13; analogously, Armelle Gouritin (n 39) 240.

[77] See Robert Esser, 'Procedural Environmental Rights in the Jurisprudence of the European Court of Human Rights and their Impact on Criminal Law Procedure', in Jerzy Jendrośka and Magdalena Bar (eds), *Procedural Environmental Rights* (n 52) 61.

[78] Art. 6 ECHR, instead, provides much more procedural guarantees to the accused than to victims [Marc Engelhart (n 64), 125]. On the need to balance the competing rights in environmental cases, Robert Esser (n 77) 76f; in general contexts, Stefano Manacorda (n 21) 53ff; Anna Maria Maugeri (n 21) 387ff; Françoise Tulkens (n 20) 593ff.

[79] In that sense, for instance, the ECtHR has pointed-out that Government failure to comply with a domestic court decision annulling the permits of a goldmine (*Taskin and Others v Ukraine* App no 46117/99, 10 November 2004, § 118ff) or to inform the population about its potential impact on the public health (*Tatar v Romania* App no 67021/01, 6 July 2009, § 113ff) integrate violations of procedural environment (human) rights; symmetrically, the involvement of the public in the plan-approval procedure of a nuclear waste repository consolidates the right to participate of the people hypothetically affected and, therefore, does not constitute a ECHR infringement (*Traube v Germany* App no 28711/10, 9 September 2014, § 32f).

[80] See now Directive 2012/29/EU of the European Parliament and of the Council of 25 October 2012 establishing minimum standards on the rights, support and protection of victims of crime, and replacing Council Framework Decision 2001/220/JHA, [2012] OJ L 315/57.

[81] In the context of so-called 'corporate violence', see Marc Engelhart (n 64) 131ff; previously, in broader terms, Mitja Gialuz, 'Victim's Protection in the Case Law of the European Court of Justice and the European Court of Human Rights', in Luca Lupária (ed), *Victims and Criminal Justice: European Standards and National Good Practices* (Wolters Kluwer 2015) 31.

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INTER-AMERICAN COURT OF HUMAN RIGHTS' ADVISORY OPINION OC-23/17: ANALYSIS OF SAFEGUARDED RIGHTS IN ENVIRONMENTAL CRIMINAL LAW

By Gonzalo Guerrero[*]

Abstract

The growing awareness of environmental degradation and its effects have revealed several scientific, moral, social and cultural consequences, which have been also accompanied by the development of legal theories and legislative changes. In this context, as it usually occurs when social problems reach transcendence, the intervention of criminal law seems to be unavoidable: in numerous countries there has been an expansion of environmental crimes. To contribute to the discussion on the subject, this paper has a double objective. On the one hand, the safeguarded rights protected by environmental crimes in Latin American legislations will be analysed. On the other hand, considering that analysis, the impact of the Advisory opinion 23/17 of the Inter-American Court of Human Rights on this matter will be presented. In order to do this, first, the developed theories about the legal interest protected by environmental crimes will be briefly presented. Secondly, the legal and constitutional framework of some Latin American countries will be studied and, finally, the relevant conclusions reached by the Inter-American Court of Human Rights in the Advisory Opinion 23/17 will be mentioned.

1 Introduction

The growing awareness of environmental degradation and its effects have revealed several scientific, moral, social and cultural consequences, which have been also accompanied by the development of legal theories and legislative changes. This matter has been largely addressed by environmental law. Simultaneously, as it usually occurs when social problems reach transcendence, the intervention of criminal law seems to be unavoidable: in numerous countries there has been an expansion of environmental crimes.

Studying local legislations, it could be stated that there is consensus on the protection of the environment through criminal law. However, it remains unclear if the aim of this is to protect human life or the environment itself. The discussion about the environment as an autonomous legal interest could seem merely moral or philosophical but is also relevant considering the practical consequences that the possible answers imply.

If the value of the environment depends exclusively on its importance for human development, it would raise difficulties to justify the criminal law intervention in cases in which there are "no harmed people". Considering the most extreme positions, criminal law protection could be considered illegitimate, given that there is no

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degradation of any safeguarded right. Even if it is recognized as a legal interest, the extent of its recognition will determine if it should be protected through criminal law, considering the principles of proportionality and ultima ratio.

For instance, some problematic cases are the pollution of the atmosphere in uninhabited spaces or the degradation of the water that is not consumed or used, even when they are potentially useful for future generations. Another controversial case could be a landowner prosecuted for polluting the soil basing her defence on the lack of damage to other given that is her property. A more practical effect of this discussion is that prescribing the protection of the rights of nature or more abstract human rights (e.g. the right to a healthy environment) would be an advantage for prosecution, due to the avoidance of the difficulties of proving concrete damage or danger to human health.

To contribute to the discussion on the subject, this paper has a double objective. On the one hand, several Latin American legislations and national constitutions will be analysed in order to discuss which the safeguarded rights protected by environmental crimes are in those countries. On the other hand, taking into consideration that analysis, the impact of the Advisory opinion 23/17 of the Inter-American Court of Human Rights (IACtHR) on this matter will be presented. This Advisory opinion was the first opportunity in which the IACtHR has specifically addressed which the rights involved in environmental degradation are.

In order to do this, first, the developed theories about the legal interest protected by environmental crimes will be briefly presented. Secondly, the legal and constitutional framework of some Latin American countries will be studied and, finally, the relevant conclusions reached by the IACtHR in the Advisory Opinion 23/17 will be mentioned.

2 Legal interests in Environmental Crimes

The wide range of theories in relation with the legal interest protected by environmental crimes includes numerous particularities and detailed discussions. However, a thorough analysis of them clearly exceeds the purpose of this paper. So, with peril of falling into arbitrariness and simplifications, the theories will by classified into four categories.[1]

2.1 Anthropocentric Theories Focused on the Individuals

The first category is composed by those theories that could be classified as anthropocentric; they are focused on the individuals as the traditional starting point of legal frameworks in general. As we know, classic criminal law, related to the Enlightenment, had the objective of assuring the protection of individual rights: life

[1] Gustavo Eduardo Aboso, *Derecho Penal Ambiental* (BdeF 2018) 75-113.

and health.[2] The paradigm of this theory is the John Stuart Mill's harm principle, which holds that the actions of individuals should only be limited to prevent harm to other individuals.[3]

According to this theory, the environment could not be considered a safeguarded right itself, because it must only be protected for its functions for humanity. This means that the protection of the water or the soil is justified only by human needs.[4]

This point of view could be considered as the most concrete, because the only way to sanction someone is by corroborating that that person harmed other's health or life. Nevertheless, this corroboration could be extremely difficult in some circumstances that are usual in environmental crimes.[5] For instance, how could be proved that the damage suffered by inhabitants of a coastal villa is the consequence of waste dumped by a specific person or company when there are several companies or persons dumping waste into it?

These difficulties were tried to be solved by the criminalization of 'abstract endangerment' that punishes, not actual, but hypothetical, creation of risk to human lives.[6] According to that widely criticized theory, punishment is based on the risky conduct itself.

2.2 Theories Focused on Collective Interests.

The second group of theories is related to the recognition of supra-individual or collective interests and the recent -and not so recent- expansion of criminal law that have taken place associated to the growth of risks in modern societies.[7]

According to this perspective, the environment (usually due to the right to a healthy environment) is considered a supra-individual legal interest, given that it is there where human life is developed.[8] Comparing with the first group, although the human element is still present, these interests are independent of the individual rights. In fact,

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[2] Winfried Hassemer and Francisco Muñoz Conde, *Introducción a la Criminología* (Tirant Lo Blanch 1989) 108-9.

[3] John Stuart Mill, *On Liberty* (Batoche Books 2001) 13.

[4] Roland Hefendehl, '¿Debe ocuparse el Derecho penal de riesgos futuros? Bienes jurídicos colectivos y delitos de peligro abstracto' (2004) 25 Derecho Penal y Criminología 74.

[5] ibid 76.

[6] Robin Antony Duff and S E Marshall '"Abstract Endangerment", Two Harm Principles, and Two Routes to Criminalisation' (2015) 3 Bergen Journal of Criminal Law and Criminal Justice 131.

[7] Juan Pablo Montiel Fernández, 'Peripecias Político-criminales de la Expansión del Derecho Penal' in Julio B J Maier and Gabriela E Córdoba (eds), *¿Tiene un Futuro el Derecho Penal?* (Ad Hoc 2009) 135.

[8] Sebastián Felipe Sánchez Zapata, 'La protección penal del Medio Ambiente: análisis del artículo 338 del Código Penal colombiano (CP) sobre minería ilegal' (2013) 39 Diálogos de saberes 119 citing Jesús Maria Silva Sánchez, '¿Protección penal del medio ambiente? Texto y contexto del artículo 325 del Código Penal' (1997) 3 La Ley 1715.

these theories are compatible with several national constitutions, where the environment is explicitly recognized as a legal interest and its protection is claimed.[9]

This point of view can be clearly found in the argumentation through the 'principle of solidarity' that justifies the protection of the environment considering future generations.[10] Applying this principle, the punishment of environmental degradation could be based on the need of its conservation since the survival of next generations depends on it.

As other living beings have not legal autonomy or recognition, animal cruelty must be punished based on an ethic and social responsibility that people have towards other species.[11] This is criticized from both an anthropocentric and an animals-rights perspective. According to the first one, the punishment would be merely moralizing. From the latter point of view, the protection of animals without considering the protected object as autonomous could be understood as insufficient.[12]

Another point against these theories is that they lead to the creation of remote harm to humans, while it cannot be proved.[13] In concrete terms, if we recognize the right to a healthy environment, when should we considered that it is being affected? When this affection could be enough to justify criminal sanctions?

2.3 Ecocentric Theories

According to ecocentric theories, the legal protection aims not only to human life, but also to the integrity of the soil, the purity of water, the atmosphere, and the development of every organism on earth.[14] In fact, it is stated that the environment must be protected independently of its effects on human life, so environment undoubtedly reaches autonomy.[15]

Briefly, this conception is strongly held by the environmental ethics and the heterogenic ecologist movement. This movement had a strong impulse with the Stockholm Conference in 1972 from a legal perspective and in sum green parties are

[9] In all the studied countries the right to a healthy environment is recognized.
[10] Angela Williams, 'Solidarity, Justice and Climate Change Law' (2009) 10 Melbourne Journal of International Law 493.
[11] Gustavo Eduardo Aboso (n 1) 99.
[12] Eugenio Raúl Zaffaroni, *La Pachamama y el Humano* (Ediciones Madres de Plaza de Mayo 2012) 54.
[13] Gustavo Eduardo Aboso (n 1); Winfried Hassemer, 'Seguridad por intermedio del Derecho Penal' in JBJ Maier and GE Córdoba (Comps), *¿Tiene un Futuro el Derecho Penal?* (Ad Hoc 2009) 32.
[14] Mirentxu Corcoy Bidasolo, 'Delitos contra el Medio Ambiente, Ubanísticos y Contra el Patrimonio Histórico' in Mirentxu Corcoy Bidasolo and Víctor Gómez Martín (dirs), *Manual de Derecho Penal, Económico y de Empresa* (Tirant Lo Blanch 2016) 596; Eugenio Raúl Zaffaroni (n 12) 69.
[15] Sebastián Felipe Sánchez Zapata (n 8) 126; Corcoy Bidasolo (n 14) 597.

currently in nearly 90 countries,[16] while the Fridays For Future Movement calls for strikes all around the globe.

Although this position claims to be justified by the constitutional recognition of the environment, as it was stated, that recognition is usually based on human protection.[17] Other argumentations that were used to challenge this point of view are the difficulty to clearly define the environment and, also, that the acknowledgment in constitutions does not imply that protection by criminal law is mandatory, due to the ultima ratio principle.

2.4 Administrative Theories

Finally, there are the administrative theories. According to these, the administration, given the police power, has the faculty to regulate discretionally the elements that compose the environment, and the disobedience to these regulations justifies the criminal law intervention.[18]

Although examples of this can be found in national legislations,[19] for instance, sanctions for dumping waste without a permit, it was reasonably criticized since the mere disobedience of administrative law should be sanctioned by administrative law itself. So, after all, this kind of crimes must be based not only on the lack of compliance with those regulations, but also on the harm to people or the environment.[20]

3 Criminal Legislations in Latin America and Environmental Crimes

Now considering those theories, through a comparative analysis, the legal interests currently protected in the Latin American legislations will be discussed.[21] Previous to this, it must be clarified that the letter of the law might not be clearly enough to accurately determine which the protected legal interest is. If the law requires consequences over health or life, it can be considered anthropocentric. However, when it punishes mere environmental degradation, it could be discussed whether danger to human health is also required.

Considering that and given the explained theories, the legislations under analysis could be grouped into three classifications.

First, the most limited legislations are the cases of Chile, Argentina, and Uruguay, whose perspectives seem to be anthropocentric. These legislations mostly require human harm; punishment for environmental damage is highly exceptional.

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[16] According to the international network Global Greens. Full, associate and candidate members. Available at <www.globalgreens.org/member-parties> accessed 5 February 2020.

[17] As it will be shown, the exceptions are the cases of Bolivia and Ecuador.

[18] Gustavo Eduardo Aboso (n 1) 110.

[19] See 3 the cases of Paraguay and Dominican Republic.

[20] Mirentxu Corcoy Bidasolo (n 14) 599.

[21] Studied cases: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic and Venezuela

Chile's legislation includes a few crimes related to animal cruelty[22] and waste dumping;[23] however, it does not count with crimes that punish pollution without any consequence over people. Due to the lack of this kind of regulations, in 2016 the OECD and CEPAL recommended that Chile shall include environmental crimes for severe facts.[24]

In Argentina, the relevant sanctions are for polluting the environment in general, but only if it creates danger to human health.[25] In 2002 a law was passed criminalizing the pollution of the environment and the danger to other living beings by industrial waste.[26] However, it was finally vetoed by the president.[27]

Second, in the cases of Paraguay and Dominican Republic, their legislations could be understood under an administrative perspective. The criminal sanctions are for the lack of compliance with the administrative permissions and procedures regulated in relation with the environment.

The Dominican Republic case is extremely clear: the law 64-00, called General Law about Environment and Natural Resources, regulates the process of dumping, emissions, production in general and, after that regulation, it states that any violation to that law is a crime.[28] In Paraguay the sanctions are for emission of pollutants or waste above the allowed limits or without complying with the mandatory treatments.[29]

Third, in the rest of the cases (Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Nicaragua, Mexico, Peru, and Venezuela) the safeguarded rights are clearly not limited to human health or life; pollution of the water, soil or atmosphere or the emission of hazardous substances are punished when they cause or could cause harm to human health, and also when it cause or could cause harm to[30] animals,[31] biodiversity,[32] environment,[33] forests,[34] flora,[35] fauna,[36] soil,[37] atmosphere,[38]

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[22] Penal Code (PC) (Chile), art. 291 bis.
[23] Ley 20.920 (Chile), art. 44.
[24] Comisión Económica para América Latina y el Caribe (CEPAL)/Organización para la Cooperación y el Desarrollo Económicos (OCDE), *Evaluaciones del desempeño ambiental: Chile*, (2016) 122.
[25] Ley 24.051 (Hazardous Waste Act) (Argentina), arts. 55/56.
[26] Ley 25.612 (Integral management of industrial waste and service activities Act) (Argentina).
[27] Decreto 1343/2002 (Argentina).
[28] Ley 64-00 (Dominican Republic), arts. 174/175.
[29] PC (Paraguay), arts. 198/202.
[30] Although some of the protected legal interests could be considered synonyms or one included in another, they are listed maintaining their original denominations.
[31] Lei 9605/98 (Brazil), art. 54; Penal Code (PC) (Colombia), art. 330; PC (Nicaragua), art. 391; PC (Guatemala), art. 344.
[32] PC (Nicaragua), art. 365.
[33] PC (Colombia), art. 338; PC (Mexico), art. 414; PC (Peru), art. 304.
[34] Lei 9605/98 (Brazil), art. 38/39, PC (Guatemala), art. 347 "A".
[35] Lei 9605/98 (Brazil), art. 61; PC (Colombia), art. 330; Decreto Ejecutivo 22545/1993 (Wildlife Conservation Act) (Costa Rica) 94, 98 and 104; PC (Mexico), art. 414 and 417.

quality of water[39] and ecosystems.[40] In outstanding cases, it is even prescribed the protection of the touristic development of coastal regions[41] and the alteration of the natural and urban landscape, its perspective, beauty and panoramic visibility.[42]

In the case of these countries it remains unclear if the ultimate justification is the protection of collective interests or, as the ecologic perspective proposes, the rights of the nature itself. In order to answer this question, the constitutions of these countries will be analysed to discuss whether it is possible to justify it with an ecocentric perspective or if it should be done through individual or collective rights related to the environment.

4 National Constitutions in Latin America and Rights Related to the Environment and the Nature.

To begin this analysis, it is pertinent to make clear that the recognition of rights in the constitutions does not mean that protection through criminal law is mandatory. However, the way in which the environment is considered by the national constitutions is extremely illustrative to understand the importance and the hierarchy of the environment protection in relation with other rights and obligations.

All the constitutions recognize the right to a healthy environment,[43] although there could be differences in the level of detail. This could be understood as recognizing the environment as a collective legal interest. Dominican Republic does it explicitly[44] and, in a few cases, there are mentions to the protection of future generations.[45]

Most of them use the expression "All inhabitants are entitled to the right to a healthy and balanced environment" or similar[46] while others prescribe that it is the duty of the

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[36] Lei 9605/98 (Brazil), art. 29; Decreto Ejecutivo 22545/1993 (Wildlife Conservation Act) (Costa Rica) 94, 98 and 104; PC (Mexico), art. 414 and 417.

[37] PC (Colombia), art. 332; PC (Ecuador), art. 252; PC (El Salvador), art. 253, PC (Guatemala), art. 347 "A"; PC (Mexico), art. 414 and 417; PC (El Salvador), art. 255.

[38] PC (Colombia), art. 332; PC (El Salvador), art. 253; PC (Guatemala), art. 347 "A"; PC (Ecuador), art. 253; PC (El Salvador), art. 255.

[39] Ley 1333/92 (Bolivia), art. 107; PC (Colombia), art. 332; PC (El Salvador), art. 253; PC (Guatemala), art. 347 "A"; PC (Mexico), arts. 414 y 417.

[40] PC (Mexico), arts. 414 and 417.

[41] Environmental Criminal Act (Venezuela), Art. 89.

[42] PC (Nicaragua), art. 364.

[43] Art. 41, Argentina's Constitution (C); Art. 33 and 342/392, Bolivia's C.; Art. 225, Brazil's C.; Art. 19, Chile's C.; Art. 79, Colombia's C.; Art. 50, Costa Rica's C.; Art. 14/15 and 71, Ecuador's C.; Art. 117, El Salvador's C.; Art. 97, Guatemala's C.; Art. 4, Mexico's C.; Art. 60, Nicaragua's C., Art. 118/119, Panama's C.; Art. 7, Paraguay's C.; Art. 2, Peru's C.; Art. 66/67, Dominican Republic's C.; Art. 127/129, Venezuela's C.; Art. 47, Uruguay's C.

[44] Art. 67, Dominican Republic's C, stating that it is also an individual right.

[45] Argentina, Bolivia (art. 33), Brazil, Dominican Republic (art. 67), Venezuela, Uruguay.

[46] Argentina, Bolivia (art. 33), Brazil, Chile, Colombia, Costa Rica, Ecuador (art. 14), Mexico, Nicaragua, Paraguay, Dominican Republic (art. 66)

state to protect the environment.[47] The legal interest is usually defined as healthy and balanced environment[48] or pollution-free environment.[49] More specific references that can be found are to components of the environment (water,[50] atmosphere,[51] food,[52] natural resources,[53] natural and cultural heritage,[54] biological diversity,[55] fauna and flora[56]). There are also explicit prohibitions on the entry of hazardous waste,[57] chemical weapons[58] and banned agrochemicals.[59]

Another point that should be highlighted is the explicit references to criminal sanctions in the Brazilian and the Paraguayan constitutions, which mandate the establishment of environmental crimes.

Finally, the most outstanding cases are the constitutions of Bolivia and Ecuador, because they recognize rights to the nature, independently of its relationship with humankind.

The preamble of the constitution on Bolivia begins expressing that the mountains, the rivers, the lakes and the Amazonia pre-exist from ancient times and after that the Earth was populated. In addition, the constitution recognizes the right to a healthy environment not limited to humankind but also includes other living beings.[60] It also prescribes that environmental crimes are not subject to any statute of limitations.[61]

In the case of the Constitution of Ecuador, it recognizes not only the human right to a healthy environment but also autonomous rights of nature in articles 71 to 74:

> Article 71. Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes.

[47] El Salvador, Guatemala, Panama, Dominican Republic (art. 67).
[48] Argentina, Bolivia (art. 33), Brazil, Colombia, Ecuador (art. 14), Mexico.
[49] Chile.
[50] Mexico, Uruguay.
[51] Panama
[52] Panama.
[53] Argentina, Bolivia, Brazil, El Salvador, Mexico, Nicaragua, Dominican Republic (art. 67), Venezuela (art. 129).
[54] Argentina, Dominican Republic (art. 66).
[55] Argentina, Colombia, Costa Rica
[56] Brazil, Dominican Republic (art. 66).
[57] Argentina, Ecuador (art. 15), El Salvador, Paraguay, Dominican Republic (art. 67), Venezuela (art. 129).
[58] Ecuador (art. 15), Paraguay, Dominican Republic (art. 67), Venezuela (art. 129)
[59] Ecuador (art. 15).
[60] Art. 33, Bolivia's C.
[61] Art. 347, Bolivia's C.

> All persons, communities, peoples and nations can call upon public authorities to enforce the rights of nature. To enforce and interpret these rights, the principles set forth in the Constitution shall be observed, as appropriate.
>
> Article 73. The State shall apply preventive and restrictive measures on activities that might lead to the extinction of species, the destruction of ecosystems and the permanent alteration of natural cycles.

In conclusion, Bolivia and Ecuador seems to be the only countries that recognize rights to nature in their constitutions, consequently in the rest of the cases it appears to be necessary to justify the criminal law intervention with the right to a healthy environment.

5 Advisory Opinion 23/17 of the Inter-American Court of Human Rights

Given the centrality of the scope of the aforementioned right, some conclusions reached by the IACtHR in its Advisory Opinion 23/17 will be presented.[62] This decision was requested by Colombia with the object of clarifying the states' obligations related to the environmental protection that arise from the American Convention of Human Rights.

The importance of this advisory opinion is that it was the first opportunity in which the regional court widely clarified the rights that are affected by environmental degradation and, specifically, the scope of the right to a healthy environment.

On the one hand, the Court stated that damage to the environment may affect all human rights, because the full enjoyment of all human rights depends on a suitable environment.[63] As particularly vulnerable rights the IACtHR enumerated: the rights to life, personal integrity, private life, health, water, food, housing, participation in cultural life, property, peace and the right to not be forcibly displaced.[64]

On the other hand, in relation with the right to a healthy environment the IACtHR considered that this right has two connotations: an individual and a collective one. The individual is associated to the impact on other rights, as the mentioned above. The innovative point is the collective dimension: The Court defined that right as a universal value related to both present and future generations.[65] In concrete terms, the IACtHR clearly illustrated the autonomy of this right, concluding that:

> 62. The Court considers it important to stress that, as an autonomous right, the right to a healthy environment, unlike other rights, protects the components of the environment, such as forests, rivers and seas, as legal interests in themselves, even in the absence of the certainty or evidence of a risk to individuals. This means that it protects nature and the environment, not only because of the benefits they

[62] Advisory Opinion on The Environment and Human Rights OC-23/17 (IACtHR 15 November 2017).
[63] ibid para. 54.
[64] ibid para. 66.
[65] ibid para. 59.

> provide to humanity or the effects that their degradation may have on other human rights, such as health, life or personal integrity, but because of their importance to the other living organisms with which we share the planet that also merit protection in their own right. In this regard, the Court notes a tendency, not only in court judgments, but also in Constitutions, to recognize legal personality and, consequently, rights to nature.

So, to be clear, the Court gave a broad scope to the right to a healthy environment, which even permits the recognition of the protection of the components of the environment as legal interests and other living organisms as rights-holders.

6 Conclusions

Summarizing and concluding, although there are some exceptions,[66] the Latin American legislations exhibit the current existence of crimes that punish damage to the environment without direct harm to human health or lives. Within the exceptions, there is the case of Chile, whose legislation has been criticized by the OECD, recommending the inclusion of environmental crimes. In the case of Argentina, the president has vetoed a law punishing environmental degradation without human damage.

With the expansion of crimes protecting animals, forests, water, the atmosphere and soil, the question that arises is whether the safeguarded right that is protected is the nature itself, the human right to a healthy environment or human health (indirectly harmed). The legitimacy and convenience of that protection must be based on the constitutional recognition of these rights.

Considering that, a broader intervention will be clearly justified in the cases of Ecuador and Bolivia, because their constitutions explicitly prescribe rights to nature. In the rest of the cases, the legitimation must be based on the right to a healthy environment. In this context, the broad scope given by the IACtHR could be understood as a useful tool to legitimate that criminalization.

Concretely, since the Court defined the components of the environment as legal interests in themselves even in the absence of the certainty or evidence of a risk to individuals, it looks as if the extent of the right to a healthy environment is extremely similar to the scope of the rights of nature.

This perspective would bring difficulties to defences based on the lack of damage to human health. If a river that is not under human use or consumption is polluted, it could not be argued that there are no affected rights, because it could be considered a degradation to the right to a healthy environment. If the owner of a large area of land uses banned agrochemicals, it could not be argued that the degradation is merely over her property, since it could be stated that the soil itself is a legal interest.

[66] The explained cases of Argentina, Chile, Dominican Republic and Paraguay.

Lastly, it must be clarified that these conclusions do not imply the need to protect these legal interests through criminal law. The existence of a legal interest is a necessary condition for the criminalization of conduct, but not a sufficient condition. For this reason, it is viable to punish the damage on the environment because there is a safeguarded right that legitimates it. However, it remains a criminal policy discussion on whether this prohibition is appropriate and convenient.

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ENVIRONMENTAL PROTECTION AND CRIMINAL LAW: OPPORTUNITIES, LIMITS AND ALTERNATIVES

ENVIRONMENTAL CRIME: CRIMINOLOGICAL REFLECTIONS

By Aleksandar Stevanović[*]

Abstract

The aim of the paper is to discuss issues related to the criminological aspect of the phenomenon of environmental crime, especially taking into account the economic, industrial and cultural context. The author shows that all of these social categories have equal influence on the occurrence of the studied phenomenon and that mentioned social categories deserve identical treatment while considering phenomenon in question. In this paper, a number of important issues related to the normative side of environmental crime was considered in order to analyze the norms of criminal legislation, administrative rules and procedures at the comparative level and ratified international documents. The cases of non-compliance with certain documents, even by the leading countries of the world, have been pointed out, which implies that there is still a need for further development when it comes to the system of compliance with the normative framework. Critical analysis of environmental crime was supported by corresponding criminological theories and relevant statistics in order to validate the hypothesis of interaction of the social-economic influences on the environmental crime and their equal importance. The author specifically emphasizes the importance of environmental awareness, since the paper has shown that the shortage of such awareness opens up opportunities for the escalation of socio-economic factors leading to environmental crime and represents a kind of general precondition for conducting such crime.

1 Introduction

Environmental crime attracts a great deal of attention from both professional and general public. It should be pointed out that intersection of crime, environment, culture and justice producing the significant dimension of socio-environmental conflicts.[1] While criminology was becoming greener and greener, it also started to recognize environmental harm as an important social problem, extending the concept of victimization beyond humans. Furthermore, the concept of ecological justice[2], has been introduced into the common criminological discourses. However, it seems that there is only a general social acclamation that the environmental crime is harmful, but that concrete and adequate action, particularly when it comes to the state institutions, is usually absent or insufficient.

Following the aim of this paper, issues related to the criminological aspect of the phenomena in question will be discussed primarily taking into account the economic,

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[1] Lorenzo Natali, 'The Contribution of Green Criminology to the Analysis of Historical Pollution' in Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution – Comparative Legal Responses to Environmental Crimes* (Springer International Publishing AG 2014) 24.

[2] Tim Boekhout van Solinge, 'The Illegal Exploitation of Natural Resources' in Letizia Paoli (ed), *The Oxford Handbook of Organized Crime* (Oxford University Press 2014) 503.

industrial and cultural point of view. Despite the fact that dealing with environmental crime was long time ago recognized as an important interstate, supranational and national issue, a large number of questions regarding this issue remain unanswered. The main reason for this might be found in the dominant economic-industrial relations and political will that is closely related to the previous factor. Moreover, it should be stated that consideration of this issue implies a number of difficulties since environmental crime is an ambiguous and complex term that includes many behaviors that fall within the concept. Finally, one should take into account the nature of the behaviors that could be labeled as acts of environmental crime. In that sense, environmental crime that is usually perceived as victimless and incidental crime, is not at the high level on the law enforcement priority list. In other words, melting of ice glaciers at the North Pole is regarded as a trivial and benign issue in relation to burglaries, thefts, murders etc. Concrete actions are mainly taken by those who are directly affected by the environmentally negative consequences. The possible explanation might be the fact that the consequences of environmental offenses have temporal character and so their adverse effects are not noticeable immediately. Accordingly, one should use different knowledge, various measurements and specific technology assets in order to document the committing of the crime and to determine causal linkages. Such circumstances further complicate the detection of environmentally harmful behavior.

Considering all the specificities of crimes that could be put under the concept of the environmental crime, the new field of criminology called *green criminology* was developed as a tool for analyzing and dealing with environmental crimes and other environmental harms that are often ignored by mainstream criminology.[3] It should be noticed that scholars around the globe have also developed typologies to determine the unique dimensions of each form of environmental crime. It also has to be underlined that *environmental criminology*, despite its name, is not primarily intended to be theoretical framework for explaining environmental crime. The two central concerns of *environmental criminology* is explaining the spatial distribution of offenses and offenders and geographical distribution of crime.[4]

The first mention of the causes of environmental crime in layman's consciousness intuitively brings to mind the rapid development of industrial production, particularly since the middle of the last century, the desire of business entities to maximize profits, cultural patterns, etc. In an effort to answer the question – what is the cause of the environmental crime – theoretical frameworks should be taken into consideration, which means that it is necessary to rely on a systematically organized set of ideas that seek to explain crime.

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[3] Angus Nurse, *Green Criminology: shining a critical lens on environmental harm* (Palgrave Common 3 edn 2017) 10.

[4] Anthony E Bottoms and Paul Wiles, 'Environmental Criminology', in Mike Maguire, Rod Morgan and Robert Reiner (eds), *The Oxford Handbook of Criminology* (Oxford University Press 2002) 620.

There are three basic steps that need to be taken in order to analyze the basic characteristics of the environmental crime. The first one is to define the concept of environmental crime in a qualitative sense. The second task is to explain the nature of environmental crime with particular reference to the causes, consequences and perpetrators. Finally, it is necessary to consider the concept of environmental justice and explain it, since it is increasingly obscured by the relationship between economic and industrial progress and the pursuit of a healthy environment.

2 The general concept of environmental crime

It is very difficult to reach generally accepted views on the concept of environmental crime for at least two reasons. The first one is that the results of the research will largely depend on the main purpose of that research, methodology, baseline hypotheses etc. The second one is that the interdisciplinary issues are hard to be approached, because they involve different kinds of knowledge and specific academic terminology.[5]

According to the European Commission, environmental crime covers acts that breach environmental legislation and cause significant harm or risk to the environment and human health.[6] At first glance, it is obvious that such definition implies a wide range of acts and omissions what could possibly lead to the threat of becoming so-called "umbrella definition", which adversely affects the valid understanding of the term itself and all related phenomena. Some authors who have dealt with this issue have offered their explanations of the aforementioned difficulties in trying to find a general definition of environmental crime and the practice of simply enumerating the acts considered to be environmental crime seems to be the most appropriate way[7] in terms of formulating legal and other norms to define environmental crime.

However, when it comes to the possible definition, it has to be underlined that definition of the environmental crime could be given in its narrower and also broader sense. In the first case, environmental crime will encompass those offenses which primarily protect environmental values such as: air, land, water and wildlife, while in the second case environmental crime encompasses those offenses that are primarily intended to protect other (economic, cultural, etc.) values, but which, in a particular situation, may serve to protect main environmental values.

Depending on the damage caused by environmental offenses, it may be regulated by civil, administrative and criminal law norms. The "enforcement pyramid", which represents the graduation of penalties for illegal behavior that could be applied to protect the environment, is made up of civil sanctions, administrative fines, and

[5] Vita Di Giuseppe, *Environmental Crime* (Springer Science, Business Media 2014) 1.

[6] European Commission, Environmental Crime, <ec.europa.eu/environment/legal/crime/> accessed 1 February 2020.

[7] Vladan Joldžić, *Ekološki kriminalitet u pravu i stvarnosti* (Ecologica 1995) 24.

criminal sanctions.[8] The definition of crime as the totality of all offences in a given time and space seems to be the most accepted in doctrine.[9] However, it is necessary to make a note about crime as a socially constructed term. In the narrower sense, the concept of crime would only cover acts that constitute a violation of criminal law norms and thus eliminate consideration of other delicts such as administrative misdemeanors and economic offenses. In this paper, for the sake of a broader view of environmental crime, in parallel with environmental offences that violates criminal law norms, other environmental offenses have been considered. The introduction of criminal liability for legal entities enriches the narrower conception of crime what is especially important when considering environmental crime since the big corporations are now considered to be major polluters. Nevertheless, for present purpose it could be stated that the essence of white collar/corporate crime is the social detriment that makes it irrelevant whether it is about norms of criminal or other law.[10]

The environmental crime could be defined from the legal point of view as a crime against the environment or the violation of an environmental law. Such definition is legalistic and may be applicable to both national and international law. The problem with this definition usually arises when it comes to the defining the concept of environment, particularly legal defining of objects that are protected by environmental norms what certainly depends on the cultural and geographical basis of one society. Depending on the two mentioned factors, different variations of the legal concept of the environmental crime are possible. Of course, the level of the society development should be taken into account. For instance, developing countries are not able to use their scarce resources to protect the environment in full capacity.[11] In addition, there are such acts that are also *de facto* harmful for the environment but for various reasons have not been proscribed as a criminal offences or administrative misdemeanors what makes the concept of environmental crime incomplete and uneven if viewed from a comparative standpoint. Finally, it is often the case that environmentally negative consequences are the cause of legal valid activity such as the activities of factories that have all the necessary licenses issued by competent authorities. According to this, when considering environmental crime, it must be clear that it may also incorporate those harmful acts that do not necessarily constitute a breach of the law *stricto sensu*.

On the other hand, some authors define environmental crime more broadly, stating that environmental crime is an act *committed for the purpose of securing business or personal advantage*.[12] In line with this statement, it is worth to say that environmental crime can mostly be regarded as an instrument for achieving financial gains and

[8] Ian Ayres and John Braithwaite, *Responsive regulation: transcending the deregulation debate* (Oxford University Press 1995).
[9] Đorđe Ignjatović, *Kriminologija* (Pravni fakultet Univerziteta u Beogradu 2011) 92.
[10] Ronald J Berger, *White Collar Crime, The Abuse of Corporate and Government Power* (Lynne Rienner Publishers 2011) 8.
[11] Vita Di Giuseppe (n 5) 3.
[12] ibid 3.

because of this environmental crime has many major characteristics of the property crime. Hence, environmental crime should be viewed as a type of property crime, particularly because most of these activities are not conducted with the sole purpose and intent of harming or threatening an ecological value, but rather, due to some property motive. Abuse of the environment is the fourth largest criminal activity in the world. It's worth is up to USD 258 billion, and it is increasing by five to seven per cent every year, while at the same time converging with other forms of international crime. It is therefore a growing threat to peace, security and stability.[13] On the other hand, when the underlying motive is an injury of some ecological value, it seems that such motivation should be viewed from the perspective of psychopathology or as a part of war or commercial strategy when it is necessary to destabilize the opponent.

3 Characteristics of environmental crime

Environmental crime is defined by its impact on the natural environment as it is concluded at the 27th OSCE Economic and Environmental Forum held in Prague on 12th September 2019. Such starting point is absolutely in line with the *green criminology* doctrine that put victimization of nonhumans in the foreground while the traditional criminology was relying on the human perspective.[14] Many relevant authors were trying to point out the fact that the environmental crime is much more widespread than violent crime and that environmental crime in many cases has "violent" consequences reflected in various diseases, for example due to exposure to pollution.

Environmental crime consequences usually affect a large number of people who are difficult to individualize. This is the main reason why environmental crime is said to be a victimless crime even though the consequences are quite present and could easily dramatize public concerns. On the other hand, those consequences are very often hard to notice and it usually takes some time to notice it and to get appropriate attention of the competent authorities on the other hand. Some phenomena such as volcanic eruptions or tsunamis should not be confused with environmental disasters caused by human factors. The intensity of the previous mentioned natural phenomena could be much higher than when it comes to the air pollution, river pollution etc. Hence, one could get the impression that nonhumans caused environmental catastrophes can sometimes produce more moral panic than acts that fall under the concept of *mala in se* crime. However, the environmentally harmful consequences caused by humans are temporal and less intense at first. Environmental crime is "contactless crime". That means that the perpetrator does not know the victim, nor can have any kind of contact or even emotion towards the victim. Green crimes are often considered "soft" crimes,

[13] UN Environment programme <www.unenvironment.org/news-and-stories/story/environmental-crime/> accessed 1 February 2020.

[14] Michael J Lynch and Paul B Stretesky, *Exploring green criminology: toward a green criminological revolution* (Ashgate Publishing 2014) 5.

less harmful and leading to fewer victims than the traditional, "real" predatory crimes.[15]

In addition, there is often no consensus among the majority of the population in society about the harm of the acts that fall under that type of crime. In other words, respecting the accelerated development of economy that carries various environmental challenges within, one is often in a position to balance between a healthy environment and the ability to feed himself and his family if he works in a factory that does not respect environmental regulations but employs many people and records good business results.

Although, one of the characteristics of the victimology aspect of environmental crime is the unequal distribution of victimization, it is often the case that all of us are victims of certain environmental harms in different ways, particularly taking into account the continuous circulation of *materia* in nature, and the process of globalization that implies the constant movement of people.

However, when it comes to the unequal distribution of victimization it is ought to say that although there is no unique point of view on this issue in the literature, the authors generally agree that the poor members of society are the most affected by environmental crime.[16]

Finally, it should be noted that in the literature environmental crime is defined as a form of corporate crime. In fact, corporate violence as a part of corporate crime in general includes acts that breaches the regulations that result with endangering environment.[17]

3.1 Market – economic cause

Most of the authors who dealt with this issue in the second half of the last century, emphasized the importance of the economic factor considering it the basis of environmental crime. As we stated previously, the most significant perpetrators of environmental offenses are corporations. Avoiding environmental regulations that implies large financial outlay, such corporations are taking enormous market and financial advantage.

Analyzing the etiology of environmental crime in the context of economic conditions, it is necessary to determine the basic economic motive and the reason for committing environmental crimes. There is a profit that can be understood as a reward (positive reinforcement) or a motive for committing environmental crimes in accordance with the *Theory of social learning* (Ronald Akers).[18] According to the *Theory of social pressure*

[15] Tim Boekhout van Solinge (n 2) 502.
[16] Natalija Lukić, *Kriminalitet kompanija* (doktorska disertacija 2017) 75.
[17] Laureen Snider, 'The Sociology of Corporate Crime: An Obituary ' in Sally Simpson and Carole Gibbs (eds), *Corporate Crime* (Hampshire 2007) 378.
[18] Đorđe Ignjatović, *Teorije u kriminologiji* (Pravni fakultet Univerziteta u Beogradu 2009) 280-282.

(Robert Merton), committing environmental crimes due to the pursuit of profit is explained by the contrast between the dominant cultural patterns that imposed social goals and the inability to achieve them through the legal way.[19] Having that in mind it is obvious that making a profit can be understood as an imposed goal that is easier to be achieved by disobeying certain regulations, such as those requiring the installation of filters, purifiers and many other reducing apparatus. If we take into consideration the formulation of the positive provisions that standardize this matter at the comparative level, we will notice two types of duties in relation to the matter in question. The first is of a preventive nature and represents avoidance of negative consequences at own cost, installation of filters and similar devices etc. The second group of duties relates to the obligatory elimination of the damage caused in accordance with the principle of material liability. It is clear that in both cases it is necessary to withold certain material benefits or a certain future income, that is not in the interest of any *homo economicus*. The installation of filters, protection devices, reduction devices, as well as their regular maintenance, require certain costs that will affect the price of the final product and the profit. Using a variety of artificial substitutes for natural materials and resources, a feature of the new production concept, is far less expensive and provides higher profits for manufacturers. Every economically rational producer strives for low production costs, which in fact lead to the massive use of anthropogenic materials instead of natural ones. The problem is that these substitutes cannot be appropriately assimilated in nature and it is this indigestibility that triggers the harmful consequences. Hence, some authors emphasize the fact that countering environmental crime is an economic rather than a technological issue.[20]

Many authors in contemporary relevant literature have been posing the question to what extent does capitalist development produce ecological disorganization, or to what degree is capitalism structurally criminogenic towards the environment?[21] Capitalism has been elaborated hereby as the basic premise of today's economic relations. Theoretically speaking, the capitalist system of production must constantly increase production, and consumption of raw materials regardless of its impact on environment. As a part of this dynamic process of capital accumulation and reproduction, the expanding production and consumption results in both the acceleration and expansion of ecological destruction and disorganization.[22]

In the late 18th and early 19th centuries, manufacturing was replaced by industrial production. This transition has led to the acceleration of production activities and greatly influenced the changes in human life so far, and also raised many controversial issues. Of course, environmental crime is largely conditioned by industrial and

[19] ibid 267.
[20] Vladan Joldžić (n 7) 24.
[21] Gregg Barak, *Unchecked Corporate Power* (Routledge 2018) 91.
[22] Paul Stretesky, Michael Long and Michael Lynch, *The Treadmill of Crime: Political Economy and Green Criminology* (Routledge 2013).

technological expansion that beside the positive side also brings a decrease in the quality of human life and environment. The basic motive of the industrial way of production and application of new technology is undoubtedly economic nature what indicates the strong interconnectedness of the economic and industrial-technological causes of environmental crime.[23] Analyzing technological progress, in particular new technology assets, one significant contradiction could be noticed. This contradiction, that is also a specific feature of the industrial-technological set of environmental crime factors, is reflected by the fact that modern technology, identified as one of the causes of environmental crime, can also be seen as an opportunity to prevent or eliminate environmentally harmful consequences. So, one gets the impression that technology is fighting against itself in relation to environmentally harmful consequences.

The nature of punishment, first and foremost monetary penalties, should be considered from an economic point of view. This is not a new orientation in the world of criminological science, because it originated in the era of classical orientation in criminology, and the concept itself is represented in "hedonistic calculation"[24] paradigm. It seems that the penal policy should tighten the prescribed penalties, especially when it comes to the fines for the perpetrators of environmental offenses in line with the already stated thesis on the economic basis of the causes of environmental crime. Because the biggest pollutants, ie. legal entities which scope of activities could generally be classified as so-called "Heavy industry", are making huge profits, it is obvious that the current level of prescribed fines in most of the world's criminal legislation does not influence them to reduce their environmentally harmful activities. Therefore, it could be safely concluded that the tendency to increase the prescribed fines for environmental offenses, as well as torts, would lead to a reduction of negative environmental consequences, and therefore to environmental crime. Here is one illustrative example of considering issue. Union Carbide company is responsible for one of the largest air pollution recorded in the world. In 1984 while performing business activities in the city of Bopal, India, the Company leaked toxic gas due to tank failure. Moreover, the company did not give any proper instruction to the workers as well as to the local population in terms of acting in that situation. As a result, 3,415 people were killed first and then the number increased up to the 10,000 and around 200,000 were injured. In 1989, an out-of-court settlement was reached with the Government of India and the families of the victims and the Company was obliged to pay about USD 480 million. After all, the Company was financially fully recovered and merged with another company in the US to continue the business.[25]

However, one can also consider the economic cause of environmental crime from the state point of view. It is important to note that state, consciously or unconsciously, stimulate current and potential perpetrators of the environmental crime. In case of non-

[23] Aleksandar Stevanović, 'Ekološki kriminalitet', in Đorđe Ignjatović (ed), *Kaznena rekacija u Srbiji*, V ed. (Pravni fakultet Univerziteta u Beogradu 2015) 306.
[24] Đorđe Ignjatović (n 9) 64.
[25] Natalija Lukić (n 16) 84.

compliance with the regulations regarding environmental protection, the state is often not interested in implementation of the rules, except when environment and other civil movements put some pressure on the state authorities. Nevertheless, such civil activism is usually a short-term reaction[26] that allows corporations to establish lucrative practice with the state consent. Economic legal entities which do not operate with high income, do not employ a large number of people and which activities are not vital for the functioning of a society are far more exposed to the sanctions for violating the aforementioned environmental regulations. In other words, frequent and harsh sanctioning of "economic giants" would jeopardize their business and consequently the working existence of a large number of employees in such systems, leading to a higher unemployment rates and the opening up of a range of socio-economic issues and making great pressure on every state government. Hence, it should be concluded that the important economic systems in the aforementioned sense have some kind of "factual immunity"[27] as a benefit when it comes to the responsibility for breaking the law and a structural problem with law enforcement appears to be very present.

In particular, the question is whether potential perpetrators of environmental crimes are grouping and organizing around the crime opportunity embodied in socio-economic frame *or* do they create them themselves. It seems that instead of opting for option "*or*", option "*and*" would be an adequate dilemma solution.

3.1.1 The role of the state

As global corporations have grown richer and more powerful than many nations, they increasingly operate without limits on their power or influence. [28] However, we still have to ask ourselves whether the state is just so powerless in front of these companies or whether such companies are just an instrument of the state and its representatives for achieving some lucrative aims. So, the next important issue that needs to be analyzed is the role of the state in environmental crime activities.

First of all, the state has sole competence to determine, through its legislative activity, rules of conduct within its jurisdiction. This means that the state determines what should be considered environmentally harmful and illicit behavior and set the conditions and criteria for sanctioning such behavior. For example, a few years ago, a public scandal erupted in the Republic of Serbia over the discovery that there was significantly more aflatoxin in the marketed milk than allowed. After the citizens rebelled *en masse* and demanded problem to be solved, the Government began to address the problem. However, instead of preventing the distribution of such milk and penalizing those responsible, the government solved the problem in a simpler way by issuing a regulation that changed the allowed value of aflatoxin in milk so the problem was “solved” in that way.

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[26] Kitty Calavita and Henry N Pontell, ‘The State and White Collar Crime: Saving and Savings and Loans’ (1994) Law and Society Review 297.
[27] Đorđe Ignjatović (n 9) 111.
[28] Gregg Barak (n 21) 3.

An exception to the perceived property motive of committing crimes against any environmental protected value could be find in environmental offenses related to war conflicts. In that sense, the negative environmental consequences are of a secondary nature, as a result of military strategies and goals.[29] However, property motive could be the most important even in military ventures undertaking by military or even paramilitary formation of the state. For example, Uganda, although not a producer of diamonds, have started to export rough diamonds from the moment it occupied eastern DR Congo in 1997.[30] When mentioned that, we just opened up another extremely important issue related to the environmental crime. Natural resource exploitation, as a part of environmental crime activities, is a mostly unexplored field of study for criminologists. [31] In the relevant doctrine, "resource curse" is an expression that refers to the fact that resource-rich countries on average experience less development (lower economic growth rates, lower levels of human development) than countries without those resources. [32] Corruption of the state representatives could be the possible reason why not only resource-rich countries perform poorly in terms of economy,[33] but the reason why environmental crime in total is so widespread. Rebel organizations and organized crime groups are also included in natural resource exploitation.

The countries of Western Europe and US were able to first encounter artificially caused ecological disasters since in this area the technological-production process and economic concept that generate negative environmental consequences was first established. Thus, new and clean/green technologies are being introduced in that part of the world, while old "heavy" industries (mining, energy, shipbuilding, metallurgy, heavy, chemical, textile and other industries) were moving to underdeveloped parts of the world. The idea of moving such industries away from their territory, without sacrificing the profits they bring, was soon proved as unsustainable. The development, above all, of the natural sciences, and therefore of environmental awareness in society, defines the global character of environmental crime, which has led to the establishment of a new strategy in addressing the environmental issue. It is embodied in the formulation of a common environmental policy expressed in a series of conventions and conferences that began in the early 1970s.

Nevertheless, the governments of many developing and underdeveloped countries are very interested in attracting foreign investors who as a rule, come with their environmentally harmful technologies. Those governments then present it to the public as a significant economic success and incentive and environmentally negative side has no chance of being properly treated and given importance. A more extreme case is

[29] Aleksandar Stevanović (n 23) 305.
[30] Tim Boekhout van Solinge (n 2) 508.
[31] ibid 500.
[32] Ivar Kolstad and Tina Søreide, 'Corruption in Natural Resource Management: Implications for Policy Makers' (2009) Resources Policy 34, 214.
[33] ibid 214.

when corrupt governments know that this kind of foreign investment is not a quite important to their economy, but they still agree to bring dirty technologies to their country by taking various benefits for themselves.

Sometimes, the state officials have an extremely difficult task to control all the opportunities from which environmental crime acts can be caused. For instance, A governmental official in an enormously big country might have to travel a few days if wants to intervene against, illegal logging or land grabbing where he would have to confront armed loggers all too ready to threaten him with violence.[34]

3.2 Cultural aspect

Statistical indicators for the countries with the highest levels of air pollution, the highest share of industrial production in total production, and those with the highest GDP, indicate some irregularities, which makes the explanation of the causes of environmental crime even more complex. As it was stated in the literature that the economic and industrial-technological development are the two primary causes of environmental crime, it would be expected that the countries with the most developed industrial production and the highest GDP would also appear to be the countries with the highest levels of pollution. By using the comparative method and taking into account the statistically presented state of affairs, it is obvious that this is not the case. The reason for such discrepancy should be sought in the relation of one society to the environmental issue. Thus, the cultural analysis of environmental crime and the consideration of it in a broader sense, gives a complete explication of the causality of environmental crime and social categories that are often imperceptible if only the economic determinant and industrial and technological development were observed.

Cultural criminological theories are specific for paying particular attention to an idea of the crime created in social context. The crime appears to be a kind of social construct. However, the legal process of socially constructing crime contains subjective dimensions which criminologists, ought to reject in order to conduct research in accordance with scientific principles.[35]

It is of a great importance to point out that underdeveloped legal culture is an indirect cause of environmental crime. In general, legal order and awareness of its obligation consist of respecting and consistent application of the legal norms by all members of a society, and especially by those working in formal social control state bodies. The relation of such persons to the exercise legal norms is of particular importance, since the high degree of their legal culture has a corrective effect in relation to the low level of the compliance with legal norms when it comes to the other members of society. Inspectors who are dealing with environmental issues could be illustrative example of these claims. Low corruption resistance, negligence, legal incompetence,

[34] Mark London and Brian Kelly, *The Last Forest. The Amazon in the Age of Globalisation* (Random House 2007) 151.

[35] Michael J Lynch and Paul B Stretesky (n 14) 117.

unprofessionalism of these persons send a signal to potential perpetrators of environmental offenses that their punishable act or omission will remain undetected, go unpunished, or will be punish with symbolic sanction in relation to the benefits of their prohibited activities.

Many earlier criminological texts on the correlation between crime and the media have emphasized that the media is one of the most powerful instruments for creating the attitude and awareness of society on any issue, including environmental awareness.

In many cases, the owners of the most widely used media refuse to report on environmental crime, favoring more sensational crime as well as more commercial topics in general. In this regard, it is clear that the absence of environmental topics in the boxing media time, and therefore topics related to environmental crime in the media space, blunts the edge of informal social control and sanctioning of this type of crime, because it gives the impression of general social disinterest. In most cases, the media influence the imparting of an ephemeral dimension to environmental problems, so that, immediately after a major ecological disaster, they are given enormous media space and attention, lasting only in the moments immediately after such disasters. Such a media approach influences the spread of panic and the irrational perception of the problem. It seems that smaller but more constant media space and attention would contribute to raising general environmental awareness in order to prevent environmental crime.

Many scholars who dealt with environmental crime have pointed out that it is the cultural dimension of society that affects ultimately the construction of environmental victimhood and also the restorative justice mechanisms that are important as a process whereby all the parties with an interest in a particular offense come together to resolve collectively how to deal with it.

The link between cultural categories and environmental crime is reduced to their impact on environmental awareness. Namely, if it is underdeveloped then it is a prerequisite for committing environmental offenses. The picturesque, undeveloped ecological consciousness can be imagined as a land on which, with regular irrigation to other social conditions and causes, it will inevitably erode environmental crime. Therefore, in order to combat environmental crime in the cultural sphere, it must be sought to develop the individual, and therefore the collective ecological consciousness to such a level, that it will indeed represent a mental as well as a social dam for the commission of environmental offenses in general. In this regard, science has made a major contribution to the problem of environmental crime, especially since the beginning of the 20th century. Therefore, the emergence of social ecology, as a scientific field, is a crucial step towards changing the approach to solving environmental problems and establishing the idea that ecologically negative consequences are caused, above all, by the anthropogenic element.[36] Finally, the meeting between green and

[36] Aleksandar Stevanović (n 23) 308.

cultural criminology ideas and perspectives could prove useful in positioning environmental crime in criminology.[37]

4 Conclusions

Considering the environmental crime from the criminological point of view, it can be concluded that much has been done in its rise to the rank of the most dangerous social problems in the last two centuries. In the future, efforts should be made to address environmental crime preventively, by establishing appropriate prophylactic measures.

Today's generations have an advantage over those from the beginning of industrial development, relying on decades-old ways of combating environmental crime, empirical knowledge of what it means and what it really looks like and what are the consequences of major environmental disasters like the one in Bopal (1984) which is considered to be one of the largest industrial disasters in the world or the one in Chernobyl (1986). The fact that it is not easy to define a victim of environmental crime does not mean that the victim does not exists.

Environmental crime is a perfidious type of crime since its effects are generally affected not only the present but also the future generations. Wherever environmental crime is committed it is a potential threat to the entire planet, and such circumstances require dealing with environmental crime to be taken with the highest degree of social responsibility.

Although the concept (legal and criminological) of environmental crime is very vague and ambiguous, it does not mean that it cannot be adequately defined. However, such determining of the concept must be in line with the economic and cultural framework. Understanding environmental crime is extremely important for enabling a sustainable lifestyle on the planet.

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[37] Lorenzo Natali (n 1) 24.

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LOOKING FOR AN EFFECTIVE ENVIRONMENTAL PROTECTION: CONTRIBUTIONS FROM GREEN CRIMINOLOGY AND ECONOMIC CRIMINAL LAW

By Luis Fernando Armendariz Ochoa[*]

Abstract

This paper will try to demonstrate that the efforts made (creation of new crimes and environmental policies) to protect the environment effectively are not enough. The fact that both criminal law and administrative law only react to the violation of legal norms is ineffective and the study of the causes of damage to the environment as well as possible actions subsequent to their injury is neglected. In this situation, we propose to complement the protection of the environment taking into account the developments in green criminology regarding the prevention and repair of environmental damage, highlighting the idea of prevention of environmental crime as well as possible damage compensation alternatives, resulting in a real and effective protection of the environment.

1 Introduction

The humankind has had the opportunity to take advantage of the natural resources from its inception. Today this link is fractured due to the development of human activity; the causes are many and the commitments are few. All over the world, environmental imbalances threaten to destroy the very sources of life, deteriorating in the environment, in many cases due to the activities of industries.[1]

For several decades, as a result of catastrophic experiences, many countries around the world have made efforts to provide adequate legal protection to the environment through environmental policy[2]. Commonly, protection comes from the administrative law (administrative fines), although, especially in recent years, also from criminal law (creations of crimes of endangerment, imprisonment, fines or even corporate criminal liability in the case of Spain and other countries in Europe).

This article aims to demonstrate that the efforts made (new crimes and environmental policies) to protect effectively the environment are not enough; the idea of repairing environmental damage must be further developed. The fact that both criminal law and administrative law only react to the violation of legal norms is ineffective and the study

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[1] See Martin Jänicke, "Ökologische und politische Modemisierung in entwickelten Industriegesellschaften" in Volker von Prittwitz (ed), *Umweltpolitik als Modernisierungsprozeß Politikwissenschaftliche Umweltforschung und -lehre in der Bundesrepublik Deutschland* (Springer Fachmedien Wiesbaden 1993).

[2] For a historical development of enviromental policy, in the German case, see, Michael Böcher and Annette Elisabeth Töller, *Umweltpolitik in Deutschland. Eine politikfeldanalytische Einführung* (Springer 2012) 26ff.

of the causes of damage to the environment as well as possible actions subsequent to their injury is neglected.

In this situation we propose to complement the protection of the environment, taking into account the developments in green criminology in the area of prevention and repair of environmental damage, emphasizing the prevention of environmental crime as well as possible damage compensation alternatives, resulting in a real and effective protection of the environment.

2 What is "Green criminology"?

Criminology is, in a basic sense, the study of crime and criminals. This definition is, however, of limited use – whilst we might recognize that criminals commit crime, and criminologists study crime, we are still in need of a definition of crime itself to really understand what criminology is. Most dictionaries offer multiple definitions of the word 'crime', usually starting with the idea that it is a breach of the criminal law; an act or omission, whether intentional or negligent that is deemed injurious to the public welfare or to the interests of the state and that is legally prohibited.

Criminology in its original and basic sense sticks with the common legal definitions of crime and criminal, focusing on those acts that are deemed so harmful as to be defined as crimes by the state and on those people, who commit such acts. As Sutherland & Cressey[3] pointed out:

> Criminology is the body of knowledge regarding juvenile delinquency and crime as social phenomena. It includes within its scope the processes of making laws, of breaking laws, and of reacting toward the breaking of laws. These processes are three aspects of a somewhat unified sequence of interactions. Certain acts which are regarded as undesirable are defined by the political society as crimes.

Radical and Critical criminologists have long since challenged this narrow perspective, asking questions about those who commit acts that are arguably as harmful but not covered by the criminal law, or those who get away with their crimes whether because they evade detection or because they are not successfully labelled as criminals or punished for their crimes, or about the very social structures that ultimately decide who or what might be labelled criminal or crime.

Let us now take the other half of the name of "Green Criminology", 'Green', of course, refers to having consideration for the natural environment. But even here there is a range of interpretations as to what exactly this encompasses. Is 'green' just a recognition of a natural environment existing, or does it suggest a nature that we care about? Is there (or should be there) a duty to care (or, in a more legalistic formulation, a duty of care)? What do we mean by 'natural environment' anyway? The (ever diminishing) wild areas of the world or also rural areas where humans harness nature

[3] Edwin Sutherland and Donald Cressey, *Criminology* (J B Lippincott Company 1978) 3.

(including farmlands and fisheries and forests)? Urban areas contain nature, and a true understanding of the science of ecology demonstrates that the natural world cannot be separated from the world of human society. What about animals that are taken out of their natural environments – pets, livestock, zoo animals, lab rats – are these still subject to a green perspective, or is care for animal welfare or animal rights a separate (but overlapping) debate?

Green Criminology[4] is the analysis of environmental harms from a criminological perspective or the application of criminological thought to environmental issues. As Natali[5] points out:

> Over the last 25 years, "green criminology" has become familiar on an international level as a perspective oriented towards the opening of criminological paradigms to issues of environmental harms and crimes. Green criminology allows for the meeting of a wide range of theoretical orientations aimed at connecting a series of issues of crucial importance for today's world: environmental crimes, harms and various forms of (in)justice related to the environment, plants and non-human animal species, and the planet as a whole. More specifically, green criminology represents a "conceptual umbrella" under which researchers and scholars examine and rethink from various perspectives the causes and consequences of different environmental harms, such as pollution, the deterioration of natural resources, the loss of biodiversity and climate change.

3 Environmental crimes and (criminal) sanctions

According to Nobles, environmental crime is a comparatively new phenomenon by definition. The origins of environmental regulation in the United States are often traced to the Rivers and Harbors Appropriation Act of 1899. However, as a practical matter, the American public and the criminal justice system have only been engaged with environmental crime response since the 1960s[6].

Until a few decades ago, legal protection of the environment was very limited. Administrative law was commonly used to sanction conduct that harmed the environment. It is clear that the decision about which alternative (criminal sanctions or administrative fines) depends on the environmental policy[7] (there is agreement that

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[4] For a historical development, see, David Rodríguez Goyes and Nigel South, 'Green Criminology Before 'Green Criminology': Amnesia and Absences' (2017) 25 Critical Criminology 165.

[5] Lorenzo Natali, *A Visual Approach for Green Criminology. Exploring the Social Perception of Environmental Harm* (Palgrave Macmillan 2016) 1, 2.

[6] Matt R Nobles, 'Environmental and Green Crime', in Marvin D Krohn, Nicole Hendrix, Gina Penly Hall and Alan J Lizotte (eds), *Handbook on Crime and Deviance* (Springer 2019) 591, 592.

[7] About the construction and analysis of enviromental policy see, Thomas Sommerer, *Können Staaten voneinander lernen? Eine vergleichende Analyse der Umweltpolitik in 24 Ländern*. (VS Verlag 2011) 85ff. See also, Hermann Bartmann, 'Praventive Umweltpolitik', in Hermann Bartmann and Klaus Dieter John (eds), *Präventive Umweltpolitik. Beitrage zum 1. Mainzer Umweltsymposium* (Gabler 1992).

"environmental policy" has only been talked about since about 1970[8]) of a country and in many cases the idea of an effective environmental protection has an association with the criminal law[9].

Environmental criminal law constitutes one of the central axes of the configuration of post-industrial society and is located within the so-called risk criminal law (*Risikosstrafrecht*). The risk to which the environment is exposed is an international problem, insofar as it is not delimited by frontiers and implies an irreversible danger for the life of human beings and species in general, criminal law must intervene to protect the environment from human attacks in order to preserve and guarantee its own survival. Criminal policy and criminal doctrine, as a reflection of social development as a whole cannot be alien to technological evolution, nor to economic development; this is why the dogmatic (criminal law theory), as well as the discussion on legal-criminal reactions to new sources of danger, i.e. "the criminal policy of risk", constitute part of the foundations of a "critical theory of the modern development of criminal law", a theory that is constantly evolving and which we cannot refuse, with the simple nostalgia and defense of "classical criminal law". This is our starting point and constitutes the working hypothesis: is criminal protection of the environment justified in today's society? The criminal protection of the environment is the consequence of a growing "ecological conscience", which is encouraged through different channels such as journalistic coverage of attacks[10] on nature or ecological catastrophes and which call the attention of public opinion to the irresponsibility or imprudence with which the social and economic model uses natural resources, generating situations of danger "legal protected goods" (*Rechtsgüter*)[11].

In the opinion of some authors, the irruption of collective legal-criminal assets in criminal law – including the environment – is shaking the guarantee foundations that characterized it. The new spheres of social activity bring to the forefront objects of protection of supra-individual characteristics, which are being protected using the technique of the so-called "danger crimes" (*Gefährdungsdelikte*). Criminal protection of the environment is characterized by the following features:

a) because it is the result of a current direction of criminal policy with clear criminalizing tendencies,

b) because it is part of the legislator's current propensity to protect supraindividual legal goods, and

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[8] Sighard Wilhelm, *Umweltpolitik. Bilanz, Probleme, Zukunft* (Leske + Budrich 1994) 9.

[9] About the development of criminal law protection of environment of Germany, see, Frank Saliger, 'Vorbemerkungen zu §§ ff. 324 StG', in Helmut Satzger, Wilhem Schluckbier, Gunter Widmaier (eds), *StGB Strafgesetzbuch Kommentar* (Carl Heymanns Verlag 2014) marg. 1.

[10] See, Vincenzo Ruggiero and Nigel South, 'Critical Criminology and Crimes Against the Environment' (2010) 18 Critical Criminology 245.

[11] On this situation, see, Lothar Khulen, 'Umweltstrafrecht — auf der Suche nach einer neuen Dogmatik' (1993) 105 Zeitschrift für die gesamte Strafrechtswissenschaft 697, 711ff.

c) for being constructed using the technique of so-called "danger crimes" and also often using the legislation technique of so-called *Blanketttatbestand*.

This can represent a threat to the guarantee principles of a rule of law; guarantee political-criminal principles such as subsidiarity, fragmentariness, and ultima ratio.

The concept of "postindustrial society" responds to the loss of confidence and expectations that had characterized industrial society, and constitutes the expression of a scientific and technological reason, today in crisis, under the type of mentality and tessitura that one tries to define as "postmodernity". In recent criminal doctrine, a frequent reference to the concept of "risk society" can be observed as a new paradigm and, therefore, as a "risk society".

The catastrophe of the Chernobyl reactor has shown us, in a very worrying way, to what extent the centers of dogmatic-penal discussion have moved away from the core of the mission assigned to the penal system (i.e. the assurance of human existence as the basis of any legal good). At the same time, in the framework of criminal policy, we often see the instrumentalization of criminal law in the field of dangerous crimes, and especially in environmental criminal law and economic criminal law.

Technological evolution implies the appearance of new forms of risk, or in other words, an increasingly industrialized society is a potentially increasingly "dangerous" society. The environment is a concept born to bring back to unity the various components of a reality in danger.

4 Classical sanctions are not enough?

Some events throughout the last quarter of the twentieth century have changed irreversibly the history of some corporations and their relationship with the society. For example, in 1989, the accident of the Exxon Valdez oil company in Alaska spilled 100,000 cubic meters of oil that affected 2000 kilometers of coastline, drastically conditioning the ecosystem and the lives of the region's indigenous and fishing communities. It was, after Bhopal, one of the most notorious accidents against the environment, and created a worldwide consternation about the harmful impact that companies can have on their environment. The severity of the accident was marked by the suicide of the mayor of one of the main cities in the region, Bob Van Brocklin, asking in his last statement that his ashes be scattered in the area of the accident. In an unprecedented lawsuit, Exxon was found guilty of violating several environmental regulations and was forced to pay $4500 million to try to mitigate socio-environmental damage; the largest economic penalty for environmental violations. of history[12].

[12] Fernando Casado, *La RSE Ante El Espejo Carencias, Complejos Y Expectativas De La Empresa Responsable En El Siglo XXI* (Prensas Universitarias De Zaragoza 2006) 31.

It is therefore often the companies[13] that are responsible for major disasters, as in the example I have given. Many answers have been given to this problem, as we have already pointed out, penalties have been increased in various environmental crimes, more dangerous crimes have been created and this is also the criminal responsibility of the company as in the case of Brazil and other countries. On the other hand, in Latin America there are already projects on the criminal responsibility of the company for environmental crimes.

At this point it is time to reflect on a truth of the criminal sanction, commonly these types of penalties do not have in themselves a reparative effect of the damage caused, but are responses that are aimed at protecting the legal system itself, thus ruling out a restitution of the damaged property.

5 Looking for alternatives: Corporate criminal liability and Compliance?

5.1 Corporations as offenders?

Nowadays, in today's society, corporations have a fundamental role in the economic order of all countries in the world. That is why never before has there been so much research on the so-called "economic criminal law", a discipline that is in charge of sanctioning conducts and that commonly originate in the business economic sector. Without a doubt, an example of the great change in criminal law has been the place of economic criminal law in the present to deal with business crimes.

We have to say that most of these risks that emanate from business economic activity must be effectively controlled by criminal law (along with other control mechanisms), and that companies cannot simply be passive subjects within society. What must be promoted is the participation of these companies in complying with the regulations established within each legal system.

In this situation, the idea of corporate criminal liability has been presented as an opportunity to tackle corporate crime. About it, Tiedemann said:

> It is a trilogy often repeated by the EU in many areas of white-collar crime law that corporations must be subject to "proportionate", but also "effective" and "dissuasive" sanctions. In this regard, there can be no doubts that a genuine criminal liability to legal persons is the more effective solution as compared to administrative fines, as long as it is embedded into an appropriate framework. Such a framework notably consists of procedural provisions on criminal proceedings against legal persons. Also, criminal prosecution authorities should be empowered—legally and factually—to investigate corporate crimes, as it is the case in many countries which introduced specialized public prosecution offices

[13] About the relationship between corporations and enviromental crimes, see, Vincenzo Ruggiero and Nigel South, 'Green Criminology and Crimes of the Economy: Theory, Research and Praxis' (2013) 21 Critical Criminology 359.

against corruption and other white-collar crimes. Moreover, a corporate criminal sanction is more deterrent as compared to an administrative fine. In terms of general prevention, this results from the same effect already known from comparing criminal offenses to administrative offenses[14].

A basic principle that can cope with this development (the idea of the adoption of criminal liability of legal persons in some legal systems at European level, e.g. Germany) is the principle of ultima ratio[15].

By now the principle of ultima ratio is understood as the idea that criminal law should be the last resort to be used in the field of sanctions has been commonly analyzed from a very classical view, so Kindhäuser[16] already holds that the criminal law of the time of Feuerbach and the Hegelians was a terrible, cruel and stigmatizing criminal law and therefore should be strictly limited. On the other hand, existing criminal law, regardless of a central area of serious crime, aims to prevent widespread social disorder in other social areas (e.g. in economic traffic or environmental damage), provided that a control instrument is not deemed to be sufficiently effective.

In this way, we can assume that there would be a flexibilization around the idea of the classic ultima ratio (and not for that reason less guaranteeing), based fundamentally on the idea of necessity of penal sanctions for the companies and taking care of the lack of effectiveness of its present regulation[17].

Imposing administrative sanctions for crimes is, instead, inconsistent and counterproductive to deterrent effects. Finally, the stronger stigmatization of a corporation by criminal law measures reflects the social role corporations play in the perception of the general public in a much better way[18].

5.2 Compliance as prevention of crimes

The term "Compliance" is a fairly broad and complex term, but it is important to establish a concept from which to start. Thus, Kuhlen points out that this term should be understood as "the measures by which companies intend to ensure that the rules in

[14] Klaus Tiedemann, 'Corporate Criminal Liability as a Third Track' in Dominik Brodowski, Manuel Espinoza de los Monteros, Klaus Tiedemann and Joachim Vogel (eds), *Regulating Corporate Criminal Liability*, (Springer 2014) 14.

[15] With regard to the principle of ultima ratio and economic criminal law, see, Rainer Hamm, 'Begrenzung des Wirtschaftsstrafrechts durch die Grundsätze der ultima ratio, der Bestimmtheit der Tatbestände, des Schuldgrundsatzes, der Akzessorietät und der Subsidiarität', in Eberhard Kempf, Klaus Lüderssen and Klaus Volk (eds), *Die Handlungsfreiheit des Unternehmers: Wirtschaftliche Perspektiven, strafrechtliche und ethische Schranken* (Walter de Gruyter 2009) 44ff.

[16] Urs Kindhäuser, 'Straf-Recht und ultima-ratio-Prinzip' (2017) 129 Zeitschrift für die gesamte Strafrechtswissenschaft 389.

[17] Mark Pieth, 'Braucht Deutschland ein Unternehmensstrafrecht?' (2014) 47 Kritische Justiz 280.

[18] Klaus Tiedemann (n 14) 14.

force for them and their personnel are complied with, that infringements are discovered and that they are eventually sanctioned"[19].

Here we can talk about a new form of regulation, "self-regulation". To understand this we must start by understanding the company as a social subject with rights and duties, it is also obliged to comply with the rules established for peaceful social coexistence, however, companies have a much more complex organizational environment than a natural person; consequently, the work of hetero-regulation of the state is ineffective. That is why the cooperation of the company is encouraged, through the scope of regulation, giving rise to the phenomenon of regulated self-regulation.

Self-regulation, whether or not fortified, is an attractive alternative to direct governmental regulation because the state simply cannot afford to do an adequate job on its own. Fiscal pressures invariably prevent governmental inspectors from regularly checking every workplace for occupational safety offenses, environmental quality lapses, crooked bookkeeping, or faulty product[20].

Today the criminal phenomenon has reached limits never imagined before, this being favored, for example, by the issue of globalization and the rise of companies in social life. In this situation, "new" concepts for business life have emerged, which are also in line with criminal law. These concepts, such as: criminal compliance, self-regulation, corporate social responsibility and good corporate governance have currently acquired great relevance in order to understand the company as a responsible and correctly organized subject in relation to the regulations and diverse parameters required by a Society that seeks progress and stability.

Modernly, criminal compliance is conceived as a tool for regulating conduct within the company, or rather "self-regulation", which would have the function of preventing risks, detecting infractions in the company and sanctioning them. However, criminal compliance is not only aimed at avoiding crimes, but its incorporation must have as a transcendental content the creation, maintenance and promotion of a healthy business culture.

Since the fundamental task of compliance is prevention, its use in the field of environmental protection should be promoted, thus seeking to avoid greater damage and possible sanctions by all possible means.

6 Conclusion: more prevention or more punishment?

Prevention or punishment? It is clear that an efficient protection of the environment requires a combination of prevention and sanction. In our consideration, we believe that the field of punishment for environmental crimes has covered a large part of the

[19] Lothar Kuhlen, 'Grundfragen von Compliance und Strafrecht' in Lothar Kuhlen, Hans Kudlich and Iñigo Ortiz de Urbina (eds), *Compliance und Strafrecht* (C F Müller 2012) 1.
[20] John Braithwaite, 'Enforced Self-Regulation: A New Strategy for Corporate Crime Control' (1982) 80 Michigan Law Review 1467.

studies that have been carried out on this subject. On the other hand, the studies referred to prevention have been neglected and this is where the subject of "green criminology" acquires great relevance, because it offers a great field of study that can be used to achieve an effective protection of the environment. The study of the damage in conducts against the environment can help us to establish which conducts are those that should be prohibited. On the stage of legitimacy of environmental criminal law, we can find problems too on the side of the "*Rechtsgutlehre*"[21] (legal good or legal interest), which has shown great deficiencies in the last years at the moment of giving legitimacy to the crimes of danger (*Gefährdungsdelikte*).

Giving more space to the study of the victim,[22] the environment and all that is encompassed by the idea of protection through restitution actions or reparation for the damage produced permits to understand how crimes against the environment can be reversed or at least remedied, and that is what we consider an effective protection of the environment.

In the field of economic criminal law, the idea of corporate criminal liability seems to be acceptable. Corporations play a fundamental role in society, which is why they not only generate benefits for society (employment, taxes, etc.) but also risks, and many of these risks can materialize in environmental crimes. To this end, the idea of imposing criminal sanctions on companies can generate effective controls for their "dangerous activities" and thus prevent the materialization of risks.

Compliance is definitely an element that has a lot to contribute to the prevention of environmental damage and here we are not only talking about preventing crimes, but also all kinds of environmental damage, which is precisely what we are looking for, the "effective protection of the environment".

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[21] See Michael Pawlik, *Das Unrecht des Bürgers* (Mohr Siebeck 2012) 127ff.
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CO2 CARBON-TRADING CRIME CONNECTION BETWEEN ENVIRONMENTAL CRIME AND CORRUPTION

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Abstract

A growing concern about pollution is characterizing public administrations, institutions, companies and citizens. In particular, despite the existence of several 'green-crimes', one of them is getting wide attention due to its impact on the global warming: CO2 carbon-trading crime. In this respect, since 2009 several cases of embezzlement using the EU's carbon-trading scheme were reported causing hundreds of millions of damages/losses. Consequentially, legitimate questions about the efficacy of the legal framework within which the CO2 carbon-trading crime is regulated were asked. In that respect, this study conducted a review of the literature on this crime in order to shed a light on its potential connection with the perceived level of corruption in the public procurement. Indeed, despite the adoption of strict legal norms as a consequence of the Paris agreement, corruption can have a detrimental effect on their applicability. The findings revealed that several researches identified an existing connection between the so called 'shadow-economy', which is characterized by a systematized corruption at an institutional level, and the registered rate of CO2-emissions. This evidence needs to be further explored in future studies to identify areas of improvement for criminal laws targeting corruption as, indeed, one of the main threats to the effective implementation of green policies.

1 Introduction

People's interest in various environmental issues is, objectively, characterized by a current positive trend over time. The interaction between social sciences, including criminology, and the analysis of environmental issues can have a two-pronged purpose: (a) drawing an exchange of information and perspectives from which communities will benefit in terms of safety and socio-environmental justice; (b) applying crime theories to the analysis and recognition of those affected by green crime and methodologies for reducing and preventing environmental damages. Within this framework, an innovative link between criminology and the environment is being consolidated by enabling socio-criminological studies on activities considered harmful to the environment and identifying certain criminal phenomena in response to specific environmental issues.

Currently, environmental crime does not have a universally agreed definition, but is regularly used to refer to almost all illegal activities that harm the environment for the (often financial) benefit of individuals, groups or companies. This can lead to illegal exploitation and trafficking of natural resources, contamination of environmental

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matrices and trafficking of hazardous substances. While some environmental crimes are local in nature, other crimes may fall into the category of transnational organized crime, as criminal groups and networks associated with them are increasingly engaged in what is currently being done. representing a concrete opportunity. Very often the modus operandi of criminal networks involves corruption and money laundering in relation to crimes against the environment.

Environmental crimes represent an emerging form of transnational organized crime that requires more in-depth analyses and more coordinated responses at both national and international level.

A first analytical report by the International Organization of criminal police (INTERPOL) and the United Nations Environment Programme (UNEP) analyzed a pre-2014 period highlighting criminal activity financially more rewarding than environmental policies. They included:

- Deforestation and illegal trade in natural resources (estimated annual value (USD): 30-100 billion);
- Mining and illicit trafficking of minerals (estimated annual value (USD): 12-48 billion);
- Illegal fishing (estimated annual value (USD): 11-30 billion);
- Illegal trade in plants and poaching of wild animals (estimated annual value (USD): 7-23 billion);
- Illegal trade in hazardous substances (estimated annual value (USD): 10-12 billion);

Overall in the pre-2014 period, an annual value of transnational environmental crime was estimated to be between 70-213 billion per year (USD).

Furthermore, international institutions (INTERPOL-UNEP) have documented an increase in annual resource losses attributable to environmental crimes, estimating an overall annual increase in 2016 91-259 billion (USD), with a positive percentage value of 30-22% and an average increase of 26%, the driving force of which can be found in the illegal trade in natural resources (70-52%) with a slight decline in illegal fishing (11-23.5 billion (USD)).

Crimes related to natural resources, waste and wildlife, resulting in tax fraud and money laundering, 'cyber-crime', financial crime and carbon credit fraud, demonstrate how 'power crimes' can be the representation of an illegal submerged market with low risks and high environmental profits. Frank Pearce's (1976) vision of "power crimes" focuses on an analytical perspective aimed at "the high social strata" including in this expression "white-collar crime" and "state-corporate crime", emphasizing the importance and considerable influence of political and economic actors in the study of criminal behavior. The relationship between organized crime and white-collars has

always been a well-defined combination, especially from an economic and financial point of view, and only recently the latter radically shifted towards green criminological issues. Precisely as a result of this change, some authors have identified important overlaps between environmental crimes and power crimes. As crimes carried out by actors with high socio-economic power (political-financial institutions and multinationals), such criminal actions can be defined as "*powerful crimes*". The power they wield is manifested in the opportunity to implement significant actions aimed at increasing the use of resources.

They also have an extreme versatility thanks to the rapid mobility in terms of economic/commercial exchanges in face of significant profits from criminal activities also at the environmental level.

A particular category of environmental crimes was identified and proposed by the scholar Ruggiero (2013) who elicited a different peculiarity in its nature. This type of criminal act, defined by the same author as "*foundational power crime*" manifests itself in an undefined field of action in which the conduct is in a legal-legislative "limbo" and therefore could become the subject of sanctioning legislation or turn into a common action accepted by the community and institutions. In this complex and innovative sphere of notion-crime, we include those crimes concerning the reduction of carbon emissions into the atmosphere by the most developed countries which, while declaring a 2% decrease in their emissions, they have increased imports of goods from the most disadvantaged countries by "contracting" the consequential emissions with the obvious result of increasing global pollution.

Carbon Trading is a rapidly growing global market and the vulnerability of this system, in a criminal perspective attributable to the crime of fraud and illegal trade, stems mainly from the immaturity of the market and the intangible nature of the transactions and product. Similar modus operandi and similar consequences can also be found in the case of illicit transfer of toxic substances with associated corrupt phenomena and forgery of acts and documents.

From what has been described so far, it is clear that the main feature of *green criminology* is the analysis of the misbehavior towards the environment displayed both from a "micro" perspective related to individual behaviors, and at the "macro" level it also encompasses the "powerful crimes" and criminal acts of the powerful.

Therefore, before stepping into the core of this article, it is necessary to analyze the existing legal framework that justifies the entire Carbon Trade Market.

2 The Legal Framework

The ratification of the Kyoto Protocol, dated 11 December 1997, represented for the European Union and its Member States the first step towards the reduction of greenhouse gas emissions. Indeed, the EU has committed itself to reducing greenhouse gas emissions in the period between 2008 and 2012 by 8% compared to 1990 levels. The

commitment to reduce greenhouse gases has been divided between Member States and Italy were assigned a 6.5% reduction in emissions compared to 1990 levels, this EU decision was later introduced into national law (120/2002).

As part of the XVIII Conference of the Framework Convention on Climate Change (UNFCCC - COP18 / Cmp8), held in Doha in 2002, it was possible to reach an international agreement for the subsequent further reduction of greenhouse gas emissions of industrialized countries in the period 2013-2020.

The European Council , in the spring of 2007, far-sighted with respect to international events, had already envisaged an opening to a low-carbon economy through a combined approach that proposed energy policies to fight climate change. Therefore, the EU has set the following objectives to be achieved by 2020:

- reduction of greenhouse gas emissions by 20% compared to 1990 levels, binding;
- production of energy from renewable sources equal to 20% of energy consumption in the European Union, binding;
- use of biofuels for 10% of the amount of fuel used in the transport sector, binding;
- reduction of energy consumption by 20%, which is not binding

Within this framework, 4 years earlier, the Directive 2003/87 / EC was approved establishing a Community system for the exchange of emission quotas for greenhouse gases: the *Emission Trading System (ETS).* ETS at present, deals with around 45% of the EU's greenhouse gas emissions.

According to the provisions of the Directive, for each year a maximum limit of emissions is set for each plant / activity (emission quotas) and through a specific European register the exchange of quotas between the different participants in the system is guaranteed. Each quota attributes the right to issue 1 ton of CO2eq. The quotas are acquired through an auction system or assigned free of charge, based on the type of activity and in consideration of the *carbon leakage* risk (transfer of production to countries outside the EU, where, in the absence of climate policies, industrial costs may be lower). Free allocation is based on benchmarks that enhance the best emission performance (benchmark*)* and on harmonization rules shared at European level. The emissions produced must be compensated by each operator through the quotas assigned or acquired at auction: emissions higher than the assigned quotas must be purchased on the market by those operators who have issued less than the quotas available to them.

It is essential to highlight how the total emissions are capped in order to gradually decrease across time. The maximum number of quotas is therefore determined at European level and decreases by 1.74% per year from 2013 to 2020.

It is interesting to know that, despite the relevant impact of ETS on greenhouse gas emission, little is known about potential illicit dynamics occurring within this trading system, which is surely quite flexible inwardly.

In this respect, international evidence revealed that this flexibility might provide some room for illicit investments, money laundering and other illegal activities, which are all characterized by a common red flag: corruption

3 Carbon Trade Market (ETS) & Corruption

A study conducted by the OCSE revealed that corruption tends to be manifest in both rich/developed countries and the developing ones but, especially in the latter, it seems to have a significant impact on CO2 emissions that are finally registered by local authorities.[1] That is the reason why some researches tried to explain how that mechanism works. Firstly, they underlined the fact that, due to both a not perfect set of norms and a clear complexity of environmental interventions, corruption reaches the deepest point of institutions (ranging from the authorities that have the responsibility to guarantee an equal treatment of the environment to the public administrations' headquarters) producing devastating effects on those ecological services put in place to protect the environment itself.[2]

For example, according to the Guardian's report released on the 24th of August 2015, approximately 600M tons of carbon dioxide have been illicitly emitted despite the ruling act approved by the UNFCCC, generating an inevitable set of accusations of corruption directed towards the public administrations of those countries which signed the agreement.[3]

Similarly, Cole used relevant data of 94 countries for the period included between 1987 and 2000 to examine the direct/indirect effects of corruption on CO2 emissions; he revealed that corruption can both have a direct influence, despite existing environmental regulations which should adversely prevent it, and have an indirect impact by affecting the surrounding economy.[4]

Other studies interestingly revealed an existing correlation between environmental quality, as offered by analyzed countries, and their levels of internal corruption (see. Table 1).

[1] Yue-Jun Zhang, Yan-Lin Jin, Julien Chevallier and Bo Shen, 'The effect of corruption on carbon dioxide emissions in APEC countries: A panel quantile regression analysis' (2016) 112 Technological Forecasting and Social Change 220-227.

[2] Yue-Jun Zhang and others (n 1) 2016; Transparency International, 'Corruption Perception Index 2018' (2019) <www.transparency.org/cpi2018> accessed 10 February 2020.

[3] Yue-Jun Zhang and others (n 1).

[4] Matthew A Cole, 'Corruption, income and the environment: an empirical analysis' (2007) 62(3) Ecological Economics 637-647.

Tabel 1. Examples of studies highlighting the connection between corruption and environmental quality

Authors	Topic	Results
Ozturk & Al-Mulali	Corruption and CO2 emissions	Corruption positively correlates with CO2 emissions
Biswas et al.	Pollution, '*shadow economy*' and corruption	The relationship between pollution and the so called "shadow economy" depends on corruption levels in the P.A.
Cole	Corruption and environmental policies	Corruption is the most powerful predicting factor for changes' frequency in the environmental policies in EU countries
Fredriksson et al.	Corruption and energetic efficiency	Highly corrupted policy makers reduce the strictness of energetic policies
Damania et al.	Corruption and environmental policies	The efficacy/transparency of Carbon Trade Market depends on the levels of institutionalized corruption

In this respect, Callen and Long revealed the existence of 'corrupted networks' between political parties and institutions finalized to the promotion of a hidden traffic of eco-green services in exchange of personal favors. Within this framework, especially after the approval of the Kyoto Protocol, there is the CO2 credits market.[5]

As a matter of fact, several researches provided empirical evidence of an existing positive correlation between CO2 emissions and corruption levels at a national level. For instance, Ozturk and Al-Mulali revealed that the application of strict anti-corruption measures can indirectly reduce CO2 emissions.[6] Again, Biswas et al conducted a research that shed a light on the connection between the so called 'shadow economy', identified as the economic output of illicit procedures in the public

[5] Michael Callen and James Long, 'Institutional corruption and election fraud: evidence from a field experiment in Afghanistan' (2015) 105(1) American Economic Review 354.

[6] Ilhan Ozturk and Usama Al-Mulali, 'Investigating the validity of the environmental Kuznets curve hypothesis in Cambodia' (2015) 57 Ecological Indicators 324-330.

administration, and the environmental pollution as mainly driven by corruption levels.[7]

In support of their perspective, the USAID declared that, indeed, corruption in the economic-environmental sector, including within the CO2 market, determined the illicit movement of public funds which were originally emitted for environmental purposes.[8]

All of this happened because, in some way, pollution has become a quite valuable resource to be exchange within a more and more normalized global market.[9]

In this respect, Section 17 of Kyoto Protocol established clear commercial criteria to be adopted in order to monitor each carbon dioxide trade that is occurring. Indeed, it affirms that 'each trade must be tracked and controlled',[10] producing a niche market.[11]

As a consequence, several methods have been developed to facilitate the CO2 trade market such as: (a) the 'share' (through buy and sell procedures) of CO2 credits to voluntarily compensate those emissions that cannot be reduced; (b) tax benefits to facilitate funding procedures of projects devolved to an economically green development (especially in developing countries) which might be reducing CO2 emissions.[12]

Within this framework, several countries tried to act on those norms that should be regulating CO2 emissions by providing different partnership models and permissions that, however, did not work out.[13] Indeed, most of them seemed to be not only ineffective but also, sometimes, even counterproductive because they created some free room that had been filled up by illegal activities such as illicit investments, speculations and money laundering.[14]

The easiness through which carbon brokers can provide consultancy services to those companies aiming at getting some advantages (making profit) out the CO2 trade market created a fluid market-system both inwardly and outwardly, providing concrete opportunities to organized crime groups.

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[7] Amit K Biswas, Mohammad Reza Farzanegan and Marcel Thum, 'Pollution, Shadow Economy and Corruption: Theory and Evidence' (2012) 75 Ecological Economics 114-125 <doi.org/10.1016/j.ecolecon.2012.01.007> accessed 10 February 2020.

[8] Yue-Jun Zhang and others (n 1).

[9] Reece Walters and Peter Martin, 'Crime and the Commodification of Carbon' in Reece Walters, Diane Solomon Westerhuis and Tanya Wyatt (eds), *Emerging Issues in Green Criminology. Critical Criminological Perspectives* (Palgrave Macmillan, London 2013).

[10] Walters and Martin (n 9).

[11] United Nations Framework Convention on Climate Change, *Kyoto Protocol* (1997) <unfccc.int/kyoto_protocol/items/2830.php> accessed 10 February 2020.

[12] Esteve Corbera and Katrina Brown, 'Offsetting Benefits? Analyzing access to forecast carbon' (2010) 42 Environment and Planning 1739-1761.

[13] Reece Walters, *Crime is in the Air. The Politics and Regulation of Pollution in the UK* (London: CCIS 2010).

[14] Reece Walters and Peter Martin (n 9).

More precisely, as revealed by Transparency International, the latter tend to get involved into a set of speculations, illicit investments and money laundering in CO2 trade market.[15] They move significant amount of money within carbon trade market acting as crucial intermediaries between buyers and sellers. For example, they might launder their money by fractioning it into small amounts that are easy to smuggle across Europe (and overseas) by involving corrupted public administrations and off-shore sites to deliver 'CO2 reducing' interventions. In other words, organized crime groups can easily launder their money and local corrupted administrations can have some extra budget to comply with EU norms in the area of CO2 emissions' interventions.

The existing literature, unsurprisingly, underlined the fact that frequently CO2 trade market did not work the way it was supposed to. Indeed, the last evidence released by the Carbon Dioxide Information Analysis Center (CDIAC) showed that CO2 EU emissions were, in 2014, 3590 CO2's Mt (approximately 10% of the global emissions) 61% beyond the emissions' limit set in 1990.[16] In this respect, literature estimates that between 33% and 66% of CO2 emissions' certificate do not actually indicate real reductions in CO2 emissions.[17] On the contrary, as argued by Giaccio, carbon traders and untracked intermediaries are those who got enriched by this market.

In light of what has been said so far, it is not surprising that the literature identified substantial problems related with the CO2 trade market, such as:[18]

- The most polluting companies are contemporarily the most economically powerful on the stock-market. They tend to be protagonist of systematic scams to move money within the CO2 trade market even though they were not finally capable of effectively reducing CO2 emissions;

- Several projects in the environmental area have been red flagged as interacting with 'corrupted' administrations.

It might be therefore argued that ETS produced not only opportunities for effective interventions and opportunities to reduce CO2 emissions but also a 'grey area', providing some free room for illicit activities. Therefore, it becomes necessary to work on potential risk factors that, externally, might help to identify where these illicit activities might be more frequent and/or probable internally (in the CO2 market). In

[15] Transparency International, 'Fraud and Corruption in the Carbon Finance Markets – Lessons learnt' (2012) <www.clarmondial.com/wp-content/uploads/2017/04/Transparency_International.pdf> accessed 10 February 2020.
[16] Mario Giaccio, 'Il Mercato dell'Anidride Carbonica' (2015), <www.cesmamil.org/wordpress/wp-content/uploads/2016/02/160211.4-Giaccio-IL-MERCATO-DELL%E2%80%99ANIDRIDE-CARBONICA.pdf>, accessed 10 February 2020.
[17] Michael Wara and David G Victor, *A realistic policy on international carbon offsets, program on energy and sustainable development* (Working Paper 74, Stanford University 2008); Mario Giaccio (n 16).
[18] Mario Giaccio (n 16).

that sense, corruption becomes the most reliable and stable 'red flag' to be used; indeed, it allows to identify, from an external point of view, how (and why) a specific area might be negatively affecting the internal efficacy of the CO2 trade market.

4 Conclusions

This article underlines the relevant changes addressed by the EU in terms of environmental sustainability and climatic change. Especially ETS can have a huge impact on the reduction of greenhouse gas emissions, however, it needs further research especially in terms of vulnerabilities and exposure to illicit mechanisms. Indeed, as previously mentioned, the still unclear procedures through which ETS is regulated might provide some room to money laundering, illicit investments and speculations and, in this respect, corruption within the Public Administration could be a significant red flag and identify exposed areas. Therefore, our next research' step will be unsurprisingly aimed at identifying specific corruption risk indicators for CO2 trade crime, the latter might be quite informative especially in face of more and more stringent interventions put in place by law enforcement agencies and local administrations.

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SUSTAINABLE DEVELOPMENT AND PRECAUTIONARY PRINCIPLE: WHAT IS THE ROLE OF CRIMINAL LAW?

By Mario Iannuzziello[*]

Abstract

Sustainable development and precaution are topics that recently have entered the juridical debate. These principles have found a normative dimension in international declarations, in European treaties and in the legislation of some states, having a common ground in the environmental protection. Some production processes, in fact, may cause mass victimization and widespread, serial, and historical offenses. Thus, the perspective also involves the criminal-policy strategies and the role that the precautionary principle could play for the protection of broad-spectrum legal goods. Indeed, the precaution moves according to a generic perspective and a specific one. The former could be a criminal-policy principle, while the latter an imputation criterion. In the ordinary hazard, in the risk assessment and in the risk management, the generic precaution could select what causes an offense against the environment and the health, giving—in this way—also a subsidiary criminal protection.

1 Introduction

The topic of the relationship between sustainable development and precautionary principle from a criminal point of view generates—at a first glance—perplexity; in fact, both are ideas animating the philosophical and political debate for more than half a century, but which have only recently entered the juridical field. The protection of the environment, the defence of fundamental rights from possible injuries related to a production model, and the almost limitless possibilities of technology are extreme modernity issues of which the sustainable development and the precautionary principle are merely conceptual synthesis. These may seem far removed from criminal law,[1] which concerns a man and his actions. However, the law is not only associated to the concept of rule, but also of value one, and therefore it is able—through its evolutionary processes and respecting its forms—to be contemporary to itself and to give juridical form to those values which emerge in a democratic society. Principles such as sustainable development and precaution have, in fact, gradually become more binding. International soft law declarations have entered the European sources and the domestic systems with the aim of harmonising legislation in order to promote a sustainable development model for the European Union (Article 3 Consolidated Version of the Treaty on European Union [2008] OJ C115/13 and Article 37 Charter of Fundamental Rights of the European Union [2016] OJ C202/16).

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[1] José Luis de La Cuesta and others (eds), *Protection of the Environment through Criminal Law* (AIDP World Conference Bucharest, Romania, 18th-20th May 2016) (Maklu Publisher 2016).

In this context, criminal law suffers what has been described as a 'shock da modernità'[2] that puts in crisis, among all, the action theory, the concept of *actus reus* and the causation. These concepts were developed for criminal law applied to individuals (*Kernstrafrecht*), and nowadays they seem unsuitable for the offenses to legal goods (individual or collective) due to the model of development and production. It is argued on several sides that criminal law should withdraw from these areas in favour of other forms of protection.[3] However, it would be possible to include some of the postulates of sustainable development and precaution in criminal policy strategies.

Pope Francis, in the encyclical *Laudato si'*, which inspired the reflections at the centre of the conference *The criminal law protection of our Common Home*, focuses the attention on the environment that has been put at risk by an industrial development that aims exclusively at profit without taking into account the impact it has on society. The alternative is the sustainable development and the circular economy, which focuses on solidarity between generations (including future generations), protection of the environment, and advancement of knowledge and technology. These themes were also dealt during the Synod on Amazonia: the final document, in fact, explores the subjects of ecological conversion and integral ecology, that is environmental, economic, and social.

Among the instruments indicated by Pope Francis for the care of the common home, there is also the precautionary principle,[4] that is indicated as a means of protecting the weakest and as a tool to develop additional knowledge to enhance the environmental preservation and ensure the protection of the fundamental rights.

2 Sustainable development and environmental protection

The notion of sustainability—first—and that of sustainable development—then—entered into public debate in the early 1970s when the technological progress, the new scientific discoveries, and the changing environmental conditions caused by industrial production have led the international community to deal with the protection of the conditions of existence, the development model, and the conservation of the planet for those who come after us.[5]

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[2] Federico Stella, *Giustizia e modernità. La protezione dell'innocente e la tutela delle vittime* (3rd edn, Giuffrè 2003) 292.

[3] Francesco Centonze, *La normalità dei disastri tecnologici. Il problema del congedo dal diritto penale* (Giuffrè 2004) 400ff; Francesco D'Alessandro, *Pericolo astratto e limiti-soglia. Le promesse non mantenute del diritto penale* (Giuffrè 2012) 341ff.

[4] Pope Francis, *Laudato si'. Encyclical letter on care for our common home* (Libreria editrice Vaticana 2015) n. 186; Simone Morandini, 'Ecologia' in Paolo Benanti and others (eds), *Teologia morale* (Edizioni San Paolo 2019) 234ff.

[5] Ferrando Mantovani, 'L'abitabilità del pianeta terra: un problema planetario' in Enrico Mario Ambrosetti (ed), *Studi in onore di Mauro Ronco* (Giappichelli 2017) 187ff.

In 1972, the *Report of The United Nations Conference on the Human Environment* adopted in Stockholm[6] opened up the question of the need to protect and preserve the environment for present and future generations, which may be compromised by the industrial development that does not take into account the environmental and social impact. The report, therefore, proposes a model of growth compatible with the improvement of the environment and people's interests.

Another milestone offering important insights is the *Report of the World Commission on Environment and Development: Our Common Future*, known as the *Bruntland Report* (1987). The report establishes guidelines to comply with the technological advancement, the defence of the environment, the protection of the future generations, and defines the sustainable development. This 'is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs'.[7] It also recognises the environment as a fundamental right and calls on States, as a form of 'strict liability', to adopt 'all reasonable precautionary measures to limit the risk when carrying out'.[8]

Subsequently, in 1992, the *Rio Declaration on Environment and Development* states that the protection of the environment is an integral part of the development process of both present and future generations. It also sets a differentiated burden of responsibility for the developed and developing states, promoting the circulation of knowledge and participation of privates in environmental protection decisions and identifying the precautionary principle as a means of protecting the environment in the event of serious or irreversible damage.[9] Linked to this declaration is, among other documents, the *Agenda 21*, which is the instrument for implementing at local level the principles of sustainable development.

Among the various international contexts dealing with these topics, the *World Summit on Sustainable Development* in Johannesburg (2002) occupies a prominent place.[10] On that

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[6] The United Nations Conference on the Human Environment, 'Report of the United Nations Conference on the Human Environment' (1972) <www.un.org/ga/search/view_doc.asp?symbol=A/CONF.48/14/REV.1> accessed 8 January 2020.

[7] World Commission on Environment and Development, 'Our Common Future' (1987) <sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf> para 30 accessed 9 January 2020.

[8] World Commission on Environment and Development, 'Our Common Future, Annexe 1: Summary of Proposed Legal Principles for Environmental Protection and Sustainable Development Adopted by the WCED Experts Group on Environmental Law' (1987) <sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf> accessed 9 January 2020 para 11.

[9] The United Nations Conference on Environment and Development, 'Rio Declaration on Environmental and Development' (1992) <www.cbd.int/doc/ref/rio-declaration.shtml> accessed 9 January 2020.

[10] United Nation, 'World Summit on Sustainable Development' (2002) <www.un.org/ga/search/view_doc.asp?symbol=A/CONF.199/L.1&Lang=E> accessed 10 January 2020.

occasion, three components of sustainable development (economic development, social and cultural development, and environmental protection) were identified with corresponding values that must be balanced (utility, justice, and environmental integrity).

The economic dimension deals with the ability of producing new wealth without undermining the overall resources of a community. The sociocultural dimension concerns the preservation of the characteristics of each community and the promotion of a model of responsibility among them. The environmental protection identifies the risk of compromising the self-organization process of an ecological system through productive activities; then, the protective action is placed to maintain the adaptability of the system to the changes caused by man.[11]

Therefore, in order for the sustainable development to be truly sustainable, it must be human[12]—that is, based on 'new coalitions between civil society, public institutions, and economic subjects that can come to the fore, and thus become the starting point for a new policy and more vital democracy'.[13] It is, thus, a procedural instrument aimed at its three components and at finding the right balance between technological progress and environmental protection,[14] as well as the sociocultural dimension.[15]

In 2015, the *U.N. Agenda 2030 for Sustainable Development* identified concrete actions for sustainable development and indicated as objectives, among others, the promotion of a responsible model of production that respects the environment and fundamental rights.[16]

Alongside this broad definition of sustainability, there is another sustainability in the strict sense, complementary to the first, which only concerns the ecological dimension and takes the form of procedural rules for a sustainable ecological impact.[17]

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[11] Luigi Fusco Girard and Peter Nijkamp, *Le valutazioni per lo sviluppo sostenibile della città e del territorio* (Franco Angeli 1997) 23ff.

[12] Murat A Yülek, 'Industrial Policy and Sustainable Development' in Murat A Yülek (ed), *Industrial Policy and Sustainable Growth* (Springer 2018) 3ff.

[13] Luigi Fusco Girard, 'Introduction' in Luigi Fusco Girard and others (eds), *The Human Sustainable City. Challenges and Perspectives from the Habitat Agenda* (Ashgate Publishing Company 2003) 4.

[14] Stefano Grassi, 'Ambiti della responsabilità e della solidarietà intergenerazionale: tutela dell'ambiente e sviluppo sostenibile' in Raffele Bifulco and Antonio D'Aloia (eds), *Un diritto per il futuro. Teorie e modelli dello sviluppo sostenibile e della responsabilità intergenerazionale* (Jovene 2008) 185ff.

[15] Martina Bosone and Anna Onesti, 'From tangible to intangible: hybrid tools for operationalizing historic urban landscape approach' [2017] Bollettino del centro Calza Bini 239.

[16] General Assembly of United Nations, 'Transforming our world: the 2030 Agenda for Sustainable Development' (2015) <www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E> accessed 10 January 2020.

[17] Wolfgang Kahl, 'Art.11 AEUV' in Rudolf Streinz and Walther Michl (eds), *EUV/AEUV Vertrag über Europäische Union, Vertrag über die Arbeitsweise der Europäischen Union Charta der Grundrechte der Europäischen Union* (C.H. Beck 2018) para 23.

Although the principle of sustainable development is referred to in various international conventions and treaties, the international jurisprudence has not adequately deepened its scope, referring to the general prohibition of transboundary pollution. Among the few judgments of the International Court of Justice, the *Gabcikovo – Nagymaros case* (1997),[18] concerning the construction of two dams on the Danube, stands out. The aim of this intervention was to produce energy, to improve the navigability of the river, and to protect the environment. The international judge, among the many points on which he focused, touched on the relationship between the economic exploitation of a natural good as well as the environmental protection and sentenced that it is only by harmonizing these two terms that sustainable development can be achieved. The International Court of Justice distinguishes it from the norms and standards of international environmental law (including the precautionary principle) and recognises its 'equitable function for all disputes concerning economic development and environmental protection'.[19]

From an international point of view, the elements of sustainable development are the protection of the environment as an essential context for economic growth, the intergenerational responsibility for the use of resources according to equity, and the differentiated distribution of responsibility among states based on their internal development.[20] The principle of sustainable development, in addition to a hermeneutical function, is flanked by other principles already mandatory in terms of environmental protection (prohibition of transnational pollution, obligation of cooperation for environmental protection, preventive principle, and precautionary principle), which lead to define it as a necessary instrument for the preservation of the environment and also for the benefit of future generations[21] as if it were a judicial principle.[22]

On the other hand, in the European legal area, the sustainable development is recognised as a rule in several provisions, which gives it a substantial dimension. In fact, Articles 3 and 21 Consolidated Version of the Treaty on European Union [2008] OJ C115/13, Article 11 Consolidated Version of the Treaty on the Functioning of the European Union [2016] OJ C202/16 and 37 Charter of Fundamental Rights of the

[18] International Court of Justice, 'Case concerning the Gabčíkovo - Nagymaros project (Hungary/Slovakia)' (1997) <www.icj-cij.org/files/case-related/92/092-19970925-JUD-01-00-EN.pdf> accessed 13 January 2020.

[19] Roberto Giuffrida, 'Lo sviluppo sostenibile: i caratteri delle norme internazionali e il loro operare nella soluzione delle controversie' in *Studi di diritto internazionale in onore di Gaetano Arangio – Ruiz*, vol II, (Editoriale Scientifica 2004) 1071.

[20] Daniela Gottschlich, *Kommende Nachhaltigkeit: nachhaltige Entwicklung aus kritisch-emanzipatorischer Perspektive* (Nomos 2017) 69ff.

[21] Michael Rose, *Zukünftige Generationen in der heutigen Demokratie. Theorie und Praxis der Proxy-Repräsentation* (Springer 2018) 147ff.

[22] Roberto Giuffrida (n 19) 1074ff.

European Union [2016] OJ C202/16 define it both as a perspective and as a development model to be pursued and implemented; thus, it acquired a 'basic normative content'.[23]

The main field in which such innovative scope is developed is undoubtedly that of environmental policy. The Consolidated Version of the Treaty on the Functioning of the European Union expressly confers on the Union the power to act in this area and to impose objectives both by its own acts and by secondary legislation.[24] Among the member states, it can be noted that some legal systems, such as the German one, have expressly included in the constitution the option in favour of sustainable development, including the protection of future generations (art. 20a German Constitution), while others—and this is the case of Italy—have recognised this option by ordinary law (art. 3bis of the Italian Consolidated Environmental Act).[25]

These rules are addressed to the authorities to direct the public action towards the protection of fundamental legal goods that may be compromised by a model of development.

3 Precautionary principle and the directive on the protection of the environment through criminal law

In this context, the precautionary principle also plays an important role from a criminal policy perspective. Born in international environmental law, it is recalled by international conventions on the protection of the sea and under the WTO in many agreements, and among others, on sanitary and phytosanitary measures, that one on technical trade barriers to limit traffic on certain types of products potentially harmful to the environment and the health.[26] In addition, this principle is functional to sustainable development as well as to preventive measures; in fact, when a production process can cause an irreparable damage, the precautionary principle allows one to forbid it or to continue it with the adoption of an environmentally respectful mode of production or to stop the potentially dangerous activity.[27]

The precaution arises in the context of risk, i.e. in those situations where there is a limited causal knowledge. This uncertainty has an objective basis and can lead to anticipate the public intervention below the threshold of danger. So, the precautionary principle is aimed at selecting lawful risks—based on available scientific data—for activities that are potentially harmful,[28] while the precautionary measures arise

[23] Astrid Epiney, 'Artikel 20a' in Herman von. Mangoldt and others (eds), *Kommentar zum Grundgesetz. Band 2: Artikel 20 bis 82* (Verlag Franz Vahlen 2005) para 101.
[24] ibid para 104ff.
[25] Fabrizio Fracchia, 'Sviluppo sostenibile e diritti delle generazioni future' [2010] Rivista quadrimestrale di diritto dell'ambiente 13.
[26] Fabio Bassan, *Gli obblighi precauzionali nel diritto internazionale* (Jovene 2006) 89ff.
[27] Daniela Belvedere 'La tutela dell'ambiente e il ruolo della giurisprudenza nel riconoscimento del rischio da fattori inquinanti' [2015] Nuove Autonomia. Rivista di diritto pubblico 261ff.
[28] Anna Gragnani, 'Il principio di precauzione come modello di tutela dell'ambiente, dell'uomo, delle generazioni future' [2003] Rivista di diritto civile 42ff.

whenever there can be a harm or a danger within the lawful risk, that was not foreseeable when the activity started or during the implementation of it. These vary according to a series of parameters; the scientific data about the danger or risk of the production process, the irreversibility of damage, the costs and feasibility of the precautionary measure, safety standards, and the availability of the best protection techniques.[29]

Therefore, there can be a *strong* precaution, which prohibits any activity whose harmful character cannot be excluded, and a *weak* precaution, which consists in mere reporting obligations. In between, there are *median* concepts which take the form of rules of conduct—more or less specific—for the exercise of dangerous activities.[30] The precaution takes both a *generic* and a *specific* form. The former is addressed to public actors within their respective competences. For example, the choice on the marketing of GMOs is a matter for the legislator,[31] while the authorization to carry out an activity which involves environmental risk is a matter for the public administration.[32] The specific precaution, instead, allows to attribute a fact according to a precautionary logic.[33]

In the European legal area, Article 191 Consolidated Version of the Treaty on the Functioning of the European Union [2016] OJ C202/16 legally binds the European Union's policy to the precautionary principle for the protection of human health, natural resources, and the environment; consequently, it is possible to say that the precaution is one of the principles functional to the welfare state (*Sozialstaatprinzip*).[34] The environment, however, is not intended as an absolute value, but as a relative one. Therefore, it can be balanced with other legal goods related to it, such as economic activity, in a perspective of proportionality and rationality to ensure a level of protection that is not predefined but is based on the unique situation. The standard of protection derives from comparing the situation of risk with the available scientific data, the different environmental conditions in the Union, the assessment of costs and benefits, and the socio-economic development of the Union and the individual Member States.

The European Commission, 'On the precautionary principle' (Communication) COM (2000) 1 final, has set the scope of applicability in risk analysis (assessment, management, and communication) with the involvement also of stakeholders, and has defined the characteristics of precautionary measures (proportionality, non-

[29] Fabio Bassan (n 26) 46.

[30] Fausto Giunta, 'Prudenza nella scienza *versus* prudenza della scienza? In margine alla disciplina dei trapianti e degli xenotrapianti' [2003] Diritto pubblico 157.

[31] Donato Castronuovo, 'Le sfide della politica criminale al cospetto delle generazioni future e il principio di precauzione: il caso OGM' [2013] Rivista trimestrale di diritto penale dell'economia 393.

[32] Francesco De Leonardis, *Il principio di precauzione nell'amministrazione del rischio* (Giuffrè 2005) 229ff.

[33] Donato Castronuovo, *Principio di precauzione e diritto penale. Paradigmi dell'incertezza nella struttura del reato* (Aracne 2012) 123ff.

[34] Astrid Epiney (n 23) para 95.

discrimination, consistency with similar measures already taken, based on an examination of potential benefits and costs, subject to review and capable of assigning responsibility for producing the scientific evidence with the reversal of the burden of proof). The Court of Justice of the European Union[35] has established that the precautionary principle is not only a fundamental principle of the European environmental policy, but also a general principle since it concerns food law and health protection. Furthermore, it is justiciable under Article 263 Consolidated version of the Treaty on the Functioning of the European Union [2016] OJ C202/16.

Therefore, the rationale of the precautionary principle lies in providing forms of protection (also of a criminal nature?) in conditions of scientific uncertainty necessary to avoid the possible onset of a situation of danger or damage, which would not be repairable by means of compensatory or sanctioning instruments,[36] as emerged from the International Monsanto Tribunal.[37]

The protection of the environment can be an example of precautionary legislation. In fact, the first option is for an administrative protection (i.e. authorizations, licences), that sets the ordinary hazard, while the criminal one is subsidiary and arises outside the ordinary hazard (i.e. environmental disaster, pollution). This one has been harmonized by Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law [2008] OJL 328/28.[38]

This act seems to constitute a criminal law protection of the environment with a view to a generic precaution. In addition to the textual reference to what is now Article 191 Consolidated Version of the Treaty on the Functioning of the European Union [2016] OJ C202/16, among the various recitals it is recognised that there are activities that 'cause or is likely to cause death or serious injury (…) any conduct which causes the significant deterioration'[39] of the environment. Also, the European Parliament and the Council set the elements of criminal liability: a conduct that includes a voluntary act or an omission to a legal duty, the intention or a serious negligence and an environmental damage. The directive provides the liability of legal persons for environmental offences, the obligation to criminalize certain behaviours (discharges, waste

[35] Wolfgang Kahl, 'Art. 191 AEUV' in Rudolf Streinz and Walther Michl (eds), *EUV/AEUV Vertrag über Europäische Union, Vertrag über die Arbeitsweise der Europäischen Union Charta der Grundrechte der Europäischen Union* (C.H. Beck 2018) para 77.

[36] Daniela Belvedere (n 27) 261.

[37] Marco Colacurci, 'Il "Tribunale Monsanto": le imprese transazionali dinanzi alla responsabilità per ecocidio?' [2018] JUS Rivista di Scienze Giuridiche 145ff.

[38] Bernd Hacker, 'Umweltstrafrecht' in Ulrich Sieber and others (eds), *Europäisches Strafrecht* (Nomos C.H. Beck 2011) 466; Frank Saliger, 'Neunundzwanzigster Abschnitt Straftaten gegen Umwelt' in Helmut Satzger and others (eds), *StGB Strafgesetzbuch Kommentar* (Carl Heymanns Verlag 2014) 2166ff; Helmut Satzger, *Internationales und Europäisches Strafrecht. Strafanwendungsrecht. Europäisches Straf- und Strafverfahrensrecht. Völkerstrafrecht* (Nomos 2018) 185.

[39] Council Directive 2008/99/EC of 19 November 2008 on the protection of the environment through criminal law [2008] OJL 328/30.

management, etc.) and certain types, methods, and objects of production which may cause serious damage to the environment and to health.[40] In this way, the directive selects areas of risk that are set through an administrative authorization,[41] and identifies the criminal sanction as an instrument capable of protecting broad-spectrum legal assets. On the other hand, it does not seem that the directive as well as the transposing rules have taken the specific precaution as a criminal charge (see articles 452bis et seq. of the Italian Criminal Code and articles 324 et seq. of the German Criminal Code).[42]

On a criminal policy perspective, this leads to:

> make present and alive already in the legal framework the profiles of damage inherent to conducts which, especially in environmental matters, producing mass victimization, [that] have difficulty in manifesting a full-blown offence towards entities of value concretely felt by social conscience. This objective must, above all, involve adequate information to the public on the harmful knowledge deriving from certain types of conduct.[43]

4 Open questions on the precautionary principle in criminal law and possible perspectives

The precaution poses no easy problems to criminal law.[44] As mentioned, that can have two declinations: generic and specific. The first could be a criminal policy criterion addressed to the legislature to give criminal protection to broad-spectrum legal goods (environment, health, public safety). The second, on the other hand, could be an imputation criterion capable to ascribe a fact to an author regardless of the causation and of subjective elements of criminal liability (intention or negligence). Consequently, the topic also involves the relationship between science and law.[45]

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[40] Franco Bricola, 'Responsabilità penale per il tipo e per il modo di produzione (a proposito del «caso di Seveso»)' [1978] La Questione criminale 101ff; Carlo Piergallini, *Danno da prodotto e responsabilità penale. Profili dogmatici e politico-criminali* (Giuffré 2004).

[41] Filippo Sgubbi, 'Tutela penale di «interessi diffusi»' [1975] La Questione criminale 439ff.

[42] Micheal Kloepfer, Martin Heger, *Umweltstrafrecht* (C.H. Beck 2014); Carlo Ruga Riva, *I nuovi ecoreati. Commento alla legge 22 maggio 2015, n. 38* (Giappichelli 2015).

[43] Gabrio Forti, 'Tutela ambientale e legalità: prospettive giuridiche e socio-culturali' [2003] Rivista italiana di diritto e procedura penale 1367.

[44] Fausto Giunta, 'Il diritto penale e le suggestioni del principio di precauzione' [2006] Criminalia. Annuario di scienze penalistiche 243ff; Giovannangelo De Francesco, '"Interpersonalità" dell'illecito penale: un 'cuore antico' per le moderne prospettive della tutela' [2015] Cassazione penale 854ff; Mariavaleria Del Tufo, 'Principio di precauzione e gestione del rischio. Quali spazi applicativi per il diritto penale?' in Gaetano Carlizzi and Giovanni Tuzet (eds), *La prova scientifica nel processo penale* (Giappichelli 2018) 137ff.

[45] Scheila Jasanoff, *Science at the Bar. Law, Science, and Technology in America* (Harvard University Press 1997) 114ff; Domenico Pulitanò, 'Il diritto penale tra vincoli di realtà e sapere scientifico' [2006] Rivista italiana di diritto e procedura penale 798; Constantin Teetzmann, *Schutz vor Wissen? Forschung mit doppeltem Verwendungszweck zwischen Schutzpflichten und Wissenschaftsfreiheit* (Nomos 2019) 131ff.

The specific precaution could be capable of subverting certain fundamental principles of criminal law such as legality, harm principle,[46] and the standards of criminal liability.[47] In the context where the principle in question operates, it could be possible to charge a fact that, at the time of the conduct, was not foreseeable[48] for the actor. The limited causal knowledge, then, prevents the reconstruction of the etiological path that led to the crime. The possibility of perceiving the harm to the legal good is almost disregarded; in fact, at the time of offense, there is no knowledge about the damaging or dangerous potential of the conduct. This opens the question about the criminal relevance for the behaviours that have time between the action and the emergence of harm as happened for the historical pollution.[49]

At this point, the outlook on specific precaution splits in two. On the one hand, it could be a pure criterion of criminal imputation, that must be out of criminal law and criminal process because it would lead to an objective liability and an expansion of criminal law beyond the bounds of the *actus reus*. On the other hand, some non-criminal rules may be built according to the specific precaution and these rules may be able to integrate the duty of care into negligent liability. This might be a way to make compatible this kind of precaution with the criminal law because the precautional rules are outside the criminal system and the integration of the crime of negligence requires the respect of the criminal guaranties.[50] It is believed that, at least for the Italian legal system, this declination of the precaution could be compatible with the crime of negligence[51] and with 'abstract danger'[52].

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[46] Massimo Donini, *Il volto attuale dell'illecito penale. La democrazia penale tra differenziazione e sussidiarietà* (Giuffrè 2004) 119ff.

[47] Luca d'Ambrosio, Geneviève Giudicelli-Delage, Stefano Manacorda (eds), *Principe de précaution et metamorphoses de la responsabilité* (Mare&Martin 2018).

[48] Carl-Friederich Stuckenberg, 'Causation' in Markus S. Dubber and Tatjana Hörnle (eds), *The Oxford Handbook of Criminal Law* (OUP 2014) 484ff; Tullio Padovani, 'Inquinamento storico e diritto penale' in *Il problema dell'inquinamento storico: alla ricerca dei rimendi giuridici nell'ordinamento italiano* (Giuffrè 2018) 33.

[49] Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017).

[50] Gabrio Forti, *Colpa ed evento nel diritto penale* (Giuffrè 1990); Fausto Giunta, 'La normatività della colpa penale. Lineamenti di una teorica' [1999] Rivista italiana di diritto e procedura penale 86ff; Hans Welzel, *Fahrlässigkeit und Verkehrsdelikte: zur Dogmatik der fahrlässigen Delikte* (Müller 1961); Thomas Kröger, *Der Aufbau der Fahrlässigkeitsstraftat. Unrecht, Schuld, Strafwürdigkeit und deren Bezüge zur Normentheorie* (Duncker & Humblot 2016); Findlay Stark, *Culpable Carelessness. Recklessness and Negligence in the Criminal Law* (CUP 2017); James C. Plunkett, *The Duty of Care in Negligence* (Hart Publishing 2018).

[51] Carlo Ruga Riva, 'Principio di precauzione e diritto penale. Genesi e contenuto della colpa in contesti di incertezza scientifica' in Emilio Dolcini and Carlo Enrico Paliero (eds), *Studi in onore di Giorgio Marinucci*, vol II (Giuffrè 2006) 1774.

[52] Domenico Pulitanò, *Diritto penale* (8nd edn, Giappichelli 2019) 183ff; Paola Severino, 'Foreword' in Francesco Centonze and Stefano Manacorda (n 49) V.

The generic precaution, on the contrary, is a principle that involves the public choices and could be inserted in the criminal policy.[53] If the precaution is a principle between principles, then it may be harmonized with the other principles of the criminal system between all rule of law, harm principle, culpability, proportionality, and rationality.[54] In fact, it could be an instrument capable of balancing opposing interests better than others because the precaution involves perspectives of social progress, models of economic growth, environmental protection, sustainable development, and the offenses growing out from these areas of risk.[55] In the criminal law theory, this idea of balancing could be a great opportunity to protect legal goods respecting general principles of the criminal system. A theory of punishment, known in Italian literature as 'prevenzione primaria'[56] and 'prevenzione generale positiva'[57], asserts that criminal law turns also to the society and this can prevent the offenses.[58] The institutions, in fact, make prevention suggesting good practises or imposing rules or spreading information and the precautionary principle could help to democratize the strategies of prevention because it allows other actors to be involved next to the legislator. The first are the stakeholders that often have more knowledge than the public decision makers (for example, general causation of some industrial processes) and then the communities that are the potential victims of a widespread offense.[59] These three actors could build a shared criminal policy aimed at balancing technological and economic development with the protection of fundamental rights, even for future generations. Also, they could share the procedure of risk assessment, risk management, and the valuation about ordinary hazard.[60]

Furthermore, the precaution could profile a responsibility by type, mode, and object of production that is subject to harm or danger within the area of lawful risk. The type is to be understood as the kind of productive process (considered overall) that has a high level of danger and can cause irreversible damage inside and outside the industrial plant. In the type of production allowed, the mode is to be understood as the safety of the production process[61] and the object as the outcome. In fact, this principle could be

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[53] Luciano Eusebi, 'Senza politica criminale non più darsi diritto penale. L'essere e il dover essere della risposta ai reati nel pensiero di Massimo Pavarini' [2015] Criminalia. Annuario di scienze penalistiche 470.

[54] Wolfgang Kahl (n 35) para 109.

[55] Peter Wirdemann, *Vorsorgeprinzip und Risikoängste. Zur Risikowahrnehmung des Mobilfunks* (VS Verlag für Sozialwissenschaften 2010) 30.

[56] Luciano Eusebi, 'Laicità e dignità umana nel diritto penale: pena, categorie dogmatiche, biogiuridica' in Lorenzo Picotti (ed), *Tutela penale della persona e nuove tecnologie* (CEDAM 2013) 254ff.

[57] Luciano Eusebi, 'Prevenzione e garanzie: promesse mancate del diritto penale o paradigmi di una riforma penale "umanizzatrice"?' [2016] Criminalia. Annuario di scienze penalistiche 287ff.

[58] Gabrio Forti, 'Le ragioni extrapenali dell'osservanza della legge penale' [2013] Rivista italiana di diritto e procedura penale 1125.

[59] Gabrio Forti, '"Accesso" alle informazioni sul rischio e responsabilità: una lettura del principio di precauzione' [2006] Criminalia. Annuario di scienze penalistiche 155ff.

[60] Gabrio Forti (n 58) 1134.

[61] Franco Bricola (n 40) 102ff.

used to select conducts that within the production processes could cause mass victimization and widespread, serial, and historical offenses against the environment and the health. This kind of responsibility consists in eliminating the risk according to an administrative prescription; consequentially, the criminal liability arises when this prescription is violated[62] (according to the Italian Consolidated Environmental Act). In this way, the criminal liability respects the criteria of foreseeability, culpability, harm principle, and *ultima ratio*.

In the criminal law theory, the precautionary principle, which can vary from a strong model to a weak one related to level of protection that it deems appropriate, could assume the status of *Schutzprinzip*[63] to protect broad spectrum legal goods.

5 Conclusion

Blocking the technological innovations would be too much in absence of information about the danger or harmfulness of a production process. An attribute of the precautionary principle is also implementing and sharing the scientific knowledge so that planning can be done to protect legal goods according this knowledge.

Therefore, the relationship between the sustainable development and the precautionary principle is a functional one[64] and aims to protect fundamental rights.[65]

The former is aimed at conserving environmental resources and promoting a form of economic, cultural, social, and human development[66], while the latter tends to prevent the emergence of dangerous situations and the risks by drawing up rules of conduct in contexts of scientific uncertainty.[67] As seen, both have developed in the international and European law contest and this circumstance means that there are common and transversal topics between different legal systems. Development and environment, in fact, should move together; there cannot be the former without respect for the latter. Therefore, the challenge involves creating types, modes, and objects of production respectful of our common home.

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[62] Fausto Giunta (n 44) 247.

[63] Anna Ingebord Scharl, *Die Schutznormentheorie. Historische Entwicklung und Hintergründe* (Duncker & Humbolt 2018) 22; Astrid Epiney (n 23) para 122.

[64] Wolfgang Kahl (n 17) para 26.

[65] Felix Ekardt, 'Grundgesetz und Nachhaltigkeit' in Kritische Justiz (ed), *Verfassungsrecht und gesellschaftliche Realität. Dokumentation: Kongress ,,60 Jahre Grundgesetz: Fundamente der Freiheit stärken'' der Bundestagsfraktion Bündnis 90/Die Grünen am 13.//14.* März 2009 in Berlin (Nomos 2009) 236.

[66] Luigi Fusco Girard, 'The city and the territory system: towards the "New Humanism" paradigm' [2016] Agriculture and Agricultural Science Procedia 542.

[67] Riccardo Martini, 'Incertezza scientifica, rischio e prevenzione. Le declinazioni penalistiche del principio di precauzione' in Roberto Bartoli (ed), *Responsabilità penale e rischio nelle attività mediche e d'impresa (un dialogo con la giurisprudenza). Atti del Convegno nazionale organizzato dalla Facoltà di Giurisprudenza e dal Dipartimento di Diritto comparato e penale dell'Università degli Studi di Firenze (7-8 maggio 2009)* (Firenze University Press 2010) 582.

In this framework, the precaution becomes a principle of solidarity in the rule of law and makes solidarity between generations. In fact, it orients the social behaviours according to values, promotes a corporate social responsibility according to a sustainable development, and opens the present to the future. For this reason, the legal system could accept the generic precaution as a tool to balance progress, environment, and rights.

Then, the role of criminal law in the relationship between sustainability and precaution can be merely subsidiary. The European treaties, in fact, outline the former as a perspective of development to promote and the latter as a principle that guides the environmental policy. So, the teleological outlook is different; the criminal law does not have a promotional function but the one to prevent offenses and to protect legal goods. Consequentially, this subsidiarity arises in the criminal policy planning for the protection of collective interests, which can be damaged irremediably.

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ENVIRONMENTAL COMPLIANCE

OVERCOMPLIANCE, REGULATORY POLICIES AND ENVIRONMENTAL CRIME

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Abstract

Mining companies harm systematically and severely the environment and make vulnerable and dependent local communities. Mining companies are not all the same though; they very much vary in size and power. Such variance makes it more difficult to analyze – and properly measure – the use of criminal law in the case of corporate harmful wrongdoing. Big mining companies have been intensively exploiting fragile regulatory ambiences or, even worse, promoting regulatory capture and dependence of corporate financing. They reproduce a deleterious market architecture, where compliance expenditures simply obstruct domestic companies from playing a more relevant role in the society. There are many small and medium companies that could be much more sustainable, promoting a fair and legitimate exploitation of natural resources. This essay addresses the need for a critical evaluation of overcompliance strategies (Rorie et al., 2018) and how it can be used by big mining companies as an illegitimate instrument. Apart from that, the essay aims to analyze whether overcompliance can facilitate company's authorization to continue its activities, perverting the idea of social licenses. The essay will explore how companies that enjoy a comparative advantage use overcompliance to dominate smaller companies' market, and whether this practice can result in harmful wrongdoing due to non-adaptation to the imposed more stringent environmental regulation. Instead of applying corporate resources and the criminal justice system to detect and react against corporate harmful wrongdoing, it replicates selectiveness and damage to smaller players. The essay makes use of secondary data and literature review of extractives industry, compliance research and corporate criminology.

1 Introduction

Curiously, large extractive companies that had exhibited an environmentally harmful behavior frequently comply with legal rules and sustainable best practices and standards, even beyond what is required, influencing the market to increase compliance expenditures. Mining companies have social license to operate as a relevant market strategy, where stakeholder mapping is an important tool for negotiation with regulatory authorities. Nevertheless, the legitimacy of extractive industries is far from being well accepted. Such systematic behavior affects the environment and make local communities dependent and vulnerable because of systematic corporate harmful wrongdoing.

In recent years, disasters in developing countries expose the inability of the criminal justice system to come up with rapid and effective responses to public scrutiny.

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Moreover, it is also important to study an apparently non-offensive behavior and reasons why some corporations tend not to engage in harmful wrongdoing. Hence, we stress in this essay a little-spoken practice of compliance above and beyond the requirements. The illegitimate use of compliance brings as consequences an instrument of market domination that affects the criminal law theory. The use of overcompliance for unethical purposes can pervert general principles in criminal law and reinforces its selective character against smaller – and in most cases, in practice much more sustainable – companies.

Large mining companies spend years unfairly exploiting natural resources, while there are many smaller companies that could behave more sustainably, acting in a more legitimate and less harmful way. Big mining companies operate in an extremely fragile regulatory ambience, even promoting regulatory capture. The regulatory capture occurs when regulatory agencies end up favoring specific dominant market groups rather than acting in the public interest and regulating the sector. Regulators can become very lenient towards the companies they should regulate,[1] enabling a *continuum* of oligopolies in the sector. High market concentration is common in this sector, where about ¾ of mining production is controlled by multinationals. That happens because 'large economies of scale, high capital costs and significant technical and managerial know-how are needed to mine metals and minerals at competitive prices'.[2] The production of iron ore stands out, as it is one of the most important in the mining sector. The biggest producers of it are Vale, BHP and Rio Tinto. A few companies control the market, without proper competition.[3] This implies illegitimate strategies for competitive advantage, been possible that there can be a different form of market domination by overcomplying, where large capital requirements and high investment risks are obstacles for new entrants.[4] As a deleterious consequence, captured bodies are prone to change administrative rules that complement the elements of a crime in favor of big companies. On the one hand, big companies that allocate many resources to avoid criminal liability; on the other, enforcement strategies target smaller companies, reducing criminal sanctions to mere mechanisms of market dominance.

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[1] Christine Parker and John Braithwaite, 'Regulation' in Mark Tushnet and Peter Cane (eds) *The Oxford Handbook of Legal Studies* (Oxford Handbooks 2004).

[2] Jaakko Kooroshy, Felix Preston and Siân Bradley, 'Cartels and Competition in Minerals Markets: Challenges for Global Governance' (2014), 19 <www.semanticscholar.org/paper/Cartels-and-Competition-in-Minerals-Markets%3A-for-Preston-Bradley/7a72f2e532f5c657cb099c78f335b954b532e8d1> accessed 9 February 2020.

[3] This practice may be already seen in other areas such as the auto industry credit market, once Leard and McConnel have demonstrated that brands who overcomply have the largest market shares. Benjamin Leard and Virginia McConnell 'New Markets for Credit Trading Under U.S. Automobile Greenhouse Gas and Fuel Economy Standards' Review of Environmental Economics and Policy, Volume 11, Issue 2, Summer 2017, 207–226. <www.rff.org/publications/reports/new-markets-for-credit-trading-under-us-automobile-greenhouse-gas-and-fuel-economy-standards/> accessed 31 January 2020.

[4] Jaakko Kooroshy, Felix Preston and Siân Bradley (n 2).

In the last two decades, there has been a great rise in compliance programs in various corporate sectors, creating a compliance industry along with increases in compliance expenditures.[5] However, compliance transaction costs are also high, and in this growing compliance culture, these costs tend to increase. Some companies use compliance illegitimately, creating a façade of ethical behavior that covers a plethora of decisions motivated by no more than self-interest. Nevertheless, compliance practices are still stagnating in a formality to meet regulatory and inspection requirements. There is still much to criticize regarding their ineffectiveness and weak enforcement strategies for reducing corporate crime. The violation means a failure to avoid economic infractions giving rise to criminal interventions, mainly regarding the environment.

A few previous researches have discussed some companies' practices with respect to compliance with environmental standards beyond the requirements. At first sight, this operation may look like 'good behavior' because companies are acting in a more 'environmentally friendly' way than the standards require them to do so. However, overcompliance has a disadvantageous side and can become a distortion of compliance. Indeed, compliance programs are still part of a recent industry in many countries, whose legislation does not pay the necessary attention to effectivenes and inspection metrics, especially in developing countries whose regulatory policies tend to be more fragile and more abused by large companies.

Based on these assumptions, this essay is structured as follows: first, we will present what this practice is and why companies comply beyond requirements. Then, we will highlight the consequences of mining extractive activities and how they affect the criminal law system. We will end with some concluding remarks. For practical purposes, we will refer to the Brazilian experience as a background of our research, especially the experience concerning the country legislation.

2 Overcompliance as an instrument of strategic market domination

2.1 Why do mining companies overcomply?

The scholarship on corporate crime dedicate much effort to building a better explanatory body on why companies offend, comply, or even comply beyond what is necessary. We used to have an old-age perception that corporations should avoid all forms of governmental control, undermining the normative belief that corporation

[5] William S Laufer, 'A Very Special Regulatory Milestone' (2018) 20 Univ Pa J Bus Law 391 <ssrn.com/abstract=3034699> accessed 29 January 2020; Eugene F Soltes and Hui Chen, 'Why compliance programs fail and how to fix them' (2018) Harvard Business Review march-april 2018. Eugene Soltes proposes a dynamic concept to give movement to compliance programs, where they should aim to achieve three objectives: seek to prevent misconduct from occurring; detect deviant behavior and regulatory policy alignment. Eugene F Soltes, 'Evaluating the Effectiveness of Corporate Compliance Programs: Establishing a Model for Prosecutors, Courts, and Firms' NYU Journal of Law & Business 14 no. 3 965–1011 <www.hbs.edu/faculty/Pages/item.aspx?num=55233> accessed 09 February 2020.

should be sharing its benefits to improve social lives.[6] Over the past few decades, there have been major investments by companies in corporate governance and compliance. However, with rare exceptions, there is no strong evidence of structural changes in internal ethical behavior.[7] Many companies may be in a compliance trap, because they are afraid to document internal problems and create data to be used against them in future legal procedures or on social media, and this causes officers and directors to avoid testing their compliance programs.[8] The validation and testing of those programs are essential to ensure their effectiveness, as well as the support and incentive of regulators for it. Recent research in the field analyzed the effectiveness of regulatory interactions in promoting ethical behavior, based on Braithwaite's argument that regulators should have closer and more specific interactions between regulate.[9] Braithwaite´s responsive regulation model has been challenged in many different ways, even by himself,[10] and there are still many aspects to be further explored. According to Laufer´s analytics, a shared regulatory strategy would give more space for responsive and cooperative regulatory policies in this process, in an interconnected relationship with regulated ones, generating mutual exchange of information, increasing the perceived legitimacy of the law.[11] This is important because the companies `good behavior` improves their corporate legitimacy. And in the modern era, corporate legitimacy is vital to survive in the market, the loss of legitimacy turn difficult the process of social exchange.[12]

Corporate legitimacy is based on social norms and expectations that should be guiding decision-making processes,[13] determining whether the company's behavior is more or less socially acceptable. In Brazil, the environmental disasters of the last years have put the legitimacy of these companies in check and that's why compliance programs have grown over that time. The seminal work of Andreas Scherer and Guido Palazzo

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[6] Michael Gordy 'Thinking about corporate legitimacy' in Brenda Sutton (ed), *The legitimate Corporation* (Wiley-Blackwell 1993) 96.

[7] William S Laufer, 'The Compliance Game' (2018) 988 Revista dos Tribunais 67–80 <www.lexml.gov.br/urn/urn:lex:br:rede.virtual.bibliotecas:artigo.revista:2018;1001118240> accessed 04 February 2020; Eugene F Soltes, 'Evaluating the Effectiveness of Corporate Compliance Programs: Establishing a Model for Prosecutors, Courts, and Firms' NYU Journal of Law & Business 14 no. 3 965–1011 <www.hbs.edu/faculty/Pages/item.aspx?num=55233> accessed 09 February 2020.

[8] Brandon Garrett and Gregory Mitchell, 'Testing Compliance' (2020) Law and Contemporary Problems, Forthcoming; Duke Law School Public Law & Legal Theory Series No 2020-14.

[9] Melissa L Rorie, Sally S Simpson, Mark A Cohen and Michael P Vandenberghe, 'Examining Procedural Justice and Legitimacy in Corporate Offending and Beyond-Compliance Behavior: The Efficacy of Direct and Indirect Regulatory Interactions' (2018) 40 Law & Policy 172-195 <www.researchgate.net/publication/323384107> accessed 08 February 2020.

[10] OECD Development Pathways, *Multi-dimensional Review of Peru Volume 2. In-depth Analysis and Recommendations* (OECD Publishing 2016).

[11] Melissa L Rorie, Sally S Simpson, Mark A Cohen and Michael P Vandenberghe (n 9).

[12] Andreas Georg Scherer and Guido Palazzo, 'Corporate Legitimacy as Deliberation: A Communicative Framework' (2006) 66(1) Journal of Business Ethics, Proceedings of the 18th Eben Annual Conference in Bonn, 71-88 <www.jstor.org/stable/25123813?seq=1> accessed 20 February 2020.

[13] Melissa L Rorie, Sally S Simpson, Mark A Cohen and Michael P Vandenberghe (n 9).

supports a deliberative model, which proposes a review in the foundations of corporate legitimacy. They emphasize the moral legitimacy as a decisive source of social acceptance. They propose an idea of 'corporate acceptance into the communicative network of public communication'.[14] However, there should be a major concern when the business legitimacy is used as a moral coverage to employ compliance resources illegitimately. Or even to find a moral justification to commit other offenses.

Overcompliance, as Melissa Rorie conceived, occurs when companies go beyond what is required by regulations, reducing the chance of being sanctioned and gaining economic and social advantage as a result.[15] As an analogy to the carbon emission trading, some companies go beyond compliance as a way of morally justifying a future violation and getting away from punishments. There are several reasons for companies to overcomply, but it is still a difficult area to understand. The scarce literature on this practice focuses on large companies that explore the environment, because they are more subject to social pressures, since extractive activities presupposes risks with large social and environmental impact. Then, complying beyond what is necessary is not a legal demand. It can be seen by managers as just the right thing to do, that is, a feeling of commitment to the environment. Nevertheless, overcompliance can also be negative, merely the result of a calculation of self-interest. In that sense, it can be a form of competitive advantage against other companies. Or even worse, it can be instrumentalized as a form of strategic market domination, as a result of a systemic ineffectiveness of enforcement strategies and regulatory policies, which ends up generating abuse of criminal system against other companies. In this way, the compliance culture is not incorporated to prevail ethical behavior within the company, but only as an ambiguous façade of ethical behavior.

2.1.1 Social License

Many previous studies aimed to analyze the impact of legal rules on corporate behavior, without considering other external factors. However, Neil Gunningham's work outlines a structure of 'license frameworks', in which business behavior is delimited by three factors: legal license, social license and economic license.[16] All three frameworks studied by Gunningham give us a parameter for understanding where overcompliance appears. Legal license can be seen as a regulatory and punitive

[14] Andreas Georg Scherer and Guido Palazzo (n 12); Criticisms point out the risk of commodification of corporate morality and the political overlap in decision-making processes. Helmut Willke and Gerhard Willke, 'Corporate moral legitimacy and the legitimacy of morals: a critique of Palazzo/Scherer's communicative framework' (2008) 81 Journal of Business Ethics 27-38.

[15] Melissa Rorie, 'An Integrated Theory of Corporate Environmental Compliance and Overcompliance' (2015) 64 Crime, Law and Social Change 65-108 <www.researchgate.net/publication/280294087> accessed 30 January 2020.

[16] ibid 2.

pressure on companies.[17] But this pressure has little significance in promoting ethical behavior and there is always the risk of bureaucratizing businesses.[18]

The concept of social license, according to Gunningham,[19] is not yet fully accepted and does not have a consensus on meaning (In fact, the term social license to operate was primarily used in reference to the mining companies).[20] But understanding the meaning of social license is essential to understand why companies choose to go beyond compliance, once it involves influence of the media and public opinion. Thus, legitimacy, credibility and trust are components of the social license.[21] The social pressure and the active role of NGOs, for instance, have a greater value in the priority plans of several companies. Based on broad perception about corporate shaming, there is a strong belief that the corporate reputation can affect negatively and positively the company, so it is an advantage for large companies to comply with environmental standards, favoring them under enforcement strategies and legislation.[22]

Melissa Rorie explored that many companies prefer to anticipate environmentally friendly behavior before others. Doing this, they might make products more socially desirable in the marketplace, because they can increase their profit by means of marketing and business intelligence. In addition, early movers will be prepared for future regulatory constraints that other companies may be unable to comply with because of higher costs. Overcompliance would not be necessarily negative or positive. Then, testing the influence of various licenses, Rorie stated that a positive side of social license is that it would increase the likelihood of overcompliance, since good citizenship can be important to guide corporate decisions.[23] Despite of it, from previous studies on overcompliance, almost none touch the point of distortion of compliance and social license. Other scholars analyze that some companies tend to overcomply as part of benchmarking strategies. Those dominance structures tend to induce tightening

[17] Jay Shimshack and Michael Ward empirically demonstrated that credible enforcement practices induce corporate excessive compliance, Jay Shimshack and Michael Ward, 'Enforcement and Over-Compliance. Journal of Environmental Economics and Management' (2007) MPRA Paper No. 25993 <www.sciencedirect.com/science/article/abs/pii/S0095069607000800> accessed 29 January 2020.

[18] Eduardo Saad-Diniz, *Ética negocial e compliance: entre a educação executiva e a interpretação judicial* (Thomson Reuters Brasil 2019) 90.

[19] Neil Gunningham, Robert A Kagan, and Dorothy Thornton, 'Social License and Environmental Protection: Why Businesses Go Beyond Compliance' (2004) 4 Law & Social Inquiry <www.researchgate.net/publication/251769219> accessed 26 January 2020.

[20] 'Ethics Explainer: Social license to operate' (The Ethics Centre, 23 January 2018) <ethics.org.au/ethics-explainer-social-license-to-operate/> accessed 16 November 2020.

[21] ibid.

[22] Criminological research, though, tends to challenge those concepts. Gregg Barak, *Unchecked Corporate Power: Why the Crimes of Multinational Corporations Are Routinized Away and What We Can Do About It* (Routledge 2017); See also Melissa Rorie (n 15); John Braithwaite, *Restorative Justice & Responsive Regulation* (Oxford University Press 2002).

[23] Melissa Rorie (n 15).

regulations and the selective use of sanctions,[24] so they can benefit from this while smaller players cannot afford compliance costs. It seems fair enough to affirm that biggest companies should get a better profit in the long run by doing so, while apparently fulfilling its role in social licensing.

This is the reason why there is a huge concern on that regulatory policies may mitigate the growth of new companies, because there are large companies with enough political power to coopt public authorities.[25] Although, regulatory capture is not easy to prove, captured bodies often act in favor of the private sector. At the same time, regulatory policies don't offer a meaningful strategy to control corporate harmful wrongdoing.[26] Hence, big mining companies can use compliance measures to encourage lawmakers to change legislation, demonstrating that they are able to fulfill beyond what is required by law, or by some legal process.

Afterall, there are evidences of mining companies in Brazil that influenced making mining licensing laws more flexible (*infra*, topic 2.2.1), so it is assumed that it will be much easier to influence the legislation to accommodate 'social' demands. Changing legislation to increase regulatory rigidity is socially enjoyable, which makes it easier to do so. It may be a good medium and long term tactic for these companies, and with ability of that influence and the ability to afford high technology and compliance costs, it is possible to adapt to stricter rules faster,[27] even if initially do not make an effective profit.[28] By over-adapting to rules, the companies' social license is increased, but behind it there is an illegitimate form of market domination behind the appearance of compliance. This illegitimate use of compliance reinforces Van Wingerde claim that large companies are 'too big to deter', because regulatory and enforcement responses to violations can be insignificant, while they are 'too small to change' to take environmental compliance seriously.[29]

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[24] Vincenzo Denicòlo, 'A Signalling Model of Environmental Overcompliance' (2000) FEEM Working Paper No. 77.2000 <papers.ssrn.com/sol3/papers.cfm?abstract_id=249274> accessed 30 January 2020. p. 2.

[25] Studies in which politics influence can change legislation to their advantage are increasingly common. For instance, in Stigler's study on the Theory of Economic Regulation, it is proposed a general hypothesis: "every industry or occupation that has enough political power to utilise the state will seek to control entry. In addition, the regulatory policy will often be so fashioned as to retard the rate of growth of new firms". George J Stigler, 'The Theory of Economic Regulation' (1971) 2(1) The Bell Journal of Economics and Management Science 3-21 <www.jstor.org/stable/3003160?seq=1> accessed 9 February 2020.

[26] As emphasized by William S Laufer (n 5).

[27] Caroline Kaeb, 'Emerging issues of Human Rights Responsibility in the extractive and manufacturing industries: patterns and liability risks' (2008) 6 Northwestern Journal of International Human Rights 343 <scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1076&context=njihr> accessed 20 January 2020.

[28] Vincenzo Denicòlo (n 24) 3.

[29] Karin van Wingerde and Mariekle Kuin, 'Too big to deter, too small to change?' in Toine Spapens, Rob White, Daan van Uhm and Wim Huisman (eds) *Green Crimes and Dirty Money* (Routledge 2018).

Therefore, as *supra* demonstrated, external pressures that can be called 'licenses' have a fundamental role in understanding why high capital companies decide to comply beyond what is required. In the next section, we will analyze environmental disasters and corporate behavior, based on its environmental destruction power, regulatory influence and the possibility of being able to take advantage from social sustainability requirement, which may directly or indirectly affect administrative rules for stricter parameters. For a stricter legal analysis, many administrative rules issued by inspection agencies are decisive for commitment of certain crimes, what we call blank criminal rules. Within this framework, criminal law ends up being one of the mechanisms to reproduce a deleterious market architecture.

2.2 Environmental offenses

Recent tragedies caused by mining companies put in doubt their legitimacy.[30] The impacts of environmental crimes related to the tragedies tend to cause more harm in poor or developing countries.[31] The formation of public policies of the governments of these countries is extremely dependent on industrial practice.[32] According to Adán Nieto Martín, due to the low institutional quality and the great desire to attract investments in these countries, the environmental attacks end up being even more serious.[33] Big mining companies have a large share in the economies of these countries. And in general, regulatory policies are more fragile and flexible, which translates into exploitation of the environment with low investment in risks and without regard to the possible environmental and socio-economic consequences. Even worse, large companies can still illegitimately take advantage of the social license even after major tragedies (s. *infra*).

Mining is one of the most aggressive sectors, and is basically driven by corporate security agreements, making identification and assignment of liability difficult.[34] After all, it employs a huge amount of people and leaves a devastated and wasteful land. Even with the great economic and purchasing power of the mining companies, there is no available information on meaningful changes concerning to the repairs of about a hundred of low cost dams that are still in operation, keeping constant risks of further landslides.

Then, to extend the analysis, we will do a closer look to the Brazilian case using public data on Brazilian tragedies. In the last five years, there were two dam bursts in the state

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[30] 'Ethics Explainer: Social license to operate' (The Ethics Centre, 23 January 2018) <ethics.org.au/ethics-explainer-social-license-to-operate/> accessed 16 November 2020.

[31] Daniela A Prata, *Criminalidade corporativa e vitimização ambiental: análise do caso Samarco* (LiberArs 2019).

[32] Eduardo Saad-Diniz, 'Justiça restaurativa y desastres socioambientales en Brasil' (2019) 11 Revista de Derecho Penal y Criminología 14 <www.researchgate.net/publication/338677576> accessed 30 January 2020.

[33] Daniela A Prata (n 31) 205.

[34] Caroline Kaeb (n 27).

of Minas Gerais that constitute some of the largest environmental accidents in history. In 2015, a dam bursted at Mariana, killing 19 people and spread more than 40 million m^3 of tailings. In 2019, there was a new dam burst in the city of Brumadinho. Vale S.A, listed at the NYSE and the largest Brazilian mining company and the largest iron ore producer in the world, is involved in both tragedies.

The company invested in 2018 approximately R$ 250 million in compliance.[35] Vale was a company that grew a lot during the military regime, and spent decades funding the policy and exploring a fragile regulatory environment. Thus, despite enforcement and regulatory policies inefficiencies, it's sure that after this second tragedy the social pressure will be even stronger on it. In view of its great political power influence and ability to pay for high transaction costs imposed by compliance programs, there is a risk to overcomply and use the social license as an illegitimate form, either as a business strategy based on a "sustainable behavior", or by reducing imputation of liability. Even worse, there is a risk of increase market domination, since such costs may end up preventing smaller mining companies from positioning themselves in the market and may even be through political influence to make the legislation more restrictive.

The Brazilian Brumadinho's disaster last year opened again our eyes to corporate environmental crimes. And unfortunately, better responses from criminal justice have been expected since 2015 Mariana's disaster, but enforcement and punishments weren't effective. This could be justified by the breaking of another dam at 'Córrego Feijão' mine in January 2019, which caused death of almost 300 people. Large mining companies create a very strong bond between people who depend on the activity, and in the event of disasters, the social as well as environmental impact is also devastating. The process of victimization created is tremendous. In Brumadinho, a city of 40,000 inhabitants, Vale is the largest employment company, corroborating over 60% of taxes. It employs thousands of people and is still supported by powerful politicians, including the current president Jair Bolsonaro, whose campaign implied opening the Amazon rainforest for economic exploitation. The environmental tragedy last year created a problem almost impossible to repair and the judicial confrontation has barely begun.

2.2.1 Are administrative sanctions and regulatory policies better solutions?

Regulatory policies have frequently failed', and in some cases it regulates too much or too little.[36] Public inspection and control bodies are successive to regulatory captures, mainly in developing countries. In this context, data availability and information asymmetries present a central challenge to regulators. Such paradoxes are self-defeating regulatory strategy, which act contrary to their purpose. Important

[35] According to the company former Director, Peter Popping, at Chamber of Deputies. Parliamentary Commission of Inquiry, *Rompimento da barragem de Brumadinho* (October 2019) 422.

[36] Leland B Yeager, *Is the Market a Test of Truth and Beauty: Essays in Political Economy* (2011) 321-348 <mises.org/library/market-test-truth-and-beauty-0> accessed 2 February 2020.

conclusions from the study is the inactivity of regulators to apply new stricter rules imposed by Congress and the dependence on regulatory agencies that should be independent. In effect of the inexistent presidential brake, these agencies are being highly susceptible to the political pressure of well-organized private groups.[37]

In Brazil, The National Mining Agency (ANM) was founded in 2018, replacing the old National Department of Mineral Production (DNPM), but ANM inherited only 8 inspectors to inspect 400 mining dams.[38] Thus, it is obvious that the body is insufficient to handle the work.[39] There are several cases where regulators were former employees of large companies or may be in the future, what ends up creating a connection point between the parties. As an example, one of the directors of ANM was Vale's Environment Manager. In addition, one of other directors of the agency is accused of fraud in an environmental licensing.[40] There is evidence in Brazil of changes in legislation under Vale's influence weakened oversight and accelerated licensing of some mining companies. The newspaper 'Repórter Brasil' obtained evidence that Vale was able to dictate rules to make environmental licensing more flexible in the state of Minas Gerais, it reduced its steps and deadlines and was applied in the case of the Córrego do Feijão mine.[41] The event took place in a secret meeting in 2014 at the Minas Gerais Secretariat for the Environment and Sustainable Development (Semad). Another significant event was in 2015, when BBC revealed that the draft bill document for the new Mining Code was written in a law firm in São Paulo, whose clients were Vale and BHP. The document was signed by a deputy who received R$ 2 million in the 2014 elections.[42]

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[37] Jaakko Kooroshy, Felix Preston and Siân Bradley 'Cartels and Competition in Minerals Markets: Challenges for Global Governance' (2014), 19 <www.chathamhouse.org/publication/cartels-and-competition-minerals-markets-challenges-global-governance>. Cass Sunstein states paradoxes of the regulatory state that are products of government's failure, Cass R Sunstein, 'Paradoxes of the Regulatory Statep' (1990) 57 University of Chicago Law Review 407, 413 <ssrn.com/abstract=2842302> accessed 2 February 2020.

[38] Denyse Godoy, Mariana Desidério, Natália Flach and others, 'Os Sete Pecados Da Vale' *Exame* (20 March 2019).

[39] Nathália Passarinho, 'Fiscalização de barragens: órgão federal de controle é o 2º mais exposto a fraudes e corrupção, diz TCU' *BBC* (London, 13 February 2019) <www.bbc.com/portuguese/brasil-47211131> accessed 26 January 2020.

[40] Ildeberto M Almeida, Jose J Filho and Rodolfo Vilela, 'Razões para investigar a dimensão organizacional nas origens da catástrofe industrial da Vale em Brumadinho, Minas Gerais, Brasil' (2019) Cadernos de Saúde Pública 35 <www.researchgate.net/publication/332854788> accessed 31 January 2020.

[41] Maurício Angelo, 'Vale ditou regras para simplificar licenciamento ambiental em MG' *Repórter Brasil* (22 February 2019) <reporterbrasil.org.br/2019/02/vale-ditou-regras-para-simplificar-licenciamento-ambiental-em-mg/> accessed 20 January 2020.

[42] Ricardo Senra, 'novo código da mineração é escrito em computador de advogado de mineradoras' *BBC* (São Paulo, 7 December 2015) <www.bbc.com/portuguese/noticias/2015/12/151202_escritorio_mineradoras_codigo_mineracao_rs> accessed 26 January 2020.

Recently, there was a local decision, which required that Vale should implement a compliance program for the acquisition of Ferrous Resources Limited, which operates precisely in Brumadinho and the region, under the argument of 'immense competition imbalance that affected every economic agent in Brumadinho and region', 'at Vale's sole fault, devoid of the public and private infrastructure existing prior to the claim'. [43] Nevertheless, there is no specific method and strategy to guide this compliance requirement. The absence of a scientific evaluation of corporate behavior implies the risk of 'corporate greenwashing'.[44] In this reasoning, there is the risk of taking the chance and appear to be able to comply beyond what was required by the judge. Melissa Rorie already indicates that 'a corporation may not respond to public pressures until a lawsuit (the legal license) brings bad publicity. In responding to the lawsuit, the corporation and its managers may likewise be responding to social pressures although that was not their original intent. As a result of doing so, they may find that there is an economic benefit to these changes and be motivated to explore more environmentally-friendly methods of production that also increase efficiency'.[45]

The legal reasoning in this case demonstrates the necessary review of the governance of natural resource´s exploitation. Moreover, Vale's purchase of mining company Ferrous Resources Limited had been approved, previously, by CADE (equivalent to Federal Trade Commission in the United States or to Office of Fair Trade in United Kingdom) without requiring good governance criteria. A recent decision by the Brazilian 1st Region Federal Court (TRF-1) suspended the decision that conditioned the purchase of Ferrous. This allowed Vale to expand production in the region near Brumadinho, demonstrating the administrative council's (CADE) failure.[46] CADE defended itself saying that it's not its job to demand environmental compliance from Vale. In addition, a few weeks before the 2019 tragedy, CADE also approved the purchase of New Steel by Vale. This company has a technological innovation for mining iron ore and accused Vale a few years before for trying to steal its patent. The National Institute of Intellectual Property (INPI) decided in favor of Vale but with suspicion of manipulating the sentence. The decision was suspended by a judge in June 2018, and 6 months later Vale signed the purchase agreement. With all this, we can realize how fragile the country's administrative bodies are and how much they are unable to have the power to sanction.

Thus, such facts reinforce the failure of the local regulatory policy and enforcement strategies. The regulatory environment in Brazil lacks intelligence and sophistication.

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[43] Ação Popular n. 1015425-06.2019.4.01.3400, 5a Vara da Justiça Federal/DF. In further details, Eduardo Saad-Diniz, 'Vitimização corporativa e dependência comunitária na criminologia ambiental: o acerto de contas com os desastres ambientais' (2020) Boletim IBCCRIM Ano 27 Nº 327 Fevereiro/2020, 3.

[44] William S Laufer 'Social accountability and corporate greenwashing' (2003) 43 Journal of Business Ethics 253-261 <www.researchgate.net/publication/226631106> accessed 26 January 2020.

[45] Melissa Rorie (n 15) 32.

[46] Bruno Teixeira Peixoto and José Augusto Medeiros, 'Exigir compliance ambiental da Vale é questão de Direito Econômico' (*Jota,* 22 December 2019) <www.jota.info/opiniao-e-analise/artigos/exigir-compliance-ambiental-da-vale-e-questao-de-direito-economico-22122019> acessed 20 January 2020.

This disarticulation creates a distance between the company and collaborative behavior, giving more scope for illegitimate practices. Further, it does not reflect in criminal policies to provide a sanctioning response to the corporate socially harmful behavior.[47] Even worst, the risk of overcompliance by Vale can create a form of unintentional non-compliance by other industries as a result of not adapting to changes in the law, and it is also up to CADE to be aware of this information if it occurs. Big companies are able to modify an administrative rule that determine the permitted risk of the activity by overcomplying, leaving small companies vulnerable to the criminal system too, which will be discussed in the next topic.

However, agencies and other enforcement bodies should not be the enemies of regulated. For Cary Coglianese, regulation is a way of solving problems that guides the behavior of individuals and organizations.[48] As already mentioned, responsive regulatory strategies can also be positive factors for promoting structural ethical behavior in the company.[49] Braithwaite states that direct and frequent interactions between regulators and the regulated can develop trust between them and promote compliance.[50] Hence, for regulatory excellence the regulators' strategies must be under periodic inspections and continuous improvement.[51] But as we can note, it is still far from being the Brazilian reality.

After the tragedy in Brumadinho, there was a 'Vale effect',[52] that created a pressure for changes in environmental legislation and resistance for obtaining new licenses,[53] in addition to the suspension of extractive operations, which ends up affecting smaller miners as well. The Federal Prosecution sued seven other smaller miners to demonstrate updated documents on the stability of the dams and whether they have a specialized service on dam safety. In this scenario of a tightening of inspection after the

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[47] Eduardo Saad-Diniz, 'Política Regulatória, Enforcement e Compliance: Análise dos Lineamientos da Oficina Anticorrupção da Procuradoria Argentina' (2019) Revista Magister de Direito Penal e Processual Penal Nº 90 – Jun-Jul/2019 <www.researchgate.net/publication/335200972> accessed 26 January 2020.

[48] Cary Coglianese, 'Measuring regulatory performance: evaluating the impact of regulation and regulatory policy' (2012) OCDE Expert Paper No. 1, August 2012 <www.oecd.org/gov/regulatory-policy/1_coglianese%20web.pdf> accessed 18 February 2020.

[49] Melissa L Rorie, Sally S Simpson, Mark A Cohen and Michael P Vandenberghe (n 9).

[50] Ian Aires and John Braithwaite, *Responsive regulation: transcending the deregulation debate* (Oxford University Press 1992) 101.

[51] Cary Coglianese, 'The challenge of regulatory excellence' in Cary Coglianese (ed), *Achieving regulatory excellence* (Brookings 2017).

[52] 'Vale Effect' was an expression used by many newspapers after the Brumadinho tragedy to talk about the impact on the economy and to the iron ore market.

[53] Several resolutions were made by the National Mining Agency, among which Resolution No. 4/2019 stands out because it aims at the extinction of 'upstream dams' (similar to the B1 of Brumadinho). Were presented 78 projects to Congress to strengthen enforcement and punishment. Dams began to be suspended, state departments and environmental agencies responsible for licensing became more resistant to concessions; Juliana Estigarribia 'Vale comprou mineradora para depositar rejeitos, dizem fontes' *Revista Exame* (12 July 2019) <exame.abril.com.br/negocios/vale-comprou-mineradora-para-depositar-rejeitos-dizem-fontes/> accessed 18 February 2020.

disaster, mining companies are buying others simply by licensing the dams. Ferrous for its technological quality does not face so much resistance to licensing and has several structures already licensed, and this could be a reason why Vale has made the acquisition. So, the purchase may have been made only to deposit tailings. Such a form of strategic acquisition is not possible for smaller mining companies. One year after the tragedy, Vale has recovered all of its lost market value and is investing in advertisements regarding its post-disaster role, trying to gain a more positive appearance in the face of social pressure. Nevertheless, no effective reparation has yet been taken, while shareholders have recovered their losses.

Vale developed the Ferro Carajás S11D project, which created the largest mining complex in the country. The project had investments of approximately U$ 7 billion and became a reference in the sector for the reduction of emission of greenhouse gases and oil diesel consumption; for social investments and for the preservation of the forest in the environmental protection area.[54] Nevertheless, while the company becomes a reference in this project, it maintains dozens of low-cost dams that are at risk even after the tragedy in 2019.

[54] 'Desafios da mineração: desenvolvimento e inovação para redução dos impactos ambientais e sociais' (BNDES, 17 August 2020) <www.bndes.gov.br/wps/portal/site/home/conhecimento/noticias/noticia/inovacao-tecnologia-mineracao-metais> accessed 18 February 2020. Even before the tragedy in Mariana (2015), many smaller mining companies did not support variations in the iron ore market and could not compete with a new market standard. Vale was an aggravating factor because it barely felt the effects of the price drop and took advantage of this moment to further expand its production. Vale's president at the time, Murilo Ferreira, said in an interview by 'Revista Exame', that less efficient mining companies were under a strong threat to disappear. Then, Vale would be one of the only ones to be able to 'operate in blue', while smaller miners would 'operate in red'. Thus, it would be no different a few years later, since 2019 disaster drove a sharp fall in mining production in that year, and yet Vale managed to come out on top. In addition to the fall, the disaster will also boost standards of increasingly sustainable markets and higher technological costs. Therefore, overcompliance can be of great economic advantage for the company. After two environmental tragedies, Mariana (2015) and Brumadinho (2019), social pressure grows more and more and will demand more harsh punishment and stricter rules. Then, Vale has an opening to start complying with more than what is being demanded of it, to overcomply with environmental administrative standards, resulting in high compliance costs. But as already said, in the long run this will be beneficial. Afterall, the company's former CEO, Fábio Schvartsman (recently denounced for intentional homicide in case Brumadinho), stated in 2018 that Vale intends to be a benchmark in sustainability. Currently, Vale is already trying to demonstrate through by means of a strong business rhetoric on sustainability and compliance, 'Vale pretende ser referência em sustentabilidade, afirma diretor-executivo' (*Vale,* 15 June 2018) <www.vale.com/brasil/pt/aboutvale/news/paginas/vale-pretende-ser-referencia-em-sustentabilidade-afirma-diretor-executivo.aspx> accessed 26 January 2020. For criticisms about the use of socially desirable behavior to their advantage, Valdir Oliveira and Daniela Oliveira, 'A semântica do eufemismo: mineração e tragédia em Brumadinho' (2019) Revista Eletrônica de Comunicação, Informação e Inovação em Saúde. 13. 10.29397 <www.reciis.icict.fiocruz.br/index.php/reciis/article/view/1783> accessed 31 January 2020.

2.2.1.1 Blank criminal rules

In Brazil, the company can only be criminally punished in environmental crimes by the law 9605/98, and the country's law adopt the Civil Law system, so there is no strong *stare decisis* as in Common Law countries. There are several cases facing the same infraction in which different decisions are made. According to the law n. 9.605/98, the company can only be held criminally liable if the violation is executed by a legal or contractual representative, or by the collegiate body of the company, not admitting the company's own guilt. This requirement is detrimental to small companies, because their management system is more centralized and less complex than of large companies, which ends up being easier for managers to be charged. Also, one of the major problems we have in Brazilian environmental legislation is the blank criminal rules.

The incriminating criminal law has a primary precept that describes unlawful conduct, and a secondary precept that provides the criminal sanction. But in some criminal rules, the primary precept is not complete, requiring a complementary rule. That is what we call blank criminal rules. And one of the main examples we have of this is in Law 9605/98 that requires regulatory standards from administrative bodies to complement the crimes described (general criminalisation).[55] Then, blank criminal law is susceptible to having its content modified without a mature discussion with society. This situation results in unconstitutionality debates with clear offense to the principle of legality, since crime and its elements are defined by an administrative body, and not by following a legislative process. Criminal legislators renounces his function of criminalization and transfers it to Executive Power, imposing its own criteria which, according to the Brazilian Constitution, are only legitimately criteria if defined by Parliament. The discussion of unconstitutionality in precedents and doctrine is still unclear.

Hence, based on the study of Denicòlo,[56] along with these influences that large mining companies as Vale have on regulators and legislators, they are easily able to influence administrative rules that complement the *actus reus*. And at this time it is not to flexibilize the laws, but to further restricting and making them more rigid. In addition to that influence to change laws, overcomplying standards can serve too as a signal for lawmakers to tighten up restrictions.[57] Doing so it expands the scope of the *actus reus*. Thus, a small company that would be working on the limit, if the administrative norm is tightened (by the influence of larger companies that can afford higher compliance costs) it may no longer be able to comply with the new rule because of the raising costs and will be automatically committing the crime. In that sense, theories of punishment

[55] Klaus Tiedemann, *Wirtschaftsstrafrecht* (5th edn, Vahlen 2017).

[56] Vincenzo Denicòlo (n 24) 3.

[57] Seema Arora and Shubhashis Gangopadhyay, 'Toward a theoretical model of voluntary overcompliance' (1995) 28(3) Journal of Economic Behavior & Organization 289-309 <www.sciencedirect.com/science/article/abs/pii/0167268195000372> accessed 5 February 2020.

become mere instruments of large companies to reinforce their comparative advantages and criminal law becomes a mere mechanism of market domination. Unfortunately, empirical assessments of this still difficult to prove, but it's possible to draw some general examples and possibilities.

Many articles of environmental offenses under the Brazilian legislation (Law n. 9.605/98) require acting 'without authorization' or 'without license' as *actus reus*. Remarkably, the main body responsible for releasing such licenses is the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) and other administrative bodies with state competences (which in turn do not have a clean record) plays a decisive role in defining the content and scope of environmental offenses[58]. Then, mining companies can influence and affect the *actus reus* by the change of administrative standards that specify and quantify the violations.[59] The denounce also pointed out reports made to prove the pollution, even so the details were not enough to precisely define a possible punishment. However, criminal sanctions may not have as much effect on large companies, but it could strongly affect smaller companies.

2.2.2 How overcompliance affects criminal law

In January 2020, the Minas Gerais prosecution office reported 16 people including senior executive positions at Vale and employees of the engineering firm TUV SUD (which issued false reports on dam safety) for intentional homicide for the 270 deaths in Brumadinho. However, Vale company was only reported on the basis of law n. 9.605/98 (environment crimes law) for crimes not only of pollution, but against fauna and flora too, whose fine and reparation function will be negligible. Only to illustrate, the purchase of Ferrous would cost more than R$ 2 billion, while a maximum fine for a same environmental infraction is R$ 50 million.[60] On the day the prosecution complaint

[58] For instance, the art. 54, *caput*, Law n. 9.605/98 requires as *actus reus* the causation of pollution (to 'cause pollution') that result or may result in damage to human health, or significant destruction of the flora. But the result was controversy, because there are no clear parameters for quantity of pollution that 'damage to human health' and create a 'significant destruction'. The administrative standards that specify this are vague and flexible. The article 54 of this law was used against Vale in a recent complaint of prosecution office of Minas Gerais, accusing for pollution crime in Brumadinho.Another detail of this article is that the Superior Court of Justice (STJ) ruled last year that Article 54 caput is a formal crime, requiring no result for its consummation. Given this, we have the problem that enforcement officials no longer need to spell out what was the "health damage" to penalize, because just the possibility of harm to human health is enough to configure the crime in question.

[59] In details, Renato Silveira and Beatriz Camargo, 'Brumadinho e Áquila: o problema das imputações penais ambientais. A responsabilidade pela falha de mecanismos de alerta em grandes desastres ambientais' (*Jota*, 21 January 2020) <www.jota.info/opiniao-e-analise/artigos/brumadinho-e-aquila-o-problema-das-imputacoes-penais-ambientais-21012020> accessed 10 February 2020; Another example: the National Environment Council (CONAMA) issued Resolution 357/2005 that provides for the classification of water bodies and environmental guidelines for their framing, as well as establishes the conditions and standards of discharge of effluents. The lack of compliance with the provisions may submit offenders to a criminal proceeding from Law n. 9.605/98.

[60] As stated in article 9 of the Brazilian decree-law 6.514/2008.

was filed, Vale's shares on the São Paulo Stock Exchange (Bovespa) remained stable, and the next day, they even rose slightly. Currently, its shares has been emerging on the stock exchange as one of the most resilient to the current coronavirus crisis scenario.[61] Further, as already said, Vale has already recovered all the market value it had lost in 2019. Nevertheless, for the affected population this recovery didn't come. In 2007, Vale and Petrobras (a national giant oil company, pivotal to the Brazilian economy) became larger than the GDP of 22 of the 27 Brazilian states. In 2019, both companies were responsible for the drop in Brazilian GDP, with a 20% drop in the extractive sector. Due to the interruption of Vale's activities shortly after the accident in Brumadinho, the state of Minas Gerais had a loss of more than R$ 20 billion, equivalent to the annual wealth of almost 900 cities in the state. This demonstrates the strength of these companies in developing countries, and the systemic impact they can cause.

Since 2015, the Brazilian criminal justice system has yet to respond to the 19 dead and tens of millions cubic meters of mud spilled at the Mariana dam and probably it won't be that different with Brumadinho. The Report of the Parliamentary Commission of Inquiry (CPI) carried out in 2019 on the Brumadinho case, and the complaint made by the Public Prosecution of Minas Gerais pointed out a perspective still centered on the individual accountability from members of Vale S.A. and TÜV SÜD. The complaint with almost 500 pages, despite providing a good detail of the case, it does not do regarding Vale's criminal liability and does not indicate strategic measures to repair the environmental damage caused. It is necessary for policies on corporate criminal liability to be reconsidered. For years, it was believed individual accountability would be enough to moralize business customs in Brazil. The obsessive search for better criteria to held managers accountable shows low performance, being no more than mere symbolic operations. Nevertheless, the idea of corporate criminal liability for crimes outside the inefficient law n. 9.605/98 in Brazil should also fulfill requirements for necessity and be in an adequate structure to bring positive results. Brazilian legislation is still very resistant to adopting corporate criminal liability for discussions that should be in the criminal field, choosing the option of a sanctioning administrative law to prosecute and judge facts such as corruption and violations of the economic order, which generates more legal insecurity and systemic contradictions.[62]

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[61] Vale, with a market value around R$ 300 billion, has become the 'beloved' company in the stock market, not only because of the optimism with the iron ore market, but also due to the recent announcement that they will invest US$ 2 billion in a 33% reduction in CO2 emissions by 2030. As they said, its the largest ever committed by the mining industry to combat climate change. Ironically, on the same day as Vale's announcement about investmenting in carbon reduction, Norges Bank's sovereign fund excluded Vale from its investments, on the grounds of high risk due to its bad history of environmental events.

[62] Leandro Sarcedo, *Compliance e responsabilidade penal da pessoa jurídica: construção de um novo modelo de imputação baseado na culpabilidade corporativa* (LiberArs 2016); Claudia C Barrilari, *Crime Empresarial, Autorregulação e Compliance* (Revista dos Tribunais 2018); Alamiro Netto, *Responsabilidade Penal da Pessoa Jurídica* (Revista dos Tribunais 2018).

Moreover, the relationship between business activity and the violation of human rights is also being explored. This is done in such a way as to enforce duties on states to protect the environment from such violations. After all, the Brazilian National Human Rights Council (CNDH) published 4 years after the first dam burst the Resolution no. 14/2019, that describes the crimes in Mariana's disaster (2015) as violations of human rights with exceptional severity. Despite the CNDH contributes to the national theoretical debate on the jurisprudence of what are exceptionally serious human rights violations, it's up to Brazilian Justice to analyze the legal consequences of recognition, and as we know, will not be enough. The relationship between corporations and human rights in Brazil still has low results. Even the Act n. 9.571/2018, which establishes the National Guidelines on Corporations and Human Rights, is being ignored.[63] Furthermore, the connection between environment and human rights is a way to increase the debate on the environment in international law. However, the International Criminal Court itself does not adopt the corporate criminal liability, and this could be ineffective and unfair, since the sanctions could fall on the heads of local branches of large multinational companies, and not on their main headquarters.[64]

Thus, Brazilian criminal justice system still has many difficulties to apply in those tragic disasters, not having enough law enforcement instruments. An inefficient sanctioning system creates appropriate ambience for illegitimate uses of overcompliance, allowing use and abuse of criminal law by the 'powerfuls' of private sector. Big mining companies have spent years practicing devastating crimes, creating a degree of victimization and community dependence in poor population that makes it almost impossible to measure an applicable penalty and a fair reparation. They know that overcomplying could be a moral justification to take it away from punishments,[65] so instead of the criminal system try to repair the damage of these big companies, it act justifying punishment against those who have now entered the market or those who do not have such offensive extractive potential. One of the major side effects of criminal sanctions is the prohibition on participation in public contracts by small players.[66]

The adaptation of an effective environmental compliance in Brazil is dependent on these disjointed blank criminal laws. The little we have about environmental criminal law is basically reduced to those blank criminal rules. Excess of observance of the norms of care can be an instrument of shielding for big companies against the justice criminal system, and a wall for the smaller ones to comply. So, the generic criminalization due to blank criminal rules will not be efficient to combat environment

[63] Eduardo Saad-Diniz, 'Vitimização corporativa e dependência comunitária na criminologia ambiental: o acerto de contas com os desastres ambientais' (2020) Boletim IBCCRIM Ano 27 Nº 327 Fevereiro/2020, 4.

[64] Adán Nieto Martín, 'Bases para um futuro Direito Penal Internacional do Meio Ambiente' in Eduardo Saad-Diniz, Pedro Ferreira L Neto and William T Oliveira (eds), *Direito Penal Econômico: Estudos em homenagem aos 75 anos do Professor Klaus Tiedemann* (LiberArs 2013).

[65] Melissa Rorie (n 15) 6.

[66] Eduardo Saad-Diniz (n 18) 162.

harmful behavior. It may act in opposite, they could be a good source for overcomplying and be used for market manipulation in favor of ponderous companies with an offensive history. Thus, concisely, the practices of overcompliance described in *2.2.1.1* may increase corporate crime in small businesses and reinforce the criticisms that were already made to generic criminalization, as it interferes with general principles of criminal law, distorting their values, and reinforcing their selective character against small companies. This can happen mainly in view of the Brazilian Environmental Law n. 9.605/98, since it does not have legal criteria for assessing corporate fault, which already makes small companies more vulnerable due to the need for double imputation. It is fair enough to put in doubt, what kind of compliant behavior should be expected from companies that interact in a bad market structure.

Very similar to what Laufer once conceived as a 'game', the lack of articulation between regulators, regulated and law enforcement justifies the non-collaborative attitude by companies, using overcompliance practices as illegitimate compliance purposes. Consequently, compliance in Brazil is still very limited to simple preventive policies and defense strategies, immunizing the company to try to gain advantages in terms of punishments and agreements, especially because it is an area not so well understood by the control institutions. This makes the real usefulness of compliance in Brazil doubtful, giving scope for its abusive use by big corporations for unethical purposes. Brazil still needs to advance initially in encouraging compliance programs, as it is still a new matter in the country. But for that, it is also necessary to build evaluation criteria so that the promotion of compliance programs is implemented in a safe and effective way, so as not to run the risk of illegitimate practices and abuse of social license and, consequently, an use of criminal law for anti-competitive practices. For this reason, it is important for enforcement and regulatory institutions to mature jointly with those regulated.[67]

Braithwaite´s model of a flexible case-by-case analysis and a cooperative approach among all parties are an outlet to encourage effective compliance[68] and prevent illegitimate uses of overcompliance. Evaluations of effectiveness should be flexible, since compliance expenditures by a large company should not be the same reference for small companies. Large companies can overcomply and be able to use the appearance of an effective program to be a reference to regulators.[69] Then, overcompliance is a factor that has the potential to further reinforce this idea and determine parameters of attributing liability based on the violation of the duty of care.

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[67] Melissa L Rorie, Sally S Simpson, Mark A Cohen and Michael P Vandenberghe (n 9).

[68] Ian Aires and John Braithwaite, *Responsive regulation: transcending the deregulation debate* (Oxford University Press 1992) 101. Garrett and Mitchell describes methods of testing compliance to conduct in effective compliance program. Enforcement institutions should insist and encourage companies to validate and test their programs. Brandon Garrett and Gregory Mitchell, 'Testing Compliance' (2020) Law and Contemporary Problems, Forthcoming; Duke Law School Public Law & Legal Theory Series No 2020-14.

[69] Vincenzo Denicòlo (n 24).

Thus, the foundations of criminal sanctions lose sense, since it will only be a form of punishment for those who do not have compliance programs, or worse, for those who cannot afford expensive programs. This demonstrates the uselessness of criminal sanctions and the fragility of regulatory policies. There is still plenty of room to investigate the big mining companies' crimes and overcompliance. Large mining companies should be using their compliance resources to create capacities for smaller companies, and not abuse their legitimacy and power to eliminate them from the market.

3 Concluding remarks: fostering sustainability by means of the legitimate use of compliance resources.

Corporate crime does not get as much attention as it should. There are currently no regulatory policies or even corporate initiatives evidencing more consistent impact on reducing environmental devastation. In the midst of so many environmental disasters, few concrete enforcement responses have been given, and compliance measures, which *a priori* should be a possible hope for corporate ethical transformation, have become means of immoral strategic market domination by the abuse of compliance and social license. Small and midsize mining companies, which could be much more sustainable, might end up being eliminated by compliance requirements. With a fragile regulatory environment and disarticulated enforcement, large mining companies will remain immune to criminal liability and will still be able to take advantage of the situation to dominate the market through overcompliance.

Corporate legitimacy and license frameworks influence the company's decision making and are instruments that help to understand corporate behavior. The social license ends up being extremely important to understand overcompliance because it implies public pressure that can lead to 'environmental-friendly behavior'. Corporate legitimacy is an important tool to promote structural ethical behavior in the company, but it must be well used and encouraged by the enforcement bodies. Regulatory policies remain fragile and susceptible to regulatory captures. In addition, the regulatory strategies in Brazil are unable to articulate with enforcement, which implies a removal from the company from ethical behavior, not providing an effective sanctioning response, which is conducive to illegitimate compliance practices. Then, although the literature points out that the law is very static and the legislative process is slow to act in a dynamic environment, leaving the crime dependent of specific violations defined by fragile and anachronistic administrative structures leads to more problems in the criminal system.[70] Therefore, studies should deepen the discussion of blank criminal standards, to preventing actus reus from having its elements interfered by the private sector. This problem could be reduced if there were an international environmental standard that could be the complement or reference to the blank criminal rules. In addition, the Brazilian doctrine and courts should discuss the companies' guilt in the face of a corporate criminal liability, which can make liability more effective.

[70] Eduardo Saad-Diniz (n 18) 109.

As we can see, changes in Brazil's regulatory policy are crucially needed. Regulators could play a very important role against corporate crime and increase corporate legitimacy. Many empirical researchers have shown that responsive regulatory inspections can produce good results in terms of improving compliance.[71] However, Braithwaite claims that even if regulations promote a positive momentary result, in the long run it may not improve compliance if regulators fail to "kick the tires" and take the legal pressure off because of past successes. Thus, it is important that regulators are always trying to renew strategies and understand which tools are no longer effective in combating harmful behavior. Corporate accountability to environmental disasters demands new social practices, driven by more consistent scientific research in the criminal sciences.

The fact that large mining companies might overcomply does not mean that they will have credits for future non-compliance. It is true that they should improve sustainability standards. Mining companies should start more constructive dialogues between other companies and regulators. Within this essay, we highlighted a new strategy of market domination that entails negative environmental damage and further demoralizes the criminal system. We should create a point for future research in the field, not only for mining companies but for all types of big companies and markets. Compliance scholars should be engaged in designing smarter strategies to use compliance resources not as an illegitimate tool to eliminate smaller players but to create capacities and encourage more sustainable practices in the extractive industry.

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[71] John Braithwaite, 'Regulatory Mix, Collective Efficacy, and Crimes of the Powerful' (2020) 1(1) Journal of White Collar and Corporate Crime 62-71.

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ARTIFICIAL INTELLIGENCE AND ENVIRONMENTAL CRIMINAL COMPLIANCE

By Rossella Sabia[*]

Abstract

Whilst broadly examined in the anti-financial crime (AFC) context, the use of artificial intelligence (AI) to prevent environmental crimes still seems to be under-discussed. However, environmental agencies have started using AI in the fight against environmental crime, thus enhancing regulatory effectiveness. For businesses, this implies being subjected to a greater scrutiny by the authorities. Hence, the adoption of AI tools could help address the corporate need for developing compliance strategies to cope with environmental regulations and to avoid the imposition of punitive sanctions. This article discusses 'the good and the bad' of using AI to improve corporate criminal compliance in the environmental area. Starting from the consideration that, also in this field, the automation makes it more difficult to allocate corporate criminal liability, the contribution highlights how other legal concerns, such as those related to privacy and corporate 'surveillance' on employees, appear less relevant, suggesting that this could be a significant area for further research.

1 Introduction

The use of artificial intelligence (AI) is becoming an integral part of contemporary reality which pervades not only many aspects of people's daily lives but, increasingly, also large sectors of complex organisations.

Corporations in particular may benefit from these technological advances, both in sectors where the advantages are more evident – for example, the use of AI for improving the efficiency of production systems through predictive maintenance – and in many other fields where, until recently, entrusting software with sophisticated human tasks would have been unthinkable. Intelligent customer engagement, human resources, supply chain management: nowadays, the possible applications of AI can innovate and improve performance in almost every corporate department. Corporate compliance makes no exception. This function encompasses activities aimed at ensuring the fulfilment of requirements of applicable laws, regulations, standards and policies, and is traditionally linked to intricate document analysis and research carried out by professional experts.

Among the compliance processes that organisations can perform with the help of tech and AI are also those – of specific interest from our perspective – related to the prevention of illegal conducts and crimes. As we will discuss below, the use of intelligent tools and technologies has offered functional solutions to overcome many inefficiencies experienced in compliance teams, including fragmented efforts, manual

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procedures, and dealing with mountains of data[72], to make the detection and prevention of corporate crimes smarter, more effective and agile. AI could be seen as a 'game changer'[73] in the development of this 'digital criminal compliance'[74], as the predictive capabilities of 'big data' and real-time risk alerts are able to help identify and prevent misconducts, improve monitoring and reporting, and provide management with more adequate oversight.[75]

As we will see, while the use of these applications to tackle certain types of economic crime has been widely tested, less attention has been paid so far to the potential of AI in the fight against other crimes, in the commission of which, however, corporations are of central importance. This article therefore intends to focus on a peculiar area, that of environmental crimes, where it is well known, from a criminological point of view, that businesses play a decisive role in the dynamics of the most severe environmental pollution – but also that, at the same time, they can promote the protection of the environment more incisively, due to their greater organisational and response capacities.

Our contribution will address the still rather under-discussed theme of the main implications of the use of AI in the prevention of environmental crimes inside corporations. Although the use of AI in this field has not been yet fully explored, its potential appears to be quite promising, as we will try to demonstrate. Suffice it to say that AI tools can significantly affect the environmental impacts of industrial activities and help minimise them, as AI software can control – through constant monitoring and extraordinary computational abilities that only a machine can have – that e.g. air emissions or water discharges do not exceed the thresholds set by the law. In this way, the corporation will be in a position to carry out a more accurate and timely analysis of the risks of violation, thus being able to refine its decision-making processes on the

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[72] Jennifer Hanley-Giersch, 'RegTech and Financial Crime Prevention' in Janos Barberis, Douglas W Arner and Ross P Buckley (eds), *The RegTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries in Regulation* (Wiley 2019) 21. The Author also refers to an interesting survey by McKinsey, according to which at one global financial institution, first and second-line compliance staff spend 80 percent of time on issues of low or moderate materiality, and only 20 percent on critical high-risk issues; and there is a fragmented approach – issues are often addressed individually and not systematically –, with risks covered by multiple assessments and others not at all: McKinsey & Company, 'Sustainable Compliance: Seven Steps Towards Effectiveness and Efficiency' (February 2017) <www.mckinsey.com/business-functions/risk/our-insights/sustainable-compliance-seven-steps-toward-effectiveness-and-efficiency#> accessed 27 April 2020.

[73] Deloitte, 'Why Artificial Intelligence is a Game Changer for Risk Management' (2016) <www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-ai-risk-powers-performance.pdf> accessed 27 April 2020.

[74] On this topic, see the recent work of Christoph Burchard, 'Digital Criminal Compliance' in Hans Kudlich and others (eds), *Festschrift für Ulrich Sieber* (forthcoming 2020).

[75] EY, 'Integrity in the Spotlight. The Future of Compliance. 15th Global Fraud Survey' (2018) 23 <assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/assurance/assurance-pdfs/ey-integrity-in-spotlight.pdf> accessed 27 April 2020.

basis of AI predictions, and hedging against the possible commission of environmental crimes.

Given this background, our work will be structured as follows. In the first part, the general positive and problematic aspects related to the use of AI and data analytics for corporate compliance will be discussed (paragraphs 2 and 3). Then, in the second part, the contribution will focus on the potential of AI in environmental matters by highlighting the applications of interest in the criminal law perspective. It will be shown how some strong concerns on the adoption of AI for corporate crime prevention – such as their impact on employees' privacy – seem to be less pressing in the environmental area compared to other matters (paragraph 4). Finally, the last part is dedicated to an overall evaluation of these digital tools for environmental criminal compliance (paragraph 5).

2 AI and data analytics for corporate criminal compliance: the 'bright side'

'Regulation is one of a number of services to receive the "tech" treatment in recent times'.[76] As the expression itself says, the so-called RegTech (from the merging of the words 'regulation' and 'technology') refers to the use of technology in the context of regulatory monitoring, reporting and compliance.[77] This is an area that started to develop some years ago in the wake of the success of other examples of technology applied to specific sectors, such as the well-known FinTech[78], which has a financial focus and has spread through start-ups. Unlike the latter, the RegTech has the potential to be applied in many regulatory settings, both financial and otherwise, and represents a response to top-down institutional demand arising from the exponential growth of compliance costs.[79]

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[76] Deloitte, 'RegTech is the New Fintech. How Agile Regulatory Technology is Helping Firms Better Understand and Manage Their Risks' (2015) 1 <www.startupbusiness.it/wp-content/uploads/2016/05/IE_FS_RegTech_0815-Final-Draft_.pdf> accessed 27 April 2020. On the rise of RegTech, see Douglas W Arner, Janos Barberis and Ross P Buckley 'FinTech, RegTech, and the Reconceptualization of Financial Regulation' (2017) 37 Northwestern Journal of International Law & Business 373ff.

[77] RegTech can be defined as 'the use of new technologies to solve regulatory and compliance requirements more effectively and efficiently': see Institute of International Finance (IIF), 'Regtech in Financial Services: Technology Solutions for Compliance and Reporting' (22 March 2016) 3 <www.iif.com/Publications/ID/1686/Regtech-in-Financial-Services-Solutions-for-Compliance-and-Reporting> accessed 27 April 2020. On this subject, see Tom Butler and Leona O'Brien, 'Understanding RegTech for Digital Regulatory Compliance' in Theo Lynn and others (eds), *Disrupting Finance. FinTech and Strategy in the 21st Century* (Palgrave Macmillan 2019) 85ff.

[78] For an up-to-date compendium on FinTech legal issues, see Jelena Madir (ed), *Fintech. Law and Regulation* (Edward Elgar Publishing 2019).

[79] Douglas W Arner, Ross P Buckley and Janos Barberis, 'A FinTech and RegTech Overview: Where We Have Come from and Where We Are Going' in Janos Barberis, Douglas W Arner and Ross P Buckley (eds), *The RegTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries in Regulation* (Wiley 2019) viii.

Among the activities that can be carried out and managed using the innovative RegTech tools, as anticipated, specific applications designed to automate compliance activities aimed at preventing corporate crimes have appeared in quite recent times. Generally speaking, the relationship between AI and criminal justice[80] is not new and there are many current uses of such tools: among the best known, predictive algorithms for policing[81], criminal investigations and judicial decision-making[82] can be mentioned. However, while academic literature has focused on these examples because of their dogmatic implications in such a sensitive sphere, the use of AI to improve corporate compliance and to prevent crime-risk is an emerging trend and thus represents a field of investigation still largely unexplored.

Also from the perspective of criminal compliance, financial institutions have been among the first to use new technologies and AI, 'facing the combination of new threats, high transaction volumes, and increased regulation', which has put a strain on their 'ability to streamline operations and maintain appropriate levels of control'.[83] As a matter of fact, the underlying legal framework is constantly evolving and the approach of regulators to risk control is changing[84]: the supervised entities are expected not only to implement, among others, the Anti-Money Laundering (AML), Know Your Customer (KYC) and Counter-terrorist Financing (CTF) policies, but also to fully

[80] Among others, see Ugo Pagallo and Serena Quattrocolo 'The Impact of AI on Criminal Law, and Its Twofold Procedures' in Woodrow Barfield and Ugo Pagallo (eds), *Research Handbook on the Law of Artificial Intelligence* (Edward Elgar Publishing 2018) 385ff.

[81] Andrew G Ferguson, 'Big Data and Predictive Reasonable Suspicion' (2015) 163 University of Pennsylvania Law Review 327 <dx.doi.org/10.2139/ssrn.2394683> accessed 27 April 2020. On AI applications for law enforcement agencies, see the interesting report by UNICRI and INTERPOL, 'Artificial Intelligence and Robotics for Law Enforcement' (2019) <www.unicri.it/news/files/ARTIFICIAL_INTELLIGENCE_ROBOTICS_LAW%20ENFORCEMENT_WEB.pdf> accessed 27 April 2020.

[82] On this issue see Danielle Kehl, Priscilla Guo and Samuel Kessler, 'Algorithms in the Criminal Justice System: Assessing the Use of Risk Assessment in Sentencing' (2017) Responsive Communities Initiative, Berkman Klein Center for Internet & Society, Harvard Law School <dash.harvard.edu/handle/1/33746041> accessed 27 April 2020. For a framework of ethical principles concerning the use of AI in judicial systems, see also CEPEJ, 'European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and Their Environment' (2018) <www.coe.int/en/web/cepej/justice-of-the-future-predictive-justice-and-artificial-intelligence> accessed 27 April 2020.

[83] Accenture, 'Getting Ahead of Financial Crime with AI' (2018) 2 <www.accenture.com/_acnmedia/pdf-88/accenture-intelligent-financial-crime-detection-ov-aw-ldm.pdf> accessed 27 April 2020. For an analysis of the integration of AI in the financial sector, see World Economic Forum, 'The New Physics of Financial Services – How Artificial Intelligence is Transforming the Financial Ecosystem' (2018) <www3.weforum.org/docs/WEF_New_Physics_of_Financial_Services.pdf> accessed 27 April 2020.

[84] It is worth mentioning that supervisors themselves have started using technology to enhance the efficiency of their supervision. '[T]he use of innovative technology by supervisory agencies to support supervision' is known as 'Supervisory Technology' (SupTech): cf. Dirk Broeders and Jermy Prenio, 'Innovative Technology in Financial Supervision (SupTech) – The Experience of Early Users' *Financial Stability Institute (FSI) Insights on policy implementation* No 9 (July 2018) 1 <www.bis.org/fsi/publ/insights9.htm> accessed 27 April 2020.

comply with a broader Anti-Financial Crime (AFC) framework, which may include other crimes like fraud, data security, bribery and corruption, insider dealing and market manipulation. [85]

These issues, which first emerged in highly regulated contexts, are now the 'everyday scenario' that many compliance teams – including those of medium and large corporations, and in the most diverse sectors – deal with. Indeed, more and more business areas (not only banks and financial institutions) are affected by the need to comply with an increasing number of regulatory requirements in the AFC field; and if, on the one hand, legislators respond to the complexity of reality with more regulation, on the other hand, economic crime evolves – benefiting itself from the digital instruments – with such a rapidity as to determine a lag between the new challenges that it poses and the law, 'always one step behind' and inevitably slower to change.[86]

More regulation to consider – i.e. to understand what business activities are impacted, to what extent, and what should be done to ensure compliance – and the ability to identify crime risks that manifest themselves in unfamiliar ways, are just some of the weaknesses to be addressed and resolved within compliance departments. Paradoxically, even with huge investment in prevention and compliance, internal structures are constantly struggling to accomplish these tasks. They are often undersized compared to the amount of work to be completed and staff is often stuck on repetitive, low value added control activities instead of qualitatively relevant ones (i.e. detection of risk cases).[87] At the same time, they are gripped in a vice due to the fact that they are under pressure from internal demand to achieve business results (also keeping costs low) and from external demand to manage regulatory risks and fight crime inside the organisations.[88]

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[85] See for instance the topics covered in the guide released by the UK Financial Conduct Authority (FCA), 'Financial Crime Guide. A Firms' Guide to Countering Financial Crime Risks (FCG)' (2020) <www.handbook.fca.org.uk/handbook/FCG.pdf> accessed 27 April 2020. This guide is an updated version of a previous one and it is designed to help firms to implement and maintain effective financial crime policies, systems and controls.

[86] ACCA and EY, 'Economic Crime in a Digital Age' (27 January 2020) 15 <www.accaglobal.com/in/en/professional-insights/risk/Economic_Crime_Digital_Age.html> accessed 27 April 2020. For a critical assessment of automated criminal compliance, see William S Laufer, 'The Missing Account of Progressive Corporate Criminal Law' (2017) 14(1) New York University Journal of Law & Business 71ff.

[87] Francesco Monini, 'Non è più solo antiriciclaggio: Ai soggetti vigilati vengono chieste decisioni rapide per fronteggiare la vasta area dei Financial Crimes' *Protiviti Insights* (October 2019) <www.protiviti.com/sites/default/files/insight10.22.19.pdf> accessed 27 April 2020.

[88] ibid 1. See also Refinitiv, 'Innovation and the Fight Against Financial Crime. How Data and Technology Can Turn the Tide' (2019) <www.refinitiv.com/en/resources/special-report/innovation-and-the-fight-against-financial-crime> accessed 27 April 2020. The survey reveals that business imperatives often outrank crime prevention. While 98% of respondents claim they are under pressure to increase turnover, 45% claim this is extreme pressure. This is far higher than the extreme pressure they feel under to improve regulatory safeguards (35%) and prevent financial crime. Furthermore, in many cases

The other relevant issue to manage is the fact that 'the digital era has brought more data than ever, in both volume and variety'.[89] Data have always been key to successful business decision-making; but they are meaningless if they cannot be turned into 'consumable information', that is 'organised in a way that enables people to understand it, analyse it and ultimately make decisions and act upon it'.[90] And this is one of the most important factors, where the enormous potential of the use of AI comes in, also for the prevention of crimes. The inefficiencies of the traditional approach, entrusted to manual and paper-based processes, and the consequent need of supporting traditional 'human intensive' activities are leading to a new era of automated corporate criminal compliance and risk management.

The various factors that we have described so far represent critical issues to be solved, but they are also stimuli and key drivers of innovation for corporations. The use of new technologies in the field of digital criminal compliance includes many concrete applications. We are not referring to a single technology, but rather to a collection of techniques that mimic human behaviour[91]: machine learning and deep learning, speech recognition and natural language processing (NLP), visual recognition, just to name a few. Among the most important and widespread ones in the corporate context, there are advanced analytics and machine learning, able to detect anomalies, and to learn and identify new indicators and patterns of behaviour linked to non-compliant and suspicious activities.[92] Also rules-based descriptive tests – analytics easy to implement as they rely on predefined conditions and policies – 'by using historical data with simple and complex analytical-weighted tests' can improve the identification of areas of risk, and producing alerts when a specific condition is met.[93] Clearly, these systems can potentially revolutionise crime prevention. Not only AI can boost the improvement of corporate risk assessment, by helping better detect risk areas, but as intelligent machines able to learn during this process, they can also have a huge impact on risk management, by making predictions about future events.[94] In this way, businesses can get clear indications on how to fix and improve their compliance programmes.

In short, AI tools are convenient for corporations because they can solve the most common inefficiencies experienced in compliance teams. The numerous and evident

(73%), respondents said that they focus on 'box ticking' to be regulatory compliant rather than actively trying to prevent issues.

[89] ACCA and EY (n 15) 12.

[90] Deloitte, 'RegTech is the New Fintech' (n 5) 2.

[91] See Deloitte, 'AI and Risk Management. Innovating with Confidence' (2018) 3 <www2.deloitte.com/content/dam/Deloitte/uk/Documents/financial-services/deloitte-uk-ai-and-risk-management.pdf> accessed 27 April 2020. For an overview of the most interesting AI systems used for crime prevention, in addition to this report see also ACCA and EY (n 15) 13.

[92] Accenture (n 12) 6.

[93] ACCA and EY (n 15), 13. The report explains that this is the most common forensic data analytics technique used by businesses, citing the example of alert triggered in the case of an employee submitting an expense for reimbursement of an amount in excess of a predefined reimbursement policy.

[94] ibid.

advantages must not, however, divert attention from the fact that, as with any technological advance, also in this case it is necessary to question problems raised by these solutions, taking a critical stance and assessing the risks related to their adoption for criminal compliance.

3 AI and data analytics for corporate criminal compliance: the 'dark side'

As it has been widely noted, the use of AI systems can lead to ethical, social or economic risks.[95] Some of the main criticisms concerning the use of AI, and linked to the intrinsic characteristics of these tools, have been reported also with regard to the corporate context and, according to some approaches, have represented an obstacle to their adoption on a large scale.[96]

A first point concerns the fact that advanced AI systems are not only capable of analysing data, but also to identify patterns and make decisions based on them. They are programmed to learn from the data to refine the way decisions are made over time. As a consequence, the quality of decisions made by AI significantly depends on the quality and quantity of the data used, i.e. the absence of large sets of high quality data is, in general, one of the major obstacles to the application of AI solutions.[97] Furthermore, with deep learning applications it can be difficult 'to maintain the necessary level of understanding and control over AI-based decisions, including their appropriateness, fairness, and alignment with the organisation's values and risk appetite'.[98] The complex characteristics of many AI technologies may make them opaque, non-transparent and unpredictable, generating a 'black box' effect.[99] For that reason, there could be difficulties to validate the outcomes and to explain to regulators how decisions were reached.[100] This can be an issue for corporations, which are exposed to the risks arising from this uncertainty; for enforcement authorities, which lack 'the means to verify how a given decision made with the involvement of AI was taken and

[95] For an extensive illustration of AI technical, economic and policy landscape see OECD, 'Artificial Intelligence in Society' (2019) <doi.org/10.1787/eedfee77-en> accessed 27 April 2020. In the vast literature on the topic, see Luciano Floridi, Josh Cowls, Monica Beltrametti and others, 'AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations' (2018) 28 Minds & Machines 689ff.; in a more criminal law-oriented perspective, see Thomas C King, Nikita Aggarwal, Mariarosaria Taddeo and others, 'Artificial Intelligence Crime: An Interdisciplinary Analysis of Foreseeable Threats and Solutions' (2020) 26 Science and Engineering Ethics 89ff.

[96] Deloitte, 'AI and Risk Management' (n 20) 4ff; Accenture (n 12) 4.

[97] Deloitte, 'AI and Risk Management' (n 20) 5.

[98] ibid.

[99] See Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2015).

[100] Accenture (n 12) 4.

… whether the relevant rules were respected'[101]; and for persons affected, which may potentially 'face difficulties with effective access to justice'.[102]

Therefore, it is understandable that heads of business, board members and executives may 'be hesitant to approve and be held accountable for the use of AI for regulated activities in their organisation, unless they feel they have a meaningful understanding of the technology'.[103] And it cannot be ignored the impact that the use of AI can have even on existing staff and on the reorganisation of work that should follow the adoption of these systems.

Shifting from these general concerns to legal ones, they appear even more profound. One of the key aspects that corporations could face when they decide to entrust entire segments of their criminal compliance activities to intelligent algorithms is the allocation of criminal liability. In the hypothesis that the corporation relies on AI software and that decisions are based on the outcome produced by predictive analytics, can the collective entity be liable if a crime – which constitutes the 'materialisation' of a risk non-detected by AI software – is committed?[104] The occurrence of such a situation is a key problem for the imputation of criminal liability to corporations and it is also generalised, in the sense that it may occur in the main models of corporate criminal liability established across the various jurisdictions.

In countries where corporate criminal liability is based on corporate fault, it is very difficult to conclude that there is a proper 'fault' of the corporate entity in case of algorithmic error. To better understand this observation, in the European context[105] the Italian model of corporate criminal liability can serve as a useful test. The Legislative Decree No. 231 of 2001[106] provides for the liability of collective entities – including corporations – depending on the commission of certain crimes, listed by the Decree itself, by managers or employees. This piece of legislation sets also an objective

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[101] Commission, 'White Paper on Artificial Intelligence – A European Approach to Excellence and Trust' COM(2020) 65 final 12 (19 February 2020) <ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf> accessed 27 April 2020.

[102] ibid.

[103] Deloitte, 'AI and Risk Management' (n 20) 6.

[104] It should be recalled that there also authors who support the thesis of the direct liability of AI systems: see Gabriel Hallevy, *Liability for Crimes Involving Artificial Intelligence Systems* (Springer 2015).

[105] For an extensive review of the main models of corporate liability in Europe, see Vincenzo Mongillo, 'The Nature of Corporate Liability for Criminal Offences: Theoretical Models and EU Member State Laws' in Antonio Fiorella (ed), *Corporate Criminal Liability and Compliance Programs*, II, *Towards a Common Model in the European Union* (Jovene 2012) 55ff.

[106] On the Italian system of corporate criminal liability, see Giancarlo De Vero, *La responsabilità penale delle persone giuridiche* in Carlo Federico Grosso, Tullio Padovani and Antonio Pagliaro (directed by), *Trattato di diritto penale* (Giuffrè 2008). For an overview in English, see Cristina De Maglie, 'Italy' in James Gobert and Ana-Maria Pascal (eds), *European Developments in Corporate Criminal Liability* (Routledge 2011) 252ff; see also the various contributions under Chapter 1 ('Corporate Liability 'Ex Crimine' and Compliance Programs in Italy') in Antonio Fiorella (ed), *Liability 'Ex Crimine' of Legal Entities in Member States* vol 2 (Jovene 2012).

requirement, namely the commission of the predicate crime in the interest or for the benefit of the entity, and a subjective requirement, as the entity could be held liable only if it has not put in place, before the commission of the crime, a compliance programme suitable to prevent crimes like those occurred. If the corporation does not implement an adequate compliance programme, this lack is the expression of a sort of collective, 'organisational' fault[107], meaning that the entity could be held liable for its internal organisational deficiencies, which led to the failure to prevent the commission of the crime. Correspondingly, the Decree states that the timely adoption of an adequate compliance programme could be evaluated by the judge during criminal proceedings as an element indicating the absence of such fault, and, therefore, it allows the entity to dissociate itself from the natural person who committed the crime and to be exempted from liability.

In a model of this kind – but the same would apply to any other model in which criminal liability is imposed on a corporation on the basis of its own structural deficits – it is clear that an error of the algorithm cannot determine, in itself, the corporate criminal liability. It cannot, in fact, be referred *sic et simpliciter* to the entity, since it is required to demonstrate – together with the other legal requirements – for example, that the entity has not set up internal procedures to assess the algorithmic output, and possibly to take decisions departing from it. This would imply that, if the entity has adopted and implemented a well-structured and functional compliance programme to provide for these cases as well, doing substantially its best to ensure a rational and accurate prevention activity, there is no corporate fault and no corporate criminal liability for the crime committed. An alternative would be that of linking the choice by the entity to rely on that AI system, which later proved to be unreliable, with its fault, and therefore its liability.[108] But looking at the Italian legislation, this solution does not seem in line with the rationale of the Decree and, in a more general sense, if it were considered viable, it could result in an escape from the use of AI within corporations (since the processing of a large amount of data inevitably involves a certain percentage of possible risk of errors, the option of adopting AI for the abovementioned purposes would be the equivalent, for the entity, of condemning itself).

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[107] Enrica Villani, *Alle radici del concetto di 'colpa di organizzazione' nell'illecito dell'ente da reato* (Jovene 2016).

[108] Under the Italian legislation provided for by Legislative Decree 231/2001, the imputation process could hardly disregard the verification of a specific contribution of the collective entity, to be made e.g. by examining the various relevant conducts of those who have operated along the corporate decision chains, ranging from the 'genetic' moment of the adoption and installment of such AI systems within the organisation, to the lack of corrective actions eventually required by concrete circumstances: references made by Nicola Selvaggi, 'Compliance, sicurezza informatica e nuove tecnologie' Conference presentation at the AIDP – Italian Group Annual Congress 'Nuove tecnologie e giustizia penale. Problemi aperti e future sfide' held at Teramo University, 22-23 March 2019. On these aspects, see also Paola Severino, 'Intelligenza artificiale e diritto penale' in Ugo Ruffolo (ed), *Intelligenza artificiale. Il diritto, i diritti, l'etica* (Giuffrè 2020) 538.

But this issue arises even with regard to models of imputation of corporate criminal liability provided for in some common law countries.[109] It is possible, first of all, to mention the legal doctrine that attributes a vicarious criminal liability to corporations on the basis of the *respondeat superior* principle. In this well-established model, for centuries the corporate misconduct has been defined in terms of employee misconduct: the agents who can determine the liability of the entity are both the managers and the employees, where acting within the scope of the employment, to pursue corporate interests. While in some legal regimes, like in the UK, this principle applies mainly to offences where there is no requirement to prove any mental element[110], in the US it was first developed on the basis of specific statutes and rapidly generalised to crimes with a mental element.[111] With reference to the US system, in fact, scholars have recently pointed out that '[m]ost corporate liability requires corporate mental states—like knowledge of falsity or intent to defraud—which the law presently defines in terms of employee mental states. But when algorithms run the corporate show, employee mental states, and hence corporate liability, are out of the picture'.[112] What seems difficult, therefore, is the ontological, and legal next step, according to which the corporate 'mind' should be referred not to employees, but to algorithms, as 'the law is not equipped to address corporate liability when the "thinking" behind corporate misconduct has been offloaded to automated systems'.[113]

In our opinion, things are substantially similar when considering the identification theory[114], which is a fundamental mechanism for the imputation of corporate criminal liability in the UK. This doctrine has been established for offences involving mental state and requires that only the acts and state of mind of those who represent the directing mind and will of the company can be imputed to the company itself. The offender must therefore be someone who belongs to senior management, excluding low-level employees. It is precisely this requirement, however, that has historically made it very difficult to prove the responsibility of top management[115], with the result that often corporations have not been held liable for the acts of individuals who work within them.

Even in a system like this, in the event of an error not detected by the algorithm, the imputation of liability to the entity would be affected by the problem of the

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[109] On the models of vicarious liability and identification doctrine see James Gobert and Maurice Punch, *Rethinking Corporate Crime* (Cambridge University Press 2003) 55ff.

[110] Celia Wells, *Corporations and Criminal Responsibility* (2nd edn, Oxford University Press 2001) 90.

[111] For a view on corporate criminal liability in the US perspective, see Jennifer Arlen and Reinier H Kraakman, 'Controlling Corporate Misconduct: An Analysis of Corporate Liability Regimes' (1997) 72(4) NYU Law Review 687ff; William S Laufer, *Corporate Bodies and Guilty Minds. The Failure of Corporate Criminal Liability* (University of Chicago Press 2006).

[112] Mihailis E Diamantis, 'The Extended Corporate Mind: When Corporations Use AI to Break the Law' (2020) 98 North Carolina Law Review 930.

[113] ibid 898.

[114] On the identification doctrine see Celia Wells (n 39) 93ff.

[115] James Gobert, 'Corporate Criminality: Four Models of Fault' (1994) 14 Legal Studies 400ff.

identification of the mental state of agent – with the further complication that he/she will have to be a senior manager. And it seems even more unlikely that a task erroneously performed by AI can be linked in some way to top management – since, as seen, in the corporate context such tools usually assist or replace compliance staff, i.e. intermediate or low level employees. And the same can be said – by continuing to refer to the UK legal framework and to complete the picture – with reference to other emerging corporate criminal liability models, such as the failure to prevent a crime from occurring[116], which, although structurally referred to corporate offences, are still based on the commission of the crime by a natural person.

The use of AI in corporate criminal compliance also presents other possible dark sides, related to the use of data analytics that may affect employees' privacy and interfere with regulations on employees' monitoring in the workplace, as well as to defensive guarantees in case of corporate internal investigations. These issues are linked with the next step of our investigation. As we will try to demonstrate in the following pages, in the environmental crime field such shortcomings – emerged in the practice – are less intense, and in our opinion this could be a plus for the use of AI tools for environmental criminal compliance.

4 The use of AI software to prevent environmental crimes

In recent years, the idea of making AI available also for the environment with a view to greater sustainability has been echoed in numerous initiatives and has gained a place on international institutions, governments and private actors' agendas. In general terms, the potential applications that AI can have to protect the environment are countless. An interesting study carried out by the World Economic Forum, in collaboration with PwC and Stanford Woods Institute for the Environment[117], has identified six critical environmental challenges – climate change, biodiversity and conservation, healthy oceans, water security, clean air, weather and disaster resilience – that demand transformative action, where AI can play a decisive role. The report refers to over 80 emerging AI applications for the earth, focusing on how AI systems can concretely help transform even traditional sectors (for instance, agriculture) and ultimately bolster human wellbeing, through the maximisation of the positive impact of technology on urgent environmental priority areas. The European Commission, with the European Green Deal (and most recently with the White Paper on Artificial Intelligence)[118] has also underlined that 'data, combined with digital infrastructure …

[116] An example is provided for by Section 7 of the UK Bribery Act 2010. For a comment, see Stephen Gentle, 'The Bribery Act 2010: (2) The Corporate Offence' (2011) 2 Criminal Law Review 101ff. On the 'failure to prevent model' in the UK, see Liz Campbell, 'Corporate Liability and the Criminalisation of Failure' (2018) 12(2) Law and Financial Markets Review 57ff.

[117] World Economic Forum, in collaboration with PwC and Stanford Woods Institute for the Environment, 'Harnessing Artificial Intelligence for the Earth' (January 2018) <www3.weforum.org/docs/Harnessing_Artificial_Intelligence_for_the_Earth_report_2018.pdf> accessed 27 April 2020.

[118] Commission, 'White Paper on Artificial Intelligence' (n 30) 2; 5-6.

and artificial intelligence solutions, facilitate evidence-based decisions and expand the capacity to understand and tackle environmental challenges'.[119]

Furthermore, it has been highlighted how AI can support the most effective achievement of the United Nations sustainable development goals (SDGs). A recent research[120] has analysed published evidence of AI acting as an enabler or an inhibitor for each target within the various SDGs – which refer to different development domains related to environmental, social, economic and institutional issues, outlining a global action plan until 2030. It has been found that for the very large part (93%) of the targets of the group of goals related to the environment (with respect to climate action, life below water and life on land) AI could act as an enabler, where benefits could be derived by the possibility of analysing large-scale interconnected databases to develop joint actions for environmental preservation.[121] In terms of national initiatives, it is worth mentioning the 'manifesto' of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)[122], which has drawn up a 'digital policy agenda for the environment' to provide an initial set of ideas that, during the German EU Council Presidency in the second half of 2020, will be refined in cooperation with other European countries. The underlying philosophy is that of combining 'things digital with things environmental, and give every algorithm a good dose of environmental action', to create a smart regulatory framework that will 'enable digitalisation to be a driver for sustainability' and serve the SDGs.[123] Among the proposed ideas, one of the examples of digitalisation that safeguards protection for the environment and natural systems is the digital monitoring to enhance enforcement of compliance with environmental law and to improve the ability to track environmental changes.[124]

Environmental monitoring, also in the perspective of preventing environmental crimes, is an area where organisations have already begun to invest in new technologies based on AI and machine learning. Incidentally, it can be observed that in this sector – perhaps even more than in others – the action of public bodies and that of private actors appear strongly interconnected. In fact, alongside public regulation, in

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[119] Commission, 'The European Green Deal' COM(2019) 640 final (11 December 2019) 18 <ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf> accessed 27 April 2020.

[120] Ricardo Vinuesa and others, 'The Role of Artificial Intelligence in Achieving the Sustainable Development Goals' (2020) 11:233 Nature Communications 1.

[121] As the cases in which AI can act as an inhibitor appear to be limited, although there are some indications of the potential negative impact of AI on the SDGs concerning environment, 'there is no strong evidence (in any of the targets) supporting this claim, and therefore this is a relevant area for future research': ibid 5.

[122] Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit (BMU), 'Get the Environment into those Algorithms! The BMU's Key Points for a Digital Policy Agenda for the Environment' (6 May 2019)
<www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Nachhaltige_Entwicklung/eckpunktepapier_digitalisierung_en_bf.pdf> accessed 27 April 2020.

[123] ibid 2.

[124] ibid 3.

environmental matters compliance with legal provisions by operators is crucial – and particularly by those who, operating in collective forms, have a greater impact on the environment. Serious breaches of environmental regulations by corporations can lead to severe pollution cases and serious – often irreparable – environmental damage that can occur, or show harmful effects, even decades later.[125] Therefore, in the field of prevention, the use of AI systems may prove a disruptive innovation that can dramatically boost the effectiveness of the measures implemented.

In the public sector[126] for example this has resulted into the automation of environmental inspections, through the analysis of images obtained by satellites or drones. The latter is indeed a consolidated practice in criminal justice and law enforcement communities for reasons of public security and to support criminal investigations.[127] These tools offer a solution to the main problems emerged when object detection and video analytics are manually conducted by humans: the latter are extremely time-consuming activities, and the processes to obtain quality images can be very long, complex and with a high margin of errors. The analysis carried out with the support of new technologies, instead, allows to obtain unthinkable results compared to traditional methods (e.g. to monitor places that are difficult to reach with personal inspections, to quickly process huge amounts of data etc.) and offers the possibility of optimise resource allocation[128] by predicting where to bring personnel for on-site inspections.

If technologies like those described can enhance regulatory efficiency, conversely more accurate and timely tools available to the authorities can have significant impacts on corporations, which end up being subject to a greater scrutiny, with potential violations detected, or even predicted, in a cost-effective manner.[129] Therefore, the increase in the adoption of AI tools means that corporations also improve their environmental criminal compliance to cope with regulations and to avoid punitive sanctions: technology becomes a driver for the transformation of controls also within the business.

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[125] Francesco Centonze and Stefano Manacorda (eds), *Historical Pollution. Comparative Legal Responses to Environmental Crimes* (Springer 2017). For a focus on the problem from corporate criminal liability perspective under the Italian law, see in the same book Rossella Sabia, 'Historical Pollution and Corporate Liability in the Italian Criminal Law' 147ff.

[126] Masatoshi Hino, Elinor Benami and Newell Brooks, 'Machine Learning for Environmental Monitoring' (2018) 1 Nature Sustainability 583ff. See for instance the US Environmental Protection Agency (EPA), 'Next Generation Compliance. Strategic Plan 2014-2017' (October 2014) <www.epa.gov/sites/production/files/2014-09/documents/next-gen-compliance-strategic-plan-2014-2017.pdf> accessed 27 April 2020. For insights on the US experience, see Robert L Glicksman, David L Markell and Claire Monteleoni, 'Technological Innovation, Data Analytics, and Environmental Enforcement' (2017) 44(1) Ecology Law Quarterly 41ff.

[127] See Mari Sakiyama, Terance D Miethe, Joel D Lieberman and others, 'Big Hover or Big Brother? Public Attitudes about Drone Usage in Domestic Policing Activities' (2017) 30 Security Journal 1027ff.

[128] CMS, 'Artificial Intelligence in Environmental Monitoring' (20 August 2019) 1 <cms.law/en/gbr/publication/artificial-intelligence-in-environmental-monitoring> accessed 27 April 2020.

[129] ibid.

In fact, environment is a highly regulated area in most legal systems, hence – as already happened in the field of AFC compliance – the need to avoid incurring liability can become a strong incentive for corporations to update their criminal compliance systems.

Therefore, the use of AI to implement corporate environmental monitoring expresses its full potential depending on the type of activities carried out and the specific crime risk to be faced. AI can optimise aspects related to environmental regulatory compliance within corporations not only in terms of 'bureaucratic' requirements – e.g. reading complex legal documents and processing compliance content such as regulations, permits, policies, etc.[130] – but also by intervening with reference to specific productions[131], usually in asset-intensive industries, with the effect of reducing the risk of violations of environmental law. The latter AI applications are of greater interest in our perspective: since environmental regulations are often worded in the sense of imposing permits to carry out certain activities, or that exceeding given thresholds could result in a crime[132], the introduction of intelligent systems for real-time monitoring – e.g. of air or water quality – can be a fundamental tool to ensure a higher degree of compliance with relevant legislation and to minimise the risk of harm. At the same time, it can ensure the implementation of the highest standards of environmental protection, in accordance with best available techniques.[133]

The use of AI systems to digitalise environmental monitoring and to improve prevention protocols is a very important paradigm shift for corporations, as with the automation of corporate criminal compliance in other sectors. Clearly, also in the environmental field the use of AI tools raises problems concerning the allocation of corporate criminal liability, similar to those discussed above. In fact, where an environmental crime occurs due to an error of the algorithm – for example, the failure to identify the risk of exceeding a threshold, with regard to certain air emissions, which the system should have reported – holding the corporation liable could prove very difficult, as we have highlighted. This should probably encourage a more general

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130 There are companies that offer services of this kind. See for instance the Canadian ehsAI <www.ehsai.ca>.

131 Systems like these are already used in certain sectors, such as the petrochemical industry. For an explanatory example see <new.abb.com/control-systems/industry-specific-solutions/oil-gas-and-petrochemicals/using-artificial-intelligence-to-reduce-environmental-impact> accessed 27 April 2020.

132 On these issues in Italian environmental criminal law, see Carlo Ruga Riva, *Diritto penale dell'ambiente* (3rd edn, Giappichelli 2016) 47ff.

133 Best available techniques are state-of-the-art techniques that can be used to achieve a high level of environmental protection as a whole: in the European panorama see the definition provided for by art. 3(10) of the Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (Integrated Pollution Prevention and Control) [2010] OJ L334/17. The OECD has recently published a comprehensive cross-country analysis of ways to evaluate the impact of BAT-based industrial pollution policies: OECD, 'Best Available Techniques (BAT) for Preventing and Controlling Industrial Pollution, Activity 3: Measuring the Effectiveness of BAT Policies' (2019) <www.oecd.org/chemicalsafety/risk-management/best-available-techniques.htm#Activity3> accessed 27 April 2020.

discussion on the desirability of 'reshaping' the imputation criteria for corporate criminal liability.

However, there are types of 'legal risk' related to the use of AI – which we have only introduced before, and which is now time to explore further – where the environmental matter seems to be an interesting field for testing a 'safer' AI. As a matter of fact, the legitimisation of the use of artificial intelligence systems in compliance activities entails the need to question also the conformity of such instruments to regulations on privacy and employees' monitoring in the workplace.[134] In general terms, the circumstance that the corporation relies on automated systems to process and analyse enormous quantities of data – *big data analytics*, indeed – may cast doubt on whether employees' personal data might be also included, or whether the collection of such data may lead to forms of profiling or generalised – and hidden – surveillance on employees' behaviour. These questions have already emerged with reference to other areas of corporate prevention (e.g. anti-corruption)[135], but they have not been yet examined in the context of environmental crime.

Looking at the problem from a European perspective, the question is whether monitoring and processing a mass of aggregated data through AI tools – related, for example, to macro-levels of emission of pollutants into air or soil – can be included in the notion of 'processing' of personal data, as referred to in art. 4(2) of the EU General Data Protection Regulation (GDPR), with consequent applicability of all the provisions of the Regulation in terms of legitimacy of processing, rights of the person concerned, and sanctions. The answer should be negative, since this article provides a very specific notion of personal data ('any information relating to an identified or identifiable natural person') and such an aggregate amount of data does not seem to meet this definition. AI applications for this type of environmental monitoring, e.g. based on the use of sensors and technologies able to control emissions, does not refer to personal data, actions or behaviours of individuals, but they look at statistical, objective, de-personalised and collective data concerning the level of industrial emissions and the general impact on the environment of corporate activities. Therefore, privacy issues seem much less significant in this area.

However, since the rationale of the Regulation is to call on corporations to play a proactive role in the assessment of the overall impact that their activity may have on personal data of any interested parties, the possibility that, from the processing of those

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[134] See Laura Tebano, 'Employees' Privacy and Employers' Control Between the Italian Legal System and European Sources' (2017) 3(2) Labour & Law Issues 1ff; Valerio De Stefano, 'Negotiating the Algorithm: Automation, Artificial Intelligence and Labour Protection' (2019) 41(1) Comparative Labor Law & Policy Journal 1ff. For a broader contextualisation of AI and privacy issues, see Karl Manheim and Lyric Kaplan, 'Artificial Intelligence: Risks to Privacy and Democracy' (2019) 21 The Yale Journal of Law & Technology 106ff.

[135] On the use of AI in criminal compliance activities to prevent corruption, see Emanuele Birritteri, 'Big Data Analytics e compliance anticorruzione. Profili problematici delle attuali prassi applicative e scenari futuri' (2019) 2 Diritto penale contemporaneo – Rivista trimestrale 289ff.

aggregate data, the outcome of the software analysis may lead to the processing of information directly or indirectly concerning a specific individual, must also be taken into account. This cannot of course be completely excluded even in the case of environmental compliance, because the detection of emission levels higher than permitted in a given sector of activity, for instance, could lead to further investigation on information and data related to the employees who carry out their activities in the same sector. Nevertheless, this seems a limited possibility, as the corporation can defend itself against similar risks by structuring adequate measures to protect the privacy of those potentially involved in such processing, by virtue of the principles of privacy 'by design' and 'by default'.

Interference between privacy and employees' monitoring regulations should be also considered. The provisions of art. 88(2) of the GDPR on the processing of data in the context of employment are without prejudice to the possibility for States to provide for more specific regulatory measures, with regard – among others – also to 'monitoring systems at the work place'. In this sense, the regulation adopted by each Member State will be key. Taking Italy as an example, we can observe that, in order to allow employers to make valid use of the information collected, the legislator imposes on them[136] the obligation not to acquire the prior consent of employees, but only to inform workers in advance of monitoring tools and the ways they are used – including, therefore, controls carried out with AI software. Controls which, in any case, must be made in compliance with privacy legislation (with consequent applicability, for example, of the provision which, in the case of automated processing, guarantees the person concerned the right to obtain human intervention in the evaluation of the elements collected, to contest the decision reached by the software[137] – on the assumption that it is possible to know how it works).

However, we should make it clear that this regime concerns the prior structuring of a control system. In fact, the situation where the corporation – regardless of the fact that it has previously adopted a control system compliant with regulations on privacy and employees' monitoring in the workplace – has the concrete suspicion of criminal actions already underway by its own employees is different, since here the prior notification to the employee could prevent the internal investigation[138] from running smoothly and covertly. Therefore, the European Court of Human Rights (ECHR) has

[136] Pursuant to Article 4 of Law No 300 of 1970, the possibility of exercising remote control is subject to the existence of an agreement with trade union representatives or, failing that, to the authorisation of the competent territorial office of the *Ispettorato Nazionale del Lavoro* (*National Labour Inspectorate*). However, this provision does not apply to controls on the instruments used by the employee to work and to instruments to record attendance and access times.

[137] See art. 22(3) of the GDPR.

[138] For an introduction to the topic, see Miriam H Baer, 'When the Corporation Investigates Itself' in Jennifer Arlen (ed), *Research Handbook on Corporate Crime and Financial Misdealing* (Edward Elgar Publishing 2018) 308ff.; Jennifer Arlen and Samuel W Buell, 'The Law of Corporate Investigations and the Global Expansion of Corporate Criminal Enforcement' (2020) 93 Southern California Law Review 697ff.

ruled that in such cases the employer could be allowed to carry out covert surveillance on the employees to the extent strictly necessary to detect and prevent the misconducts in progress.[139]

5 Conclusions

Starting from the development of the RegTech sector, this article focused on the crucial role that AI plays and will increasingly play in corporate compliance activities, including those related to crime prevention. We found out how embedding AI systems into corporate compliance could solve many of the problems traditionally experienced in compliance departments, bringing people back to qualitative tasks and assigning repetitive and time-consuming processes to machines, at the same time improving the quality of data analysis and optimally supporting the decision-making process, e.g. through predictive systems. On the other hand, however, we recalled that AI shows a 'dark side', linked to the difficulties of fully understanding its functioning, especially in cases of deep learning, stressing how the opacity of algorithmic decisions can still be an obstacle for their adoption by corporations.

From the criminal law perspective, the central question, which may open worrying scenarios in the current situation, concerns the allocation of corporate criminal liability for the commission of crimes that depends on an algorithmic error, and therefore, substantially, for the incorrect or failed detection by the machine of a certain crime-risk. As we have seen, in a case like this the imputation of criminal liability to the entity on the basis of the traditional criteria is a problem common to both civil and common law systems. Whether we consider a fault-based model, such as the Italian one, or models of derivative liability, such as those established in the US or the UK, it seems difficult, by means of the existing rules, to attribute the criminal liability to the entity. Therefore, a first conclusion is that the mechanisms of imputation of corporate criminal liability as we know them risk not to withstand – on the conceptual level and in terms of their 'performance capacity' – the challenges posed by a new era of corporate criminal compliance 'powered' by the adoption of AI and new technologies. As demonstrated by the experience already gained by corporations in specific sectors, such as the detection of the risk of corruption through predictive analytics, the AI applied to corporate compliance is not a 'futuristic' idea, but a reality that businesses have been familiar with for some time, and with which legislators (and scholars, at least in the criminal law field) should try to keep pace.

Moreover, alongside the most 'popular' matters – i.e. anti-financial criminal compliance –, AI presents uncountable possibilities of application and prospective benefits also in other areas, as shown in the second part of the investigation, focused on the use of AI for the prevention of environmental crimes. We noted how organisations, both in the public and private sectors, can benefit from the use of AI tools in environmental

[139] See *Lopez Ribalda and others v Spain* App nos. 1874/13 and 856/13 (ECtHR Grand Chamber, 17 October 2019).

matters. Many agencies already use intelligent machines to carry out the most complex investigations and for automated inspections, with the effect of improving their performance and being able to carry out more pervasive environmental controls that, in fact, end up entailing a greater risk for private actors to be discovered and sanctioned in case of violations.

The AI can become a useful tool also if adopted by corporations to carry out their own environmental monitoring operations, especially in industrial sectors where it is essential to verify, for example, in real time the levels of air emissions or water discharges. This aspect seems very relevant, given that environmental regulations are often designed in the different legal systems by setting thresholds, whose breach – depending on the case – may also entail criminal consequences. With regard to data collection and analytics entrusted to AI, if on the one hand the environmental field shows some of the abovementioned critical issues – such as the allocation of liability in case of fully automated compliance and algorithmic errors –, on the other hand it actually proves to be interesting for 'testing' these tools. The use of AI enhances the effectiveness of environmental corporate compliance by making it possible to identify risks otherwise very hard to uncover through traditional methodologies. Additionally, digital environmental monitoring mostly concerns objective, aggregate, statistical data processing, and therefore the interference with regulations on privacy and employees' monitoring in the workplace is considerably reduced. The fact that corporations may be less exposed to this type of legal risk is no small thing.

Even though the analysis of the use of AI in environmental criminal compliance confirmed that some structural problems exist in the corporate criminal liability context, our overall evaluation is that the lights prevail over the shadows. This should push all the stakeholders involved in these innovation processes to take this issue very seriously, as well as urge further theoretical reflection – to date still in its infancy – on the use of AI to improve and modernise corporate criminal compliance.

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CORPORATE CRIME AND ENVIRONMENTAL VICTIMISATION: ANALYSIS OF THE SAMARCO CASE

By Daniela Arantes Prata[*]

Abstract

On 5 November 2015, the collapse of the Fundão Dam in Mariana, Minas Gerais, under the control of the mining company Samarco led to one of the biggest environmental disasters in Brazilian recent history. The immediate and continuous flow of tailings caused mass destruction throughout the entire Doce River basin until it reached the ocean in Linhares, ES. Today, the disaster continues to produce effects on the affected communities. The case involves an intense and extensive conflict "judicialization", with a variety of actors, victims and damages of different categories, extensions and severities. The proportions and representativeness of the case at national and international levels have created social expectations in relation to the reparatory measures and judicial responses to the disaster and namely in relation to the appropriate punishment against the liable corporations due to be held accountable for the dam collapse. The imposition of sanctions that accomplish not only its retributive/symbolic purposes but also its preventive goals is usually expected. Based on previous judicial and empirical research and book publication in Brazil, this article aims to analyse the case from a criminological perspective, considering the complexity and interdisciplinarity inherent to the disaster. It intends to observe the judicial responses to the events, in any of its spheres: administrative, criminal, civil and extrajudicial. In light of the limitations of the Brazilian legal system and the fragile national corporate regulation, it questions the potentials of the judicial responses to provide victim reparation and prevention of future corporate and environmental criminality.

1 Introduction

The Samarco case relates to the collapse of the Fundão tailings dam in the city of Mariana, Brazil, on 5 November 2015. The leakage of tailings and its continuous flow for over 600 km through Rio Doce originated one of the biggest environmental disasters in Brazilian history. The case involves an intense and extensive litigation, with a variety of actors, victims and damages of different categories, extensions and severities. This article, based on previous research conducted in Brazil and a book publication[1], analyses four aspects of the case: the main damages; main reparative, restorative and compensatory measures adopted; main legal responses; and main difficulties faced by the victims and the main critiques of the reparation process.

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[1] Daniela A Prata, *Criminalidade corporativa e vitimização ambiental: análise do caso Samarco* (LiberArs 2019).

This analysis was undertaken from theoretical perspectives related to corporate crime and environmental victimization – namely corporate and environmental ('green') criminology and victimology. The Samarco case was chosen due to its significance and relevance, as it was the biggest environmental case in Brazil at the time and has led to one of the most complex pieces of litigation in Brazilian history. The intention of this article is to understand the damages and legal responses and, at the same time, to examine the case from a different perspective.

2 The Samarco case

2.1 Dam collapse and environmental harm

The Fundão dam collapsed in the rural area of Mariana, in a mining community located in the State of Minas Gerais (MG), on 5 November 2015. The Fundão dam was owned and operated by Samarco Mineração S.A, a joint venture controlled by the Brazilian Vale S/A and the Anglo-Australian BHP Billiton. Both companies are among the largest mining companies in the world - in early 2019, BHP was considered the largest mining company in the world and Vale was the third largest mining company in the world[2].

Samarco played a large role in the local economy of Minas Gerais and Espírito Santo: its revenue was equivalent to 1.5% of Minas Gerais' GDP and 6.4% of Espírito Santo's GDP. The taxes directly generated by its activities represented 54% of Mariana (MG) revenues, 35% Ouro Preto (MG) and 50% of the revenues of Anchieta (ES)[3]. Since the collapse of the dam in 2015 Samarco operations have been suspended. They are due to restart in 2020 or soon thereafter[4].

Located in the Germano mining complex, in the *Quadrilátero Ferrífero* region of Minas Gerais, the Fundão dam was used to store tailings from Samarco's mining activities. Construction of the dam finished in 2008 and by 2015 it held approximately 55 million cubic meters of mining waste. The collapse caused the immediate leakage of circa 40 million cubic meters of tailings of iron ore and silica, among others. Another 16 million cubic meters of tailings continued to flow slowly down the river.

The tailings travelled over 600 kilometres down the Doce River until they reached the ocean, in Espirito Santo, on 21 November 2015. The disaster affected 42 municipalities, two states and thousands of communities and people, including several traditional communities. The Samarco case – as it is commonly known - represents one of the biggest socioenvironmental disasters in Brazilian history.

The collapse caused a complex variety of harms: environmental (or socio-environmental), economic (or socioeconomic) and social (or human). Specific damages

[2] PwC. *Mine 2019*: Resourcing the future (2019).

[3] Information available at: <www.samarco.com/samarco-e-a-sociedade/>. Access on: 01/02/2020.

[4] According to the Government of Minas Gerais, the activities of Samarco S.A. are expected to return in the second semester of 2020. Available at: <www.es.gov.br/Noticia/samarco-confirma-retorno-de-atividades-no-proximo-ano-diz-governador> accessed 25 January 2020.

to traditional communities and caused by the reparation process itself can also be identified. From the environmental point of view, there was destruction of the environment and the ecosystems throughout the entire Rio Doce basin: water resources and soil were polluted and contaminated; flora and landscapes were devastated; and fauna was drastically affected by both high animal mortality and destruction of their habitats. As for economic damages, the main ones were: destruction of infrastructure (both public and private, in rural and urban areas); damage to historical and cultural heritage of affected regions; serious impairment of the regional economy and people's way of living; detrimental effects on agriculture, livestock activities, mining, trade, services, fishing activities and tourism; rise of unemployment; and decrease of tax revenue.

The disaster also led to social damage which is difficult (if not impossible) to measure. The primary damage to people was related to loss of life and physical integrity: the collapse of the dam caused 19 fatalities, among them Samarco workers and residents of Bento Rodrigues, and physical injury to several people. There was also damage to education, health (physical and psychological), safety, housing, work, livelihood and social organization of the affected communities and their cultures throughout the whole affected region. Many of these damages still remain after four years of the collapse. Specific damages to traditional communities may also be noted, as their historical, social, religious and cultural relationships to their land may lead to even more profound harm. Damage has also been caused by the unsatisfactory restoration process (re-victimization), due to poor access to information; obstacles to effective participation[5]; lack of recognition of certain victims; the duration of the processes; and the uncertainty, insecurity and other psychological damage resulting from the reparation work itself or from the failure to carry out reparations.

2.2 Legal and extra-judicial responses to the case

Brazil has a threefold liability for environmental damages: polluters are independently subject to civil, criminal and administrative liability. This research has analysed the case from four different perspectives: administrative, criminal, civil and extra-judicial[6].

2.2.1 Administrative sphere

In the administrative sphere, companies respond to violations of environmental administrative regulation which may lead to notifications, administrative proceedings and administrative sanctions. By early 2019, there were at least 73 administrative

[5] Demands for information, participation and assistance were recurrent among victims' complaints in relation to the reparation process.

[6] The case also has legal responses to be presented in the transnational sphere: proceedings were brought by shareholders against Vale (in the US) and BHP (in Australia), and by several victims (among them municipalities, individuals and indigenous communities) against BHP in the UK. These proceedings are also still ongoing. This research only focused in proceedings within Brazilian jurisdiction and therefore did not observe extraterritorial litigation.

proceedings being brought against Samarco, and only one of all of these had been (partially) paid, as Samarco had appealed the others. In the administrative field Samarco also brought proceedings in an attempt to get new regulatory licenses to operate and thus resume its mining activities.

2.2.2 Criminal sphere

In the criminal sphere, individuals and corporations were charged: 22 individuals, mostly Samarco's administrators; and 4 corporations - the three responsible for the dam (Samarco, Vale and BHP Brasil) and VogBR, the engineering company which certified the Fundão stability. Companies were charged with environmental crimes, as they may only be held liable by these, according to Brazilian Law of Environmental Crimes (Law n. 9.605/98). Individuals were initially charged with several crimes, among which homicide and physical injury[7]. However, in 2019 charges of homicide were dismissed, and they would be instead charged with flooding followed by death. This has been appealed by Federal Public Prosecutors Office ("MPF") and there has not been a final decision on the subject until January 2020.

Criminal proceedings against the companies have been pending for some time while evidence and witness statements are produced. In 2018, the companies requested consideration of the statute of limitation of their crimes. This pleading was denied by the judge, though he recognized that the statute would be soon have been exceeded (and thus the companies could not be criminally convicted).

2.2.3 Civil sphere

However, most of the proceedings against the companies are civil. There are collective and individual proceedings aiming for the reparation and compensation of affected individuals and the environment. Three main collective actions dominate the general civil response to case. These are the Public Civil Actions ("ACPs"), which were brought by Public Prosecutors, Public Defenders or the government (Federal Union, States or municipalities). One of these ACPs is specifically aimed at redress for individuals in the municipality of Mariana, as it was the most affected city; the other two main proceedings are connected, aiming to provide for a general environmental response and to set out parameters for compensation for all other affected individuals. One was filed by the Federal Union, States and public entities, while the second was filed by Federal Public Prosecutors ("MPF").

Besides the main ACPs, several other collective proceedings were filed. Most of them were considered connected to the main ACPs and stayed; there is still deliberation about whether some should be considered connected or not; and a few are being judged separately. For instance, there is a filed by the MPF in February 2016 aimed at prohibiting fishing activities in Rio Doce areas in the State of Espirito Santo (ES). Until

[7] The only individual who was not charged with homicide and physical injury was the senior engineer of VogBr, which responds by presenting a false environmental report.

January 2020, fishing in this area was still prohibited. All of the three main proceedings (and most of all others) are being settled by major agreements between the parties. There are also thousands of individual proceedings filed against the companies (usually Samarco, Vale and BHP Brasil), which are mostly settled or are still running in courts[8].

Extremely similar proceedings, discussing the same issues of law, may be stayed until the provision of a general judgment applicable to all of them. This is the case of Incidents of Resolution of Repetitive Demands ("IRDR"). There are two main IRDRs in the case, both deciding on the value of moral damages arising from the lack of water supply for 4 to 5 days after the collapse in several municipalities. One was judged in Espirito Santo, on which the value for moral damage due to lack of water supply in the state was determined as R$1.000,00 - and this may not be appealed any more. The other one was judged in Minas Gerais, and the value for moral damage due to lack of water supply in the state was determined as R$2.000,00 – this, however, may still be appealed[9].

2.2.4 Extra-judicial sphere

As explained above, the main collective civil proceedings in the case are being settled by major agreements between public prosecutors and the companies – while in the individual sphere, claims and demands are usually settled by the Renova Foundation. The Renova Foundation was created in June 2016, as provided for by the first major agreement in the case: the TTAC (Term of Transaction and Adjustment of Conduct), signed on 2 March 2016, by the Government (Federal Union and States of Minas Gerais and Espirito Santo), public environmental administrative entities and the companies. The Foundation was created to repair and compensate all damages arising from the collapse (environmental, economic and social) through 42 programmes. The TTAC also provided for the creation of the Interfederative Committee ("CIF") a public entity formed by members of the government, experts and representatives of municipalities and other legal entities. It is meant to supervise and review Renova's actions and programmes.

The TTAC and the creation of Renova Foundation were heavily criticized. The MPF challenged the agreement's ratification by the Court, and its ratification was annulled on 17 August 2016. The MPF also filed a new Public Civil Action, criticising the past one filed by the Union and the agreement, and both proceedings started to be analysed together. Soon other agreements between public prosecutors and the companies started being made. The Preliminary Adjustment Term ("TAP") was signed in January 2017, between the MPF and the companies, in order to hire experts, audit companies and organizations to provide damages assessments and to organise the hiring of technical

[8] Further results and research methods which led to these conclusions are available in the research full book publication, in Portuguese. Daniela A Prata (n 1).

[9] This conclusion and several others related to the case facts were updated until January 2020.

entities to assist the affected people in the extra-judicial negotiations. After months of negotiation, the Amendment to the TAP was introduced, changing a few of the rules for the hiring of technical assistance organisations and the companies responsible for the damages' assessment. So far, the socioeconomic assessment of damages has not yet been completed, and the process of creating commissions for those affected and choosing technical advisors is still ongoing.

Despite the annulment of the TTAC's ratification, Renova started to operate on 2 August 2016 and continues to do so. Meanwhile, several criticisms have been made of Renova and the reparation process. These include a lack of participation of affected people in the negotiation of the agreements; a lack of previous, free and informed consultation of traditional people; a lack of provision for participation of those affected in decision-making bodies of Renova; a lack of access to information; a lack of social participation in the reparation process; inadequacy and slowness of some programs; and the failure to recognise victims as such. Specifically, the compensation programme has been the subject of numerous criticisms regarding the different treatment of affected people; inequalities in the value of compensation distributed between men and women; and difficulties in proving damages, past income and losses resulting from the prohibition of the use of the Rio Doce and the sea.

Significant criticisms were also made of the negligence and slowness of Renova in recognising the affected; the difficulty of access of certain populations to the programs of reparation; the Foundation's limited response to the concrete demands of the victims; and Renova's non-compliance with the resolutions and directives of the CIF[10]. The delay in implementation of some measures, the lack of transparency regarding the eligibility criteria of the victims and the absence of an engaged and committed effective and collective dialogue of damages was also technically criticized[11].

After several demands for information, participation and technical assistance, a new agreement was signed by the MPF, the government and the companies: the TAC-Governance, signed in June 2018 and ratified by the Court in August 2018. This agreement aims to improve victim's participation in the reparation process and to renegotiate Renova's programmes with the assistance of independent experts and local victims' participation. Since its signing, criticisms have been of the new agreement, as it only proposed a representative participation, not direct - creating the risk of an illusory rather than real participation of the community[12].

One year and a half after its signing, the agreement is still in the early stages of implementation. For the renegotiation of programmes with the victims' participation to start, technical assistance organisations must be hired. They were finally selected by

[10] Ministério Público Federal and Ministério Público de Minas Gerais, *Parecer Técnico n. 279/2018/SPPEA* (2018) 103.

[11] Ramboll, *Relatório consolidado referente aos trabalhos dos primeiros nove meses de avaliação dos programas socioeconômicos e socioambientais* (2017) 52-67.

[12] Ministério Público Federal and Ministério Público de Minas Gerais (n 10) 87-88.

April 2019 and approved by the Court in September 2019. By January 2020, terms, prices and conditions of the entities' contracts were being discussed by the parties. After the hiring of these organisations, a lot of other institutional steps still need to be taken in order for the affected people to start to discuss and negotiate the programmes. There seems to be a significant delay in the agreement's implementation. Meanwhile, it is open to victims to approach Renova in order to receive their proposed compensation, before the programmes are discussed and potentially modified.

Renova has been criticised by several different actors, including the affected people, public defenders, public prosecutors, social movements, NGOs, traditional communities and municipalities. Generally, they complain that Renova is not as independent from the companies as it should be, and also about the delay of the programmes, their inefficiency, the low value of compensation proposed, the imbalance in extrajudicial negotiations, their limited transparency, limited participation and lack of information. For now, the only alternative for victims in Brazil wishing to pursue compensation is to go to court individually – and in the Brazilian Justice System it could take a long time for them to receive compensation without any sort of settlement.

Most recently, due to several complains to the Court from the government and Public Prosecutors about Renova's delays and non-compliance, some of Renova's actions, plans and deadlines were judicialized. Discussions previously undertaken in the Interfederative Committee (CIF) were brought to the Court, as CIF's decisions were not being complied. Parties are now negotiating – again, without victim's participation – and submitting to the court issues in relation to Renova's plans (social and environmental). Therefore, due to delays and non-compliance with agreements, parties go to court to resolve issues regarding their out-of-court negotiations – which were supposed to be out-of-court in order to avoid judicial delays and bureaucracy.

2.3 Partial analysis: the Samarco case

Despite thousands of individual proceedings, the main legal response in the Samarco case has been given through several collective actions, most of which are connected to the main ACP, proposed by the MPF, and thus suspended for the negotiation of agreements and for the implementation of the TAC-Governance. Others correspond to local collective demands, as a result of the ineffectiveness of the implemented measures or non-compliance with signed agreements. It is also noteworthy that most collective actions start in court and end in judicial settlements or TACs - so the civil judicial response ends up becoming extra-judicial.

Extra-judicial settlements have been criticized both conceptually and in their implementation, and even in their modification by the judiciary. There are a high number of general agreements, but also the risk of their potential ineffectiveness in providing satisfactory answers. This may come either from companies' non-compliance with the agreements or due to the distance and abstraction from their predictions when faced with the concrete and complex reality of damages and victims' necessities.

That is: excessive litigation, judicial delay and access to justice issues led to large-scale settlement of conflicts; however, non-compliance, practical delays and difficulties in negotiations recently led parties to bring discussions on their extra-judicial settlements to courts, leading to a "judicialization of the extra-judicialization".

Finally, there are a number of practical and legal challenges which hamper the provision of a successful judicial (or even extra-judicial) response to the disaster. The study and the analysis of the case offers a broad field for empirical research, including criminological, social and juridical studies. Several points still need to be analysed: the intense "judicialization" and "extra-judicialization" of conflicts; the functioning of reparatory mechanisms; and the effectiveness of the Brazilian Justice System, in order to evaluate how it responds to complex disasters and how and at which points it could and should be improved.

3 Corporate crime and environmental victimisation

3.1 Corporate crime

3.1.1 Corporate crime and corporate harm

Corporate crime may have different definitions. Simpson classifies it as a form of white-collar crime[13] - based on Sutherland's concept of white-collar crime: criminal activities practiced by people with high social status who use their occupational position as a means of violating the law[14]. Clinard and Yeager had also understood corporate crime as a particular type of white-collar crime, but also differentiating it, as corporate crime is organizational and occurs in the context of complex relationships and decision-making processes inside the company[15]. In this sense, Clinard and Yeager explained that the mammoth size of a company combined with its trends of diversification lead to decision-making delegation and to operational dispersion. According to the authors, these factors may lead to an organizational climate which allows the abdication of personal responsibility for decisions. This would generate an institutionalization of irresponsibility which may allow individuals to remain unaccountable, not only legally but also morally[16].

Clinard and Yeager also understood corporate crime as "any corporate act punishable by the State", regardless if punishment comes from administrative, civil or criminal law. This concept expands the definition of crime beyond criminal law[17]. Laufer, similarly, observed that civil, administrative and regulatory sanctions, when applied to corporations, are similar and closer to those applied in criminal law. Therefore, there

[13] Sally Simpson, *Corporate Crime, Law and Social Control* (Cambridge University Press 2002) 6.
[14] Edwin Sutherland, *White-Collar Crime* (Dryden Press 1949).
[15] Marshall Clinard and Peter Yeager, *Corporate Crime* (3rd printing, Transaction Publisher 2006; originally Free Press 1980) 17-18.
[16] ibid 44.
[17] ibid 16.

can be an overlap between civil and penal sanctioning systems[18]. Thus, comprehended in a broad sense, corporate crime includes not only corporate acts which violate criminal law, but also civil and administrative law[19]. The approach of this study thus considers a further notion of "crime", encompassing the concept of corporate harm[20] and its damages caused to a variety of victims, and which may be punishable by criminal, civil or administrative law.

3.1.2 Challenges in holding companies to account

Studies in corporate crime and corporate victimisation usually highlight several challenges faced by regulators in different jurisdictions in holding companies accountable. The complexity of corporate behaviour and difficulty in understanding it is one of the obstacles to holding companies accountable and producing deterrent effects. Rorie highlights the necessity of comprehending the current regulatory efforts and how administrators react to them – that is, how do they make decisions to obey or not obey the law[21].

Another obstacle is related to the dependence of local communities on the companies. Saad-Diniz explains how social relationships and the articulation of locals can be so dependent of companies that community victimisation is not even discussed: the bigger the local damage, the bigger the need for the corporation to restore the community[22]. Mazzucato also calls attention to the potential vulnerability of victims of corporate crime when they depend on the offender company – and this is also important for the comprehension of the needs of victim protection[23].

It is also important to analyse other common challenges of corporate criminal liability (already considering its possibility). Diamantis and Laufer, in the context of United States law, describes several of these obstacles and criticises the excessive settlement of proceedings by agreements, questioning their effectiveness and even legality. These agreements would allow public prosecutors, rather than judges, to resolve corporate

[18] William S Laufer, 'A very special regulatory milestone' (2018) 20.2 University of Pennsylvania Journal of Business Law 414.

[19] Sally Simpson (n 13) 7.

[20] See Steve Tombs and David Whyte, 'Crime, harm and corporate power' in Muncio J and Talbot D and Waleter R (eds), *Crime: Local and Global* (Willan Publishing 2009) 139.

[21] Melissa Rorie, 'An integrated theory of corporate environmental compliance and overcompliance' (2015) 64 Crime, Law and Social Change 65-66; also see Neil Gunningham, Robert Kagan and Dorothy Thornton, 'Social License and Environmental Protection: Why Businesses Go beyond Compliance' (2004) 29 Law & Social Inquiry.

[22] Eduardo Saad-Diniz, *Vitimologia corporativa* (Tirant Lo Blanch 2019).

[23] Claudia Mazzucato, 'Victims of corporate violence in the European Union: challenges for criminal justice and potentials for European police' in Gabrio Forti and others (eds), *Victims and Corporations*: Legal Challenges and Empirical Findings (Wolters Kluwer Italia 2018) 58-59.

crime cases[24]. The idea that some companies are "too big to prosecute" or "too big to jail" still persists[25].

In Brazil, the application of criminal law to companies is still undeveloped; it is only applied in the context of environmental crimes, with low application frequency. According to Saad-Diniz, the criminal liability of corporations remains limited and poorly structured in Brazil. The control of harmful social corporate behaviour is usually left aside, restricted to insufficient law enforcement and lack of more sophisticated regulation[26]. There are several challenges: we lack adequate legal structures for corporate criminal liability; we are far from successfully managing the sanctioning system; we do not know exactly how corporations affect our society; and we have not even started to debate the role of compliance and corporate criminal liability in the regulation of corporate behaviour[27]. This scenario is aggravated by the narrow scope of corporate criminal liability in Brazil, restricted to the Environmental Criminal Law (LCA), the slowness of criminal procedures and the difficulty of litigating against big corporations. These factors ultimately lead to low social expectations regarding criminal prosecutions of corporations in the country.

3.2 Environmental victimisation

Environmental (or 'green') victimisation studies arise within 'green criminology' and 'green victimology'. The expression green criminology was first used by Lynch[28] and has been broadly used by criminologists focused on studies of environmental harm. According to White, green criminology refers to the study of environmental harm, environmental laws and environmental regulation by criminologists[29]. It aims to analyse the nature of environmental damage, its regulatory mechanisms, the social control over the damages and the criminalization process[30], aiming to comprehend patterns, motives and explanations of why and how damages are produced and what are the social harms which arise from them[31].

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[24] Mihailis Diamantis and William S Laufer, 'Prosecution and punishment of corporate criminality' (2018) 15 Annual Review of Law and Social Sciences 9.

[25] Some companies are not just "too big to fail" but also "too big to jail": they are considered to be so valuable to the economy that prosecutors may not hold them accountable for their crimes." Brandon Garret, *Too big to jail*: *how prosecutors compromises with corporations* (The Belknap Press of Harvard University Press 2014) 1-2.

[26] Eduardo Saad-Diniz, 'Brasil vs. Golias: os 30 anos da responsabilidade penal da pessoa jurídica e as novas tendências em compliance' (2018) 988 Revista dos Tribunais 52.

[27] ibid 52-53.

[28] Michael Lynch, 'The Greening of Criminology: A Perspective on the 1990s' (1990) 2(3) The Critical Criminologist 1-4, 11-12.

[29] Rob White, *Crimes against Nature: Environmental Criminology and Ecological Justice* (Willan 2008) 8.

[30] ibid 27-28.

[31] Brian Wolf, '"Green-Collar Crime": Environmental Crime and Justice in the Sociological Perspective' (2011) 5 (7) Sociology Compass 502.

Several specificities of environmental victimisation were already analysed by green criminology (and ultimately, green victimology). Hall highlights that environmental harms usually go way beyond material damages and cannot be expressed or simply repaired by financial compensation. These damages usually have systemic and long-term social (and cultural) impacts, which may hamper the assessment of damages and their proper redress[32]. White also observes how environmental victimisation is multifaced and extremely complex: as in traditional victimisation, issues of recognition, acknowledgement, participation, reparation and compensation arise – and it is still necessary to observe impacts taking into consideration inequalities among affected communities[33].

The diverse nature of environmental victimisation reflects the difficulty of justice systems in offering satisfactory legal responses to damages[34]. Green criminology emphasizes the importance of an interdisciplinary approach to the study of environmental harm. Gibbs, for instance, calls attention for the need of integrated perspectives, among and between different areas, with multiple theories, methods and interventions, instead of focusing in one single solution[35]. Another relevant issue relates to victim participation. Although this is a traditional debate in criminal procedure, we still have not properly translated these discussions into the environmental criminal context[36].

Hall also analysed different routes for victims' recognition, restitution and redress, observing positive and negative aspects in four different accountability spheres: administrative; criminal; civil; and extra-judicial[37]. This is to be further explored below, while analysing the different routes in the Samarco case.

3.3 Convergences: corporate crime, environmental victimization and corporate liability

Environmental crime, when practised within the business context, can be considered a form of corporate crime. Clinard and Yeager, back in 1980, enumerated the six main types of illegal corporate behaviour, which included environmental crime[38]. Manirabona and Koutouki also understood environmental crime as a form of economic

[32] Matthew Hall, *Victims of Environmental Harm: Rights, recognition and redress under national and international law* (Routledge 2013) 34-36.
[33] Rob White, 'Foreword' in Hall M, *Victims of Environmental Harm: Rights, recognition and redress under national and international law* (Routledge 2013) X.
[34] Matthew Hall (n 32) 127.
[35] Carole Gibbs and others, 'Introducing Conservation Criminology: Towards Interdisciplinary Scholarship on Environmental Crimes and Risks' (2010) 50 British Journal of Criminology 139.
[36] Matthew Hall (n 32) 80.
[37] See Matthew Hall (n 32).
[38] Marshall Clinard and Peter Yeager (n 15) 113.

crime[39], and so did Wolf, who used the term 'green-collar crime' to refer to environmental crime committed by the powerful[40].

The links and intersection between corporate criminology and green criminology are clear. Both fields of study analyse how corporate crime[41] and environmental crime[42] are not recognized with the same gravity as traditional crimes, and do not cause the same social disapproval. Further to this, the expansion of the notion of crime to harm – beyond the concept of criminal law - are common for both corporate criminology[43] and green criminology[44]. Therefore, it is possible to comprehend environmental harm as a possible form of corporate harm and environmental victimisation as a form of corporate victimisation. Indeed, both forms of victimisation have similar characteristics: they both inflict profound and diffuse damages, of difficult measurement, with impacts that go beyond material damages, caused to a heterogeneous variety of victims.

Due to its similarities and connections, judicial and control responses to corporate crime and environmental crime may be similar, both aimed to the satisfactory redress of victims and, at the same time, deterrence of crime. Thus, joint analysis for both studies is important for better understanding corporate environmental victimisation and the application of better legal responses to this type of criminality. There are several common discussions and conclusions in these fields of research. Both discuss the effectiveness of sanctions - criminal, civil and administrative, approaching them when it comes to corporate convictions - and both conclude that the current sanctioning systems are not enough to refrain corporate misconduct. Both also highlight corporate power and the difficulty in holding companies accountable[45], existing several challenges of responses to victimisation in any sphere (administrative, civil, criminal or extra-judicial). Convergences are also clear in discussions of the role of extra-judicial resolutions and victim participation. The absence of victims from the proceedings is

[39] Amissi Manirabona and Konstantia Koutouki, 'Introduction: La criminalité environnementale' (2016) 49 (2) Criminologie 8.
[40] Brian Wolf (n 31).
[41] Marshall Clinard and Peter Yeager (n 15) x-xi; Mihailis Diamantis and William S Laufer (n 24) 11; Sally Simpson (n 13) 6.
[42] Eileen Skinnider, 'Victims of Environmental Crime – Mapping the Issues' (The International Centre for Criminal Law Reform and Criminal Justice Policy 2011) 19.
[43] Sally Simpson (n 13) 7; Steve Tombs and David Whyte (n 20) 139; John Braithwaite, *Corporate Crime in the Pharmaceutical Industry* (Routledge and KeganPaul 1984) 6; Marshall Clinard and Peter Yeager (n 15) 16; William S Laufer (n 18) 414.
[44] Rob White, *Transnational Environmental Crime: Toward an eco-global criminology* (Routledge 2011) 5-6; Matthew Hall (n 32) 13-14.
[45] For instance, see Adan Nieto Martin, 'Bases para um futuro direito penal internacional do meio ambiente' in Oliveira W and others, *Direito penal econômico*: Estudos em homenagem aos 75 anos do Professor Klaus Tiedemann (LiberArs 2013) 359; and Rob White, 'Eco-justice and Problem-solving Approaches to Environmental Crime and Victimisation' in Toine Spapens, Rob White and Marieke Kluin (eds), *Environmental Crime and its victims: Perspectives within Green Criminology* (Ashgate 2014) 87-95.

already central to debates about victims' rights generally[46], and their ability to participate is explored not only in traditional victimology but also (incipiently) in corporate[47] and environmental[48] victimology.

Beyond similarities in studies, there are common themes in both areas which are only deeply explored by one of the fields. For instance, the attempt to comprehend corporate behaviour by corporate criminology, also observing challenges of control, regulation and corporate liability are equally important for the comprehension and prevention of environmental crime. Likewise, the complexity and interdisciplinarity of environmental damages analysed by green criminology also matter for the study of corporate victimization, since several challenges of reparation and redress of victims are common in both situations. The discussion about limits of legal responses, whether they are civil, administrative or criminal is also significant for both corporate and environmental crime.

4 Analysis of the Samarco case

Many of the aforementioned characteristics and convergences can be verified in the Samarco case. Most of the social researches carried out with victims of the disaster in the case indicated many of the same problems and needs already observed by researchers on environmental victimology. For example, it was possible to identify: the complexity of victimization; the difficulty of measuring the damage; the heterogeneous character of the victims; the need for an interdisciplinary approach; the occurrence of human rights violations; the specific victimisation of traditional communities; and the need for victims to participate in the reparation process. In terms of corporate crime, the criticisms directed at the agreements and abstract governance models (and their potential ineffectiveness) stand out, along with the risks of window-dressing, compliance game and corporate greenwashing. The context of companies' power and community dependence is also present. It is also clearly possible to question the purposes of the penalties to be applied to the corporations and their potential deterrent effect; and to observe the limitations of the Brazilian corporate criminal liability model.

The Samarco case is at the intersection between corporate crime and environmental crime. The victims were targets of diffuse and profound harms, which are difficult to measure, with impacts which go beyond material damage. The convergences are also notable in the analysis of the reparation routes studied by Hall and in the study of possible sanctions to be applied to companies - not only in the criminal law, but also in civil and administrative proceedings.

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[46] Sergio Cuarezma Terám, 'La victimología' (1996) in *Estudios básicos de derechos humanos* (t 5, Instituto Interamericano de Derechos Humanos 1996) 297-302.
[47] Eduardo Saad-Diniz (n 22).
[48] Matthew Hall (n 32) 80.

4.1 Legal and extra-judicial responses

Hall generally analyses legal responses to environmental victimization in four different spheres - civil, administrative, criminal and extra-judicial - highlighting the positive and negative features of each sphere. In Brazil, environmental law provides for a threefold liability for environmental damages, which are independent and can coexist[49].

Considering this Brazilian legal structure and Hall's analysis, the Brazilian system would actually be coherent and could be able to provide a reasonable response, at least in theory. The administrative sphere is aimed at specifically monitoring corporations and their compliance with regulation; and their sanctions can be applied more quickly. Sanctions in the criminal sphere would be able to provoke social disapproval of the harmful corporate conduct and produce a greater symbolic and deterrence effect. The civil sphere would be able to provide compensation to victims within a reasonable time, as civil liability for environmental harm is strict and joint. The Brazilian system also allows collective actions to be filed by Public Prosecutors, with specific provisions developed to protect diffuse, collective and individual homogeneous rights. Finally, extra-judicial negotiations, promoted in Brazil through conduct agreements and individualized mediation could be able to deal with the complexity of the harms and the victims' heterogenous character further.

However, in practice, all these spheres may end up being ineffective - and this may be observed in the Samarco case. The criminal sphere faces issues with the length of proceedings and difficulty in proving guilt. In the Samarco case, after four years of the disaster, there is a risk of criminal proceedings being limitation barred without corporations ever being held criminally accountable. Criminal sanctions may thus be questioned with regard to their real deterrence and symbolic effects, mainly due to deficiencies of the Judicial System in general (and its delays), the Environmental Criminal Law specifically, the weak corporate regulation in Brazil and lack of effective enforcement strategies. Even the administrative sphere faces issues with length of proceedings and different instances of appeal, as administrative sanctions may always be judicialized. Indeed, most of the administrative fines applied to Samarco have not yet been paid[50]. Further to this, its fines are multiple with lower value, with less capacity of generating social disapproval.

In the civil sphere, victims face difficulties in proving damages in court, and proceedings are delayed by long discussions regarding jurisdiction and the relationship between related claims. Most of the collective proceedings in the Samarco case are either stayed due to the suspension of main collective actions (for the major agreements implementation) or there are still deliberations as to whether if they should be stayed or judged along with the main proceedings. It is also possible to highlight the difficulty

[49] Édis Milaré, *Direito do Ambiente* (9th edn, Revista dos Tribunais 2014) 335.
[50] Information last updated in early 2019.

of prosecuting big corporations and access to justice issues[51] – which ultimately lead to settlements, both in collective and in individual spheres, and which may not always be fair and satisfactory.

The extra-judicial sphere ends up, therefore, being the main field of conflict resolution in the case. However, it also presents many challenges: individually, it is possible to observe imbalance between parties (affected people vs. companies) and community dependence; collectively, abstraction of agreements and risks of non-compliance may lead major settlements to be ineffective[52]. This relates to William Laufer's analysis of corporate crime and window-dressing risks: corporate governance ideas and multi-stakeholder participation proposals might be illusions and not necessarily effective, creating the risk of legitimacy of participation[53]. This is exactly the concern of several affected people and academic groups regarding the last agreement settled in the Samarco case, the TAC Governance[54].

There is still a lack of mechanisms to guarantee companies' compliance with agreements effectively, both in the individual and in the collective sphere. Indeed, the recent judicialization of Renova's non-compliance with agreements and plans, deadlines and actions is an example of failure to achieve major advances in the extra-judicial instances created by the main agreements. That is agreements needed to be judicially enforced in order to achieve satisfactory results.

It is not possible to conclude, therefore, that any of the accountability and reparation mechanisms in Brazil provides a satisfactory response, at least not in terms of providing victims with fair compensation nor preventing future corporate and environmental crime. The Samarco case demonstrates, in practice, how the Brazilian legal system responds to environmental harm, in civil, administrative, criminal and extra-judicial spheres, exposing their insufficiencies and raising questions about Brazil's current corporate accountability structures, enforcement strategies and obstacles to hold companies accountable for their wrongdoing.

4.2 The disaster's complexity and the difficulty of reparation

The Samarco case is inserted in a complex context, with a huge diversity of damages, from environmental to economic and social, of different intensities – many difficult to,

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[51] Hall observes that, if the legal culture of a system is reluctant in granting significant values to damages, or if it prioritizes economic development of companies and the State, the civil proceedings may have negative results. Matthew Hall (n 32) 118. This is similar to several critics made by scholars to judgments and political decisions related to the mining industry in Brazil.

[52] Critics to Conduct Adjustment Agreements ("TACs") in Brazil and their potential inefficiency – both to repair victims and to promote deterrence – may also be related to critics made by Laufer towards NPAs and DPAs in the United States. Mihailis Diamantis and William S Laufer (n 24) 8-9.

[53] William S Laufer, 'Illusions of compliance and governance' (2006) 6 Corporate Governance.

[54] The implementation of this agreement seems to be, indeed, delayed. In January 2020, after one year and a half of its ratification by the Court, there are still many institutional steps to be implemented so victims may participate in the governance structure proposed by the agreement.

if not impossible, to assess – caused to several heterogeneous groups of victims, located all over the Doce River Basin. Damages are even harder to analyse and measure considering the number of indigenous and traditional communities affected, which had profound and historical relationships with their lands and the river[55].

The size of the affected area plus the variety of victims and variety of damages leads to different demands arising in different locations, which means that the provision of one satisfactory generic legal response to the affected people is impossible. This also necessitates interdisciplinary approaches, as pointed out by several empirical researches undertaken in the Doce River Basin. Literature in green criminology equally points to the necessity of interdisciplinary responses, criticizing the distance of law from the social sciences and of the social sciences from the law[56].

4.3 Demands for information, participation and victim's negligence

In the Samarco case, the participation of victims in the reparation process has been one of the main subjects debated. Demands for information, participation and assistance of technical organizations are among the most required by the affected people. In theory, rights to information and participation have been provided by agreements since the collapse of dam. However, these rights are not always guaranteed. Ramboll, for instance, highlighted the insufficiency and inadequacy of Renova's participation processes[57]. These demands started since the first public hearings and persisted after the TTAC and the Preliminary Agreement (TAP). A new agreement was therefore signed and ratified on August 2018 – the TAC-Governance, aimed to provide for real and effective participation of the victims in the decision-making processes of the damages' reparation.

However, many issues were raised about this agreement as well. They were mainly related to the complexity of the governance system; bureaucracy; and lack of real victims' voice – which would ultimately lead to lack of effective participation. Furthermore, the agreement's implementation is currently delayed, which may be a reflection of the bureaucratic procedures established by the new TAC. It is essential, thus, that participation is effective and real, rather than merely symbolic.

4.4 Abstract governance models and agreements as response to demands

The current approach to environmental victimisation in Brazil is mostly based on collective proceedings (public civil actions) and the negotiation of agreements (conduct adjustment terms, or TACs). In the Samarco case, there are several criticisms of the limits of collective proceedings and, at the same time, the abstractness or low

[55] Ministério Público Federal, *Parecer nº 318/2017/SEAP* (2017) 5.
[56] Emanuela Orlando and Tiffany Bergin, 'Forging a socio-legal approach to environmental harms' in Emanuela Orlando and Tiffany Bergin (eds), *Forging a socio-legal approach to environmental harm: global perspectives* (Routledge 2017) 3.
[57] Ramboll (n 11) 49-50.

responsiveness of TACs. Demands for information, participation and assistance demonstrate general dissatisfaction with the process of reparation, even after the TAC-Governance.

Laufer criticizes the illusions of governance models and the movement of "good corporate citizens", which is also similar to the illusion of "compliance to the guidelines"[58]. In the Samarco case, although there is no empirical study nor independent governance evaluation about the proposed governance models, it is possible to observe that some of the agreements' clauses are closely related to the UN Guiding Principles of Human Rights[59].

Laufer also observers that abstract models and guidelines may be easily reproduced in reports and governance models, and apparently complied with, but, in reality, this compliance does not happen, or does not happen satisfactorily[60]. Laufer also criticizes the use of compliance and governance models for window-dressing purposes, not aiming for real effectivity nor modifications in corporate behaviour[61]. He also criticizes corporate greenwashing, a practice of some corporations which uses reports and organizational myths as a legitimacy strategy, even though these results may frequently not be proven or verified[62]. These strategies could create an illusion of ethical behaviour when there is no commitment to this in practice. Such reports raise awareness, for instance, about the UN Global Compact[63], when corporations, linking themselves with the UN, may create the appearance of good behaviour[64].

About the Samarco case, it is also worth noting that, in 2014 – before the Fundão Dam Collapse – Samarco was considered an example of company which invested and implemented an internal committee for human rights, in Ruggie's release of his book 'Just Business' (in which he explained the basis for the creation of the UN Guiding Principles) in Brazil[65]. Samarco was also one of the first Brazilian companies to receive the ISO 14001 certification of environmental management, back in 1998[66].

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[58] William S Laufer (n 53) 25.

[59] UN Guiding Principles on Business and Human Rights (2011).

[60] William S Laufer, 'Social Accountability and Corporate Greenwashing' (2003) 43 Journal of Business Ethics.

[61] William S Laufer, 'The Compliance Game' in Eduardo Saad-Diniz, Dominik Brodowski and Ana Luíza de Sá (eds), *Regulação do abuso no âmbito corporativo: o papel do direito penal na crise financeira* (Liberars 2015) 66.

[62] William S Laufer (n 60) 253-255.

[63] It is also important to highlight that Samarco signed up to the UN Global Compact.

[64] If there is one striking similarity, it is the potentially perverse nature of these strategies. Both internal and external strategies have the potential to give an organization the appearance of ethicality and leadership, when no such commitment exists". William S Laufer (n 60) 257.

[65] Information available on: <nacoesunidas.org/debate-sobre- empresas-e-direitos-humanos-marca-lancamento-de-livro-de-john-ruggie-no-brasil/> accessed 23 July 2018.

[66] Samarco's Annual Report (2005).

Another interesting point is related to letters sent from Vale and BHP Billiton to UN, after being questioned about the measures to be adopted, just after the Fundão Dam collapse. Both companies highlighted their proactive behaviour in business and human rights, explaining, for instance, they were taking their responsibilities as "good corporate citizens" seriously[67] or being engaged in the development of the UN Guiding Principles[68]. Although there are no empirical and further studies regarding the companies behaviour or their governance models, it is possible to question if the abstract nature of the agreements signed in Samarco's case – maybe as abstract as the companies' guidelines in human rights - could lead to ineffective results in practice.

5 Conclusions

The Samarco case represents the biggest social-environmental disaster in Brazilian history, and one of immense complexity, involving a wide diversity of damages, of different intensities. The researches and documents already conducted regarding the disaster indicate many of the same issues and needs previously observed by the green victimology or questioned by the corporate criminology. With regard to environmental victimization studies, it is possible to highlight, for example: the complexity of victimization; the difficulty of measuring damages; the heterogeneous nature of the victims; the need for an interdisciplinary approach; the occurrence of human rights violations; the need for victim participation; the negligence of victims in proceedings; and the inadequacy of the current legal responses to satisfactorily remedy environmental disasters.

With regard to corporate crime studies, it was possible to identify: criticisms towards the agreements and the abstract governance models implemented, and their potential ineffectiveness; the context of corporate power and community dependency created by the corporation at the local level; and the low potential of retribution and low deterrence of sanctions imposed by the current Brazilian criminal system. Concentrating responses on major settlements may hinder the provision of reparation which promotes effective victim participation, leading to a number of criticisms to the extra-judicial agreements and the reparation process itself.

The idea of governance as a corporate control strategy, plus the multi-stakeholder model of regulatory participation, as Laufer points out, can create creative and seductive illusions of compliance and corporate governance that are not necessarily

[67] "To begin with, Vale takes very seriously its responsibilities as a good corporate citizen. (…) Specifically, Vale recognizes the need for all companies and all persons to carry out their businesses keeping in mind the rights of people to a safe, clean, healthy and sustainable environment.". Available on: <spdb.ohchr.org/hrdb/31st/OTH_23.12.15_(13.2015).pdf> accessed 22 July 2018.

[68] Respect for human rights is critical for the ongoing success and sustainability of our business. (...) BHP Billiton was pleased to directly engage in the development of the UN Guiding Principles and through this process ensured that BHP Billiton's human rights commitments evolved in parallel with the Guiding Principles." Available on: <spdb.ohchr.org/hrdb/31st/OTH_14.01.16_(11.2015).pdf> accessed 22 July 2018.

effective. The abstractness of governance models may still facilitate noncompliance with agreements and, at the same time, attempt to propose an extra-judicial resolution that does not necessarily result in the legitimate participation of the affected people.

The difficulty of providing a satisfactory response to the disaster is noteworthy. The criminal process, besides being extended in time by the difficulty of proving corporate guilt, may have both deterrent and symbolic purposes limited by the deficiencies of the Brazilian Law on Environmental Crimes and by weak corporate regulations in Brazil. Administrative proceedings, theoretically faster, are also extended by several appeal possibilities, and their fines, multiple and of lower value, do not provide the same symbolic disapproval of a criminal sanction. In the civil sphere, there are clear obstacles for victims when proving their damages in Court and in litigating against big corporations - which lead to the civil resolution of the case in the extra-judicial sphere. Therefore, the resolution of the conflict is mostly to be found in agreements negotiated between large companies and the State, which exclude the victims' participation. In the local and individual context, extra-judicial mediation, although it may better address the complexity of the damages, might also generate an immense imbalance between the actors in the negotiation (corporations v. individuals). There is also a lack of mechanisms to effectively enforce corporate compliance with agreements settled both with victims and with public authorities. This results in extra-judicial agreements having to be judicialized.

One can note that any of the areas of reparation analysed is far from providing a satisfactory response, either for the victims' reparation or for the deterrence of environmental crime. The current scenario in Brazil, after four years of the disaster, is generally unsatisfactory for several victims and, at the same time, there have been more environmental corporate disasters – such as the Brumadinho case, which relates to another tailing dam collapse in Minas Gerais and led to over 200 fatalities and environmental harm to several communities.

The Samarco case is an example of the number of issues that further studies in corporate crime and environmental victimization could encompass. There are a range of studies around the affected people, but a gap remains between the approach of the legal system and the interdisciplinary approach needed in this case. The justice system's attention to the interdisciplinarity of such issues and the complexity of corporations and victimization is essential. With a comprehensive approach, it could be possible to provide a solid basis for more concrete and satisfactory responses to the victims, as well as enable the development of a more realistic and pragmatic model of corporate accountability.

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EXPLOITATION OF NATURAL RESOURCES, FOOD PRODUCTION AND CORPORATE CRIMINAL LIABILITY

By Emanuele Birritteri[*]

Abstract

The article investigates the dynamics of criminality in the food industry with two main goals: (i) to highlight how the criminological characteristics of these markets could impact on the fair distribution of criminal liability between individuals and collective entities; (ii) to suggest – in a cross-cutting perspective with respect to the various legal systems – solutions that could help regulators to structure mechanisms of criminal enforcement against food crimes able to address the real causes of such illegal conduct. Our contention is that only by putting legal persons at the centre of the punitive system for food crimes in the future it will be possible to guarantee an effective response against very serious criminal phenomena which, in the recent past, have not always received a strong response on the repressive side.

1 Introduction

Unlike in the past, food production has today become globalised, with growing shares of the market controlled by multinational giants that operate through the maximum exploitation of natural resources[1]. This exploitation puts the environment at risk, as some authors have pointed out, showing the correlations between food production and negative impacts on the environment[2]. However, sometimes these food production processes can also adversely affect the trust and safety of consumers, as they may result in the introduction into the market of goods not of the promised type or quality, but rather of products that are adulterated, counterfeit or even dangerous to the health of purchasers[3]. Such conduct could, of course, trigger the *ius puniendi* of the competent authorities and become a problem that criminal law should address more efficiently.

This paper is aimed at investigating the origins and the relevant dynamics of such illegal phenomena in the food industry in order to understand – regardless of the specific reference to one or more national legislative frameworks – the problems that the sorts of crimes typical of these markets can give rise to in setting the rules allocating criminal liability between individuals and collective entities.

In the final part of the work, we will indicate some possible regulatory solutions which – from a cross-cutting perspective with respect to various legal systems – could ensure

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[1] On this issue and for a clear analysis of corporate criminal liability for food crimes see Vincenzo Mongillo, 'Responsabilità delle società per reati alimentari. Spunti comparatistici e prospettive interne di riforma' (2017) 4 Diritto penale contemporaneo – Rivista Trimestrale 300.

[2] Tim Lang, David Barling and Martin Caraher, *Food Policy. Integrating health, environment and society* (Oxford 2009).

[3] See, for a complete overview of the issue, John W Spink, *Food fraud prevention: introduction, implementation, and management* (Springer 2019).

a more effective response to food crime: a serious phenomenon which, notwithstanding the fact that it has often come to the attention of public opinion, does not yet seem to have been adequately tackled by criminal law in the international arena.

2 Food industry, food production and food crimes: a criminological perspective

A part of the food industry has been at the centre of international scandals in recent years. In this regard, it is sufficient to mention two of the most famous food crime cases that have occurred recently, and which could be seen as red flags of the ineffectiveness of the legislative tools designed to prevent and repress the phenomenon. The first case involved the distribution – by some companies in the US market – of salmonella-contaminated peanuts in 2008-2009 that caused nine deaths, a great number of illnesses and the recall of 4,000 products[4]. The second case, which has become known as the Horsemeat scandal, exploded in the UK in 2013 but had implications also in the rest of Europe and involved the discovery of the production and selling, including by some of the main players in the food supply chain, of beef containing meat from other species not declared in the product[5].

These episodes are clearly very serious and involve important interests (from the trust of consumers to the protection of public health) that certainly deserve protection, which should be offered by criminal law[6]. We should consider also the fact that, with reference to that type of illegal conduct, in the majority of cases the most affected categories of people are the vulnerable (and, therefore, individuals who need more protection), as they are not able to make adequately informed decisions and do not have access to higher-ranking products[7].

However, the criminal law response to food scandals has often been far from effective[8]: in order to understand why – trying also to highlight what strategies should be

[4] Paul Leighton, 'Mass Salmonella Poisoning by the Peanut Corporation of America: State-Corporate Crime Involving Food Safety' (2016) 24 Crit Crim 75.

[5] Catherine Barnard and Niall O'Connor, 'Runners and Riders: The Horsemeat Scandal, EU Law and Multi-Level Enforcement' (2017) 76(1) CLJ 116.

[6] On this issue see also Massimo Donini, 'Il progetto 2015 della commissione Caselli. Sicurezza alimentare e salute pubblica nelle linee di politica criminale della riforma dei reati agroalimentari' (2016) 1 Diritto penale contemporaneo – Rivista Trimestrale 4.

[7] See, for a broader point of view, Mariah Dolsen and others, 'Food fraud: economic insights into the dark side of incentives' (2019) 63 Austrialian Journal of Agricultural and Resource Economics 685. On this topic, especially with reference to the relationship between white-collar crime victimisation and social status, see also the considerations of Hazel Croall, 'White collar crime, consumers and victimization' (2009) 51 Crime Law Soc Change 127.

[8] For example, Paul Leighton (n 4) 76, defines the PCA case as a state-facilitated crime occurred due to substantial weaknesses in regulation and control. With respect to the horsemeat scandal see also Cecilia J Flores Elizondo, Nicholas Lord and Jon Spencer, 'Food Fraud and the Fraud Act 2006: complementarity and limitations' in Chris Monaghan and Nicola Monaghan (eds), *Financial Crime and Corporate Misconduct: A Critical Evaluation of Fraud Legislation* (Routledge 2019), who highlight how the

undertaken in a *de iure condendo* perspective – we believe it is useful to start from the analysis of the criminological scenarios that characterise this sector in order to figure out the reasons that facilitate the commission of frauds and other criminal offences in the food industry.

One of the causes that increases the opportunity for the perpetration of food crimes is linked to the intrinsic characteristics of these markets and of the food industry as a whole. As mentioned before, the food sector has over the years experienced an intense massification and globalisation of production, with increasingly complex supply chains, rooted in many different countries and involving a great number of players.[9]

Such a vast and dynamic market is for obvious reasons very difficult to regulate, including through the criminal law. Due to the positioning of economic players in different countries, the carrying out of controls by the authorities – as well as the third-party due diligence of market operators on their suppliers – is a complex task. As a result, forum shopping occurs, as corporations, taking advantage of the regulatory asymmetries between the different legal systems, delocalise production to countries with less stringent rules and controls on food business, thus very easily externalising the risks to public health arising from such unregulated (and, therefore, often unsafe) production practices[10] to the countries where these products will be distributed and sold.

In this context, there are, on the one hand, more opportunities and incentives to commit food frauds, while, on the other, it can be very difficult to implement businesses practices and distribution chains that comply with regulations on food hygiene and safety (such non-compliance, moreover, as well as fraud, is often able to trigger the criminal law response of the competent authorities).[11]

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response to this scandal demonstrates the fragmentation of regulatory enforcement against food crimes in the UK.

[9] To better understand how and why these and other factors have increased opportunities for food crimes see Chris Elliott, 'Elliott Review into the Integrity and Assurance of Food Supply Networks – Final Report. A national Food Crime Prevention Framework' <www.gov.uk/government/publications> accessed March 2020, ch 1, para 13. This report was commissioned to Prof. Elliott in response to the horsemeat scandal and it still represents, although it is focused on the UK legislation, an international point of reference for scholars and policy makers in the implementation of legislative strategies against food crimes.

[10] See on these issues Joseph Yaw Asomah and Hongming Cheng, 'Food crime in the context of cheap capitalism' in Allison Grey and Ronald Hinch (eds), *A Handbook of Food Crime. Immoral and illegal practices in the food industry and what to do about them* (Policy Press 2018). In general terms, the literature has pointed out how the exploitation of criminal justice and inter-state asymmetries represents a clear advantage for fraud compared with other crimes: for this view see Michael Levi, 'Organized fraud and organizing frauds: unpacking research on networks and organization' (2008) 8(4) Criminology & Criminal Justice 389.

[11] For a broader analysis on these topics see also Hazel Croall, 'Food Crime: A Green Criminology Perspective' in Nigel South and Avi Brisman (eds), *International Handbook of Green Criminology*

Moreover, in studying these phenomena, the criminological literature has pointed out that it is necessary to abandon the idea that food fraud – or in general food crimes aimed at punishing the failure to comply (even unintentionally) with administrative food regulations – is committed only within the framework of organised crime[12]. On the contrary, the perpetrators of most food offences are now actors who operate on the market in a fully legitimate manner, also because it is very unlikely that a fraud or a food crime could be committed without the involvement of one or more lawful traders in the very long food supply chain, as this process requires input from several actors[13].

So, it can be argued that many food frauds – and many crimes resulting from behaviour that does not comply with administrative regulations on food production – are motivated by and essentially depend on, above all, some of the following factors: the absence of public and private controls at different stages of the food production chain[14]; the extreme fragmentation of the operational and decision-making centres, even within each individual company involved[15] (especially if we consider that most of them are multinational companies); the great distance, due to the long length of the supply chains, between the perpetrators of food crimes and the victims of their conduct, which clearly makes the actors involved insensitive at times to the consequences of their actions or of the structural (dis)organisation of their businesses[16]; the very tight profit margins, especially in small retail businesses, which push these players – even though they are usually legitimate operators – to breach the law in order to survive in the market[17].

In short, several academic works – based on the observation of relevant case studies – have shown that most food crimes are facilitated by such situational drivers, to the point that not only, as mentioned before, are most of the perpetrators of these crimes

(Routledge 2012); Hazel Croall, 'Food, crime, harm and regulation' (2012) Center for Crime and Justice Studies 16.

[12] With respect to these scientific findings see the work of Nicholas Lord, Cecilia J Flores Elizondo and Jon Spencer 'The dynamics of food fraud: The Interaction between criminal opportunity and market (dys)functionality in legitimate business' (2017) 5 Criminology & Criminal Justice 605.

[13] Nicholas Lord and others, 'In Pursuit of Food System Integrity: The Situational Prevention of Food Fraud Enterprise' (2017) 23 Eur J Crim Policy Res 483.

[14] For a practical example of the importance of this and other networks of links in the commission of food crimes see Nicholas Lord and others, 'A script analysis of the distribution of counterfeit alcohol across two European jurisdictions' (2017) 20 Trends in Organized Crime 252.

[15] Gaetana Morgante, 'Criminal Law and Risk Management: From Tradition to Innovation' (2016) 16(3) Global Jurist 315.

[16] On these issues Karin van Wingerde and Nicholas Lord, 'The Elusiveness of White-collar and Corporate Crime in a Globalized Economy' in Melissa Rodie (ed), *Handbook of White-Collar and Corporate Crime* (Wiley 2019).

[17] Nicholas Lord and others (n 13) 483. On the importance of prices as relevant drivers of food safety and fraud issues see Katharina Verhaelen and others, 'Anticipation of food safety and fraud issues: ISAR – A new screening tool to monitor food prices and commodity flows' (2018) 94 Food Control 93, who developed a new tool for the automated analysis of data in order to systematically find changes in import volumes and prices, as to identify possible red flags of food crimes.

not part of organised crime (but on the contrary legitimate actors)[18], but many of them can at the same time operate legally in one phase of the supply chain and illegally in another – for example by illegally producing a food but selling it legally, or vice versa – in a situation where the dividing line between lawful and unlawful is very blurred[19].

Therefore, at the origin of fraud and food crimes there are deeper and more complex causes which lie in the (public and private) disorganisation of the production chain, more than in the behaviour of individual operators or managers or employees of a company. Very often, in fact, food that is not wholesome or dangerous to health is distributed not because a single person has not done what he/she should have done along the production chain, but rather because the different business processes and actions of the companies involved are poorly coordinated with each other. And this increases the opportunities for fraud and the likelihood of intentional or unintentional non-compliant practices[20], with all the ensuing risks for the public health. Hence, such unlawful conduct can be traced back to the production processes of the corporation as a whole, as well as to the failure of the regulators to implement a real "capable guardianship"[21], rather than to individual actions.

3 From criminological data to criminal enforcement: issues in establishing liability for food crimes

Following the analysis of the criminological data emerging from an empirical observation of crime in the food industry, in this second part of the work we intend to highlight what the problems in establishing criminal liability for food crimes are in general and, then, to suggest some prospective solutions for making the countermeasures to food crime more efficient. For the purpose of this article, rather than exploring in-depth one or more national legal systems, we focus on a more general analysis of the problem by referring, where appropriate, to some emblematic examples of the recurrent gaps in typical domestic legislations regarding the criminalisation of breaches of food regulations.

As mentioned above, at the origins of food crimes there are not only collective entities but also causes that stem from collective dynamics: the need to maximise profits to survive in the market, industrial delocalisation and, above all, the absence of public and private controls along the supply chain, as well as the disorganisation (and hence insecurity) of production.

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[18] Nicholas Lord and others (n 12) 605.

[19] Marcello De Rosa, Ferro Trabalzi and Tiziana Pagnani, 'The social construction of illegality within local food systems' in Allison Grey and Ronald Hinch (eds), *A Handbook of Food Crime. Immoral and illegal practices in the food industry and what to do about them* (Policy Press 2018).

[20] For the importance of the "organisational" factor in food crimes see also Ronnie Lippens and Patrick Van Calster, 'Crime, accidents and (dis)organization: Rhizomic communications on/of foodscare' (2000) 33 Crime, Law & Social Change 281.

[21] See Nicholas Lord and others (n 13) 483.

Therefore, from the perspective of a criminal law scholar one of the most debated issues in criminal policy in recent decades arises (even more than in other sectors): how is it possible to find well-balanced solutions to reasonably distribute criminal liability between individuals and collective entities[22]?

When it comes to these issues, we first need to clear up any misunderstanding. It is our contention, in fact, that in this area – as well as in others – it is not possible to renounce prosecution of the individual to punish solely the legal person or vice versa[23]. However, it is also true that the criminal law approach should be 'calibrated' so as to tackle, both in the prevention and in the repression of the phenomenon, the real causes of the crime which is intended to be addressed.

Given the criminological background of the unlawful conducts in question, we believe that punitive systems where food criminal law provisions primarily address the conduct of individuals pose the risk of making the enforcement system largely ineffective as well as (at least in certain cases) not in line with the fundamental principles of criminal law. At the international level, the main paradigm of that (in our opinion less convincing) solution is the responsible corporate officer (RCO) doctrine, developed in the United States with reference to the enforcement of the Food, Drug, and Cosmetic Act (the most famous case is *United States v Park*)[24]**.** On the basis of this theory, with respect to the crime resulting from the violation of food law, liability attaches to the corporate officer who, regardless of his formal position in the entity, had the authority and responsibility to manage the branch of the company or, in any case, the particular operational situation in which the offence occurred, by implementing all the management measures aimed at preventing such violation from occurring. The RCO doctrine is based on strict liability, meaning that criminal liability is attributed to the officer without any need to prove the intent to commit the violation or even simply the awareness of the violation in progress[25].

Irrespective of whether it is acceptable or not – with reference to the principles of modern criminal law – to allocate liability without any need to demonstrate the intent or the negligence of the agent, in the light of the analysis that we have carried out so far it is easy to understand why a punitive mechanism like this is not apt to ensure an

[22] On this topic see also Antonio Fiorella and Nicola Selvaggi, *Dall'«utile» al «giusto». Il futuro dell'illecito dell'ente da reato nello 'spazio globale'* (Giappichelli 2018).

[23] For a comprehensive analysis of this theme see the monograph of Vincenzo Mongillo, *La responsabilità penale tra individuo ed ente collettivo* (Giappichelli 2018).

[24] See *United States v Park*, 421 US 658 (1975). A first theorisation of the RCO doctrine can be also found in a previous case: *United States v Dotterweich*, 320 US 277 (1943). For a complete overview of the US case-law on these issues, also with reference to more recent cases that have confirmed this approach, see Vincenzo Mongillo (n 1) 309.

[25] On this doctrine see also Rena Steinzor, 'High Crimes, Not Misdemeanors: Deterring the Production of Unsafe Food' (2010) 20:1 Health Matrix: Journal of Law-Medicine 175.

effective and – above all – fair criminal policy against food crimes[26]. The attribution of the entire responsibility for the crime that has occurred along the food production chain to a single individual – even though in an oversight position – does not adequately take into account the fact that the genesis of such unlawful events, as already discussed, is often to be found in the lack or insufficient implementation of controls and/or in the disorganisation of the corporation and of the production chain in and of themselves. It is very difficult for those risk factors to be managed by single individuals and instead they must fall within the remit of collective entities – the only ones really able to manage and control such vast processes, thanks to their organisational preventive structures[27]. In short, there is another side of the coin: the regulatory solution of the RCO doctrine, which may seem practical and effective, poses the risk of making the corporate officer concerned the scapegoat for faults which instead are deep-rooted in complex collective dynamics and disorganisation of the supply chain, where the responsibility of individuals tends to become less decisive, if not to disappear completely.

Besides the RCO doctrine model, in dealing with food crimes there are other mechanisms of prevention and repression that do not seem to be sufficiently appropriate, as they are also mainly focused on the behaviour of individuals or single business operators. In fact, it is well known that in several legal systems food crimes are often regulatory offences (always based on strict liability)[28] or they are designed as complex crimes which, through the (sometimes questionable) normative technique of making cross-references to administrative food regulations[29], criminalise the mere violation of various food laws[30].

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[26] For a critical analysis of the RCO doctrine see Clay D Sapp, 'Food with Integrity: How Responsible Corporate Officer Prosecutions under the Federal Food, Drug and Cosmetic Act Deny Fair Warning to Corporate Officers' (2017) 70:2 Arkansas Law Review 449.

[27] On these aspects see the work of Carlo Piergallini, *Danno da prodotto e responsabilità penale. Profili dommatici e polico-criminali* (Giuffrè 2004).

[28] This is the case, for example, of the provisions set forth by the UK Food Safety Act 1990: see John Pointing, 'Food Crime and Food Safety: Trading in Bushmeat – Is New Legislation Needed?' (2005) 69 J Crim L 42. Offences of this type are also provided for in the aforementioned US Food, Drug and Cosmetic Act 1938: see Vincenzo Mongillo (n 1) 307.

[29] See the analysis of Adàn Nieto Martin, 'General report on food regulation and criminal law' (2016) 87:2 International Review of Penal Law 17, who highlights how, almost in every country, most of the food offences are defined «…by criminal provisions that establish the criminal conduct through a reference to administrative food law».

[30] Punitive provisions of this type characterise, in part, also the Italian legal order. For an overview of the Italian system with respect to food crimes see, among others: Alessandro Bernardi, 'Il principio di legalità alla prova delle fonti sovranazionali e private: riflessi sul diritto penale alimentare' (2015) 1 Rivista di Diritto Alimentare 43; Luigi Foffani, Antonio Doval Pais and Donato Castronuovo (eds), *La sicurezza agroalimentare nella prospettiva europea. Prevenzione, precauzione, repressione* (Giuffrè 2014); Alberto Gargani, *Reati contro l'incolumità pubblica,* vol 2, *Reati di comune pericolo mediante frode* in Carlo Federico Grosso, Tullio Padovani and Antonio Pagliaro (directed by), *Trattato di diritto penale* (Giuffrè 2013); Luca Tumminello, 'Verso un diritto penale geneticamente modificato? A proposito di un recente

Beyond the lack of deterrence of these criminal provisions, which often establish sanctions not proportionate to the seriousness of the crime occurring in the food industry[31], in our opinion likewise in this case the most important critical feature is that there is a shift in the efforts of the enforcement activity from what should be its (not exclusive, but certainly main) focus: the collective entities.

Indeed, if at the heart of food crimes there are collective dynamics, at the centre of criminal enforcement and its arsenal of criminal provisions there should of course be collective entities and business operators whose disorganisation – as well as lack of controls in the supply chain – facilitates food frauds and (intentional or unintentional) violations of food laws that might have also criminal consequences[32]. In fact, we argue that the option for an efficient regulation of corporate criminal liability in this sector seems to be even more promising than in others. Nevertheless, this is not an easy bet to win, considering that it still remains to be assessed what the most suitable model of regulation of corporate criminal liability to tackle the real causes of such criminal phenomena is. Like those which place their faith (above all) in the punishment of individuals, also systems that are premised on making corporations criminally liable for food offences face several (practical and conceptual) difficulties.

In particular, considering the aforementioned characteristics of food crime, the derivative models of corporate criminal liability – based, according to the cases, on vicarious liability (or *respondeat superior*) and on the identification principle – seem unsuitable from our perspective[33].

Vicarious liability stemmed from the application, also in the criminal law field, of the civil law rule according to which the principal is liable for the acts of his agent. According to that theory, a corporation can be held criminally liable on condition that the agent, whatever his or her position in the company is, has committed the crime in the scope of employment and for the benefit of the corporation[34] (a relevant example of this model can be found in the US corporate criminal liability regime). If these conditions are met, however, the corporation is strictly liable, since the adoption of an

progetto di riforma dei reati agroalimentari' (2016) 1-2 Rivista trimestrale di diritto penale dell'economia 239.

[31] This is the reason why, for example, some authors in the UK argued that the UK Fraud Act 2006 better inform the investigation and prosecution of food fraud, due to the gaps showed by the provisions of the UK Food Safety Act 1990: see Cecilia J Flores Elizondo and others (n 8) 48.

[32] See also Edoardo Mazzanti, 'Sicurezza alimentare e responsabilità da reato dell'ente collettivo. Tra lacune e spunti *de lege ferenda*' in Ginevra Cerrina Ferroni, Tommaso Edoardo Frosini, Luca Mezzetti and Pier Luigi Petrillo (eds), *Ambiente, energia, alimentazione. Modelli giuridici comparati per lo sviluppo sostenibile* (Cesifin 2016).

[33] For an analysis of the different models of corporate criminal liability across Europe see, among others, James Gobert and Ana-Maria Pascal (eds), *European Developments in Corporate Criminal Liability* (Routdledge 2011).

[34] See Mark Pieth and Radha Ivory, 'Emergence and Convergence: Corporate Criminal Liability Principles in Overview' in Mark Pieth and Radha Ivory (eds), *Corporate Criminal Liability. Emergence, Convergence and Risk* (Springer 2011).

efficient system of compliance and internal controls does not exempt the corporation from liability but can only be a factor which is likely to be evaluated positively in sentencing, or for the purpose of being invited to enter non-trial resolutions – deferred prosecution agreements (DPAs) or non-prosecution agreements (NPAs)[35].

On the other hand, systems that rely on the identification principle are also based on a strict liability mechanism, but the criminal liability of the corporation can be established only if the offence has been committed by a person of such high rank as to represent the "direct mind and will" of the corporation; since the corporation cannot be held liable for criminal offences committed by lower-rank employees who cannot be identified as the "mind" of the company[36] (this is the main imputation mechanism for corporate criminal liability in the UK).

We must point out that, as mentioned before, the allocation of criminal liability to the corporation on the basis of these models does not ensure a proportionate and effective response to food crime, considering the reality of that unlawfulness. Indeed, according to these paradigms of corporate criminal liability the corporation cannot actually be held liable if the perpetrator of the offence is not identified. In fact, collective entity is reprimanded in these models regardless of its direct collective fault, since the corporation is strictly liable for the act of its agent[37].

Therefore, these systems seem to be unsuitable to combat food crime, above all, because the great complexity of the food supply chain and the number of actors involved very often makes it difficult, if not impossible, to identify the single perpetrator of the crime and, therefore, in the context of vicarious liability or identification theory, to hold the legal person liable[38]. And this is clearly a key problem, as corporations are – as we have seen especially looking at the most serious cases – important actors in such illicit dynamics.

But in these models the allocation of liability for food crimes to the corporation can be problematic even when the individual offenders have been identified. On numerous

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[35] With respect to the importance of these settlements in criminal enforcement against corporations see in particular: Jennifer Arlen, 'Corporate Criminal Enforcement in the United States: Using Negotiated Settlements to Turn Corporate Criminals into Corporate Cops' (2017) 17.12 NYU School of Law Public Law Research Paper 1; Brandon L Garrett, *Too Big to Jail. How Prosecutors Compromise with Corporations* (Harvard University Press 2014); Colin King and Nicholas Lord, *Negotiated Justice and Corporate Crime: The Legitimacy of Civil Recovery Orders and Deferred Prosecution Agreements* (Palgrave 2018).

[36] See Celia Wells, *Corporations and Criminal Responsibility* (2nd edn, Oxford University Press 2018), who in any case highlights that in the UK vicarious liability applies with reference to regulatory offences (such as, as we have seen, those provided for in the UK Food Safety Act 1990). So, in the UK the identification model covers crimes requiring proof of a mental element.

[37] On these issues see in particular Vincenzo Mongillo (n 23) 311.

[38] For a broader analysis of the requirements to hold the legal person liable in these corporate criminal liability models see also Celia Wells, 'Corporate Criminal Liability in England and Wales: Past, Present and Future' in Mark Pieth and Radha Ivory (eds), *Corporate Criminal Liability. Emergence, Convergence and Risk* (Springer 2011).

occasions, in fact, particularly with reference to negligent or accidental criminal events in the food sector, the complex industry processes make it impossible to identify one or more persons who, with their behaviour, meet all the elements of *actus reus* and *mens rea* of the food offence. This happens because, in this context, the harmful or dangerous event is often the result of many small violations, not having criminal relevance in themselves, but still being able to cause the criminal event, if added together and framed in complex production dynamics. Liability for such events should be attributed to the collective entity as a whole – and to its (dis)organisation – but, according to models of corporate criminal liability based on strict liability criteria, the company cannot be held criminally liable if no individual has met all the requirements of the offence[39] (and this is exactly what is lacking in the abovementioned cases).

It is worth mentioning that some of these problems are even more accentuated in models based on the identification theory. Considering the vast dimension of food production processes, it is unlikely that a person considered as the "direct mind and will of the company" will be directly involved in the commission of a fraud or of any other food crime, as these offences are often committed not by 'high-ranking' individuals, but by those who are materially involved in the production and operational management of the supply chain stages[40]. Therefore, we argue that in these cases there is a real risk of a systematic impunity of legal persons for food offences committed in their interest and, undoubtedly, attributable to their systematic (dis)organisation. Indeed, the identification model, as highlighted by some authors, performs badly with reference to large corporations – which is exactly the context where an effective model would be more useful – and very well with respect to small and medium-sized corporations[41] – where, however, the punishment of the individual should already be sufficient to achieve a good level of deterrence. It is not a coincidence that, with reference to the case of small and medium-sized enterprises, it has been suggested – and we share this view – that corporate criminal liability should be (not excluded but) rethought, at least in order to shape sentencing so as to avoid violations of the substantial *ne bis in idem* principle[42].

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[39] On these issues see Cristina De Maglie, *L'etica e il mercato. La responsabilità penale delle società* (Giuffrè 2002).

[40] *Tesco Supermarkets Ltd. v Nattrass* [1972] AC 153 – the case where there is a first clear theorisation of the identification model – is particularly emblematic in this direction, also because it was a case of criminality in the food industry. In this case, indeed, Tesco Supermarket Ltd. was charged under section 11 of the UK Trade Description Act 1968 for offering goods showing prices lower than the real ones, but the Court – and this is the other aspect of interest from our perspective – decided in favour of Tesco also because the head of the store where the crime occurred, who represented the individual responsible for that violation, was not at the top of the company and could not be identified as the "mind and will" of Tesco. On this case see also Cristina De Maglie (n 39) 150.

[41] James Gobert, 'Corporate criminality: four models of fault' (1994) 14 LS 393, highlighted – with a statement very quoted in literature – how «…one of the prime ironies of Nattrass is that it propounds a theory of corporate liability which works best in cases where it is needed least and works least in cases where it is needed most».

[42] For this view see Vincenzo Mongillo (n 23) 448.

Lastly, it should be noted that, generally speaking, strict liability models do not reward corporations that have in place an adequate and effective compliance system and mechanisms of internal controls. Totally disorganised companies are put on the same footing as companies that by contrast have significantly invested in compliance[43], exhibiting an active commitment to the prevention of (food) offences. Hence, considering that the food industry, as highlighted in the literature, is an area of the private sector characterised by the one of the most important and efficient systems of self-regulation of quality and safety standards of production, criminal law should benefit from that[44] without endorsing, on the contrary, regulatory models that can discourage the abovementioned virtuous practices.

Given the undesirable features of the models analysed, in the final part of this work we will outline what, in our opinion, could offer the best legislative solutions to render criminal enforcement against corporations for food crimes more effective, helping legal systems to devise criminal law approach truly able to tackle the causes of these (collective) forms of criminality.

4 Future perspectives: what regulatory solutions could help regulators to deal with corporate food crimes?

We discussed the problems of systems that, in dealing with food crimes, place their faith in individual liability or on strict liability models (vicarious or identification) for corporate criminal liability. We also saw that food crimes are rooted in collective dynamics and that this fundamental criminological aspect makes it necessary to impose criminal liability on corporations by relying on the best suitable regulatory model of corporate criminal liability. Hence, it is now time to explain what the best regulatory options which regulators should look at in the near future might be in order to combat food crimes in the most effective way, putting legal persons at the centre of the system for doing so.

Our contention is that the ideal model to hold legal persons liable for food crimes is that based on organisational fault (following, for instance, Italian Legislative Decree No. 231/2001[45]) or, in any case, the criminalisation of a failure to prevent unlawful behaviour (e.g. the corporate offence provided for by the UK Bribery Act 2010[46]).

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[43] For in-depth considerations on the effects of the implementation of the different models of corporate criminal liability, see Cristina De Maglie, 'Models of Corporate Criminal Liability in Comparative Law' (2005) 4 Wash U Global Stud L Rev 547.

[44] On these aspects see Adàn Nieto Martin (n 29) 63.

[45] According to the Italian Legislative Decree no. 231 of 2001 – despite some differences in the legal requirements depending on whether the offence is committed by a senior officer or a person under his supervision –, a legal person can be held liable for the commission of a predicate crime – among those listed by the Decree – if such crime is committed in its interest or for its benefit and if the legal person has not put in place, prior to the commission of the offence, a compliance program suitable to prevent that crime from occurring (organisational fault). For a general overview of this Decree see, among others: Cristina De Maglie, '*Societas Delinquere Potest*? The Italian Solution' in Mark Pieth and Radha

In fact, these models – which, despite their structural differences, as noted in the literature, seem to be part of an overall European legislative trend based on the "personalisation" of the criminal reprimand of collective entities[47] – make it possible to overcome some of the aforementioned shortcomings that strict liability models display in dealing with food crimes, as well as to create a criminal enforcement system capable of tackling the real causes of food crimes.

Indeed, although with differing legal requirements (and not without some problems[48]), for both systems – organisational fault and failure to prevent – it is generally not necessary in order to hold the corporate entity liable to be able identify one or more individuals who have committed the offence, because in such systems the liability of the collective entity is independent from that of the individual agent. In these models – and this is a key aspect – the criminal liability of the corporation is not the result of the simplistic logic of holding the legal person liable for an action committed by a natural person (its agent), but is based on corporate fault, i.e. a fault directly attributable to the company and consisting, essentially, in the failure to implement compliance measures and internal controls suitable to prevent the crime from occurring[49].

Thanks to these features, normative solutions like these seem to be the best option to deal effectively with food crimes: as mentioned before, very often the individual

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Ivory (eds), *Corporate Criminal Liability. Emergence, Convergence and Risk* (Springer 2011); Giancarlo De Vero, *La responsabilità penale delle persone giuridiche* in Carlo Federico Grosso, Tullio Padovani and Antonio Pagliaro (directed by), *Trattato di diritto penale* (Giuffrè 2008); Giorgio Lattanzi (ed), *Reati e responsabilità degli enti. Guida al d.lgs. 8 giugno 2001, n. 231* (Giuffrè 2010); Marco Pelissero, 'La responsabilità degli enti' in Francesco Antolisei, *Manuale di diritto penale. Leggi complementari*, edited by Carlo Federico Grosso (14th edn, Giuffrè 2018).

[46] According to section 7 of the UK Bribery Act 2010, a relevant commercial organisation is guilty if an associated person bribes another person intending to obtain or retain business for the organisation or to obtain or retain an advantage in the conduct of business for the organisation, but is a defence for the organisation to prove that it had in place adequate procedures designed to prevent associated persons from undertaking such conduct. For an overview of the Act see: Eoin O'Shea, *The Bribery Act 2010: A Practical Guide* (Jordan Publishing 2011); G Robert Sullivan, 'The Bribery Act 2010: An Overview' (2011) 2 Crim LR 87; Celia Wells, 'Corporate Responsibility and Compliance Programs in the United Kingdom' in Stefano Manacorda, Francesco Centonze and Gabrio Forti (eds), *Preventing Corporate Corruption. The Anti-Bribery Compliance Model* (Springer 2014).

[47] For this view see in particular Rossella Sabia, 'La prevenzione dei reati mediante l'organizzazione. I modelli anticorruzione nell'esperienza europea' (DPhil thesis, Luiss Guido Carli University 2018) <eprints.luiss.it/1613/1/20181019-sabia.pdf> accessed March 2020.

[48] To explore in-dept these problems is not the aim of this work, but it should be outlined that in these systems it still seems to be necessary to assess if a crime – committed by an individual, even if not identified – occurred in its fundamental constitutive elements. This circumstance, of course, could lead to practical problems in trial, because sometimes it can be very difficult to assess, for example, the mental state of an unidentified individual – even if this is not totally impossible especially with reference to negligence cases. For an overview of this issues see Vincenzo Mongillo (n 23) 310.

[49] On this issue see also Nicholas Lord and Rose Broad, 'Corporate Failures to Prevent Serious and Organised Crimes: Foregrounding the "Organisational" Component' (2017) 4(2) The European Review of Organised Crime 27.

perpetrator of food crimes cannot be identified due to the complexity and the number of persons involved in the supply chain, even though there is evidence that the fraud – or the violation of the food law that has criminal implications – was made possible by the disorganisation of the company and the absence of internal controls. In these cases, as we have seen, the systems based on the organisational fault or on the 'failure to prevent' mechanism enable one to hold the corporation (separately) liable, unlike those systems based on vicarious liability or identification theory[50].

Furthermore, such models of corporate criminal liability seem more suitable, at the criminal policy level, to tackle exactly the real causes of food crimes as highlighted in the criminological literature that has empirically observed such criminal phenomena: i.e., above all, the disorganisation of the collective entities or the absence of controls along the food supply chain[51].

Considering that this disorganisation and the absence of controls and compliance measures in both systems (organisational fault/failure to prevent) constitute the basis of the criminal charge brought against the legal person, in our view such systems appear to be tailor-made for an effective enforcement against food crimes since they are calibrated to the specific dynamics that generate such unlawful behaviour.

Last but not least, these legislative solutions (unlike those based on strict liability) really reward the efforts made by corporations in building a modern and efficient system of compliance and internal controls: through their adoption, not only can the company hope to enter a DPA/NPA or obtain a reduction of sanctions[52], but it can also be exempted from any criminal liability. This, of course, in a sector like the food industry – one in which private regulation is of great importance[53] – is a crucial aspect for a fair regulatory policy that, as mentioned before, could encourage (and not undermine) such virtuous phenomena of self-organisation.

However, for the adoption of these models, it is very important for the legislator to clearly define, in analytical terms, the compliance standards imposed on corporations. Compliance standards which, if adopted and actually implemented through a compliance program, could exempt the legal person from liability. And this is still an open challenge, considering that none of these systems has yet fully made this effort[54].

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[50] For further reflections on the failure to prevent model see also Liz Campbell, 'Corporate liability and the criminalization of failure' (2018) 12 (2) Law and Financial Markets Review 57.

[51] See the previous paragraph 2.

[52] On these issues see Francesco Centonze, 'Responsabilità da reato degli enti e agency problems' (2017) 3 Rivista italiana di diritto e procedura penale 945.

[53] With regard to private law instruments used by private economic actors to regulate food chains see Antonia Corini and Bernd van der Meulen, 'Regulating food fraud: Public and private law responses in the EU, Italy and the Netherlands' in Allison Grey and Ronald Hinch (eds), *A Handbook of Food Crime. Immoral and illegal practices in the food industry and what to do about them* (Policy Press 2018).

[54] With respect to the importance of these aspects in regulating corporate criminal liability see in particular Paola Severino, 'Il sistema di responsabilità degli enti ex d.lgs. n. 231/2001: alcuni problem

But in the food sector, more than in any other area, this goal is much easier to achieve than one might think. In the regulation of food production, the standardisation of risk management systems is extremely high and involves various actors (e.g. the HACCP system, the ISO standards or the COSO rules for fraud prevention that could be useful too[55]). Consequently, there are already various operational methodologies that can be adopted to build the internal control systems of the company, identifying the critical points of the business processes and the measures to be implemented to mitigate the associated risks[56]. Therefore, the commitment of the legislator must be towards the involvement of all stakeholders to periodically disseminate these best available techniques for the prevention of food crimes[57]. With the adoption of these BATs, a corporation should be sure of avoiding criminal liability – or at least there should be a presumption of innocence of the corporation, which could be rebutted at trial only subject to an obligation for the court to adequately state the reasons therefor[58].

A further and promising route could be to enhance the tools of cooperative compliance or probation mechanism in which, once the corporation is charged with the violation of the aforementioned compliance standards by an enforcement authority, the State foregoes the application of any sanction if the corporation remedies its organisational gaps within a certain period of time, compensating any victim and improving its compliance program[59] and its control systems through – in our view – the actions specified in detail by the public authority concerned. In order not to undermine the incentives to structure "ex-ante" compliance, in any case, these mechanisms should operate only with reference to corporations which, although with some imperfections,

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aperti' in Francesco Centonze and Massimo Mantovani (eds), *La responsabilità "penale" degli enti. Dieci proposte di riforma* (il Mulino 2016).

[55] See John W Spink (n 3) 157 ss.

[56] Moreover, in this sector also the application of new technologies as tools to modernise compliance and production activities seems to be very promising. See for example the recent implementation of blockchain-based systems to enhance the transparency of food supply chain management: see Miguel Pincheira Caro and others, 'Blockchain-based traceability in Agri-Food supply chain management: a practical implementation' <ieeexplore.ieee.org/document/8373021> accessed March 2020 (2018 IoT Vertical and Topical Summit on Agriculture – Tuscany). Indeed, these types of tools could also be clearly useful to make food crimes prevention more efficient, as it would be more difficult to commit a crime or a fraud in such transparent processes.

[57] With respect to the public-private partnership in the fight against economic crimes see also Antonio Gullo, 'Il contrasto alla corruzione tra responsabilità della persona fisica e responsabilità dell'ente' in Andrea R. Castaldo (ed), *Il Patto per la legalità. Politiche di sicurezza e di integrazione* (Wolters Kluwer 2017).

[58] On these possibile reforms see Vittorio Manes and Andrea Francesco Tripodi, 'L'idoneità del modello organizzativo' in Francesco Centonze and Massimo Mantovani (eds), *La responsabilità "penale" degli enti. Dieci proposte di riforma* (il Mulino 2016).

[59] The introduction in Italy of a probation mechanism for legal person, with respect to the enforcement of the Legislative Decree no. 231 of 2001, has been proposed by Giorgio Fidelbo and Rosa Anna Ruggiero, 'Procedimento a carico degli enti e messa alla prova: un possibile itinerario' (2016) 4 Rivista 231 3.

have already implemented the internal control structures in line with statutory requirements[60].

In short, in this sector the idea of preferring compliance (and) restoration to sanctions seems to be an interesting one. This idea could also be strengthened, with respect to the cooperative compliance instruments in question, by providing for the possibility – only for the most serious cases – of ordering a temporary and partial judicial administration of the legal person, instead of bans and/or disqualification, if the corporation does not comply with the indications of the public authority within the time limit set by the latter. The court-appointed administrator, in particular, by exercising management powers, could take all necessary decisions to provide the corporation with the appropriate compliance tools to prevent future violations[61].

5 Conclusion

The aim of this paper has been to show – taking into account the criminological dynamics of the food industry – how some of the most widespread regulatory models used to combat food crime are often incapable of offering an adequate criminal law response thereto. Beyond the issue of effective deterrence of applicable sanctions, what, in fact, emerges at the end of this investigation is that various criminal law systems rarely put the main legal entities responsible for food crimes (i.e. collective ones) at the centre of enforcement activities. Moreover, even when the existing legislative mechanisms enable the punishment of corporations for the commission of food crimes, these regulatory models entail the risk of a systematic impunity of legal persons (as in the case of the identification theory) or are based on strict liability mechanisms that do not represent a fair regulatory policy, as they do not exempt from liability even the most virtuous corporations and, by doing so, discourage the commendable practices of private self-regulation in the food sector.

Considering all these aspects, the measures that we have suggested in the previous section from a *de iure condendo* perspective (and in particular the establishment of a 'failure to prevent model' to combat food crimes) affect corporations. However, as already pointed out, putting the legal person at the centre of the criminal law response must not mean impunity for the individuals responsible for the violations. The repression of individual behaviour must be ensured and there are already interesting proposals – that can be the base for further discussions – to modernise the criminal provisions for food crimes, also with respect to individual criminal liability[62].

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[60] For this view see also Vincenzo Mongillo (n 23) 492.

[61] Legislative tools of this type have been already implemented in Italy: see Emanuele Birritteri, 'I nuovi strumenti di bonifica aziendale nel Codice Antimafia: amministrazione e controllo giudiziario delle aziende' (2019) 3-4 Rivista trimestrale di diritto penale dell'economia 837.

[62] See, for instance, a recent proposal for the Italian legal system known as "Progetto Caselli": for an overview of this proposal see Massimo Donini (n 6) 4. This proposal is currently being discussed by the Italian Parliament and can be consulted at the following link: <www.senato.it/leg/18/BGT/Schede/Ddliter/49434.htm> accessed April 2020. See also the broader

However, as we have seen, the collective dimension of these offences often makes it difficult to identify the perpetrator of food crimes. Hence, the corporations can often be the only entities whom it is possible to successfully prosecute in practice and, as a consequence, the criminalisation of their unlawful behaviour is crucial in order to prevent a widespread impunity for conducts that are often very dangerous.

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considerations of Gaetana Morgante (n 15) 341. In this reform process it will be important also looking at the European perspective: in fact, although the food sector is one of the most regulated at the European level, in the EU there are no common definition of food fraud or measures to harmonise Member States' punitive legislations with respect to food crime (a Commission proposal to this effect has not been successful). On these aspects see Michele Simonato, 'The EU dimension of "food criminal law"' (2016) 87:2 International Review of Penal Law 97.

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POST-SCRIPTUM
CRIMINAL JUSTICE AND THE PROTECTION OF THE COMMONS

By John A.E. Vervaele[*]

The protection of the environment through criminal law has been permanently on the AIDP – agenda since the 1970's, reflecting our concern for the relationship between major societal changes and criminal justice. That it became part of our priority policy agenda is reflected in the resolutions at the Twelfth International Congress of Penal Law (Hamburg, 16 – 22 September 1979)[1], as Section II deals with "The Protection of Environment through Penal Law" from the perspective of the elaboration of specific offences. The topic was back at the agenda at the preparatory colloquium in 1992 in Ottawa, for which country reports and draft recommendations were prepared. These draft recommendations resulted in resolutions that were elaborated by Section I on "Crimes against the Environment – General Part"[2] at the Fifteenth International Congress of Penal Law (Rio de Janeiro, 4 – 10 September 1994). They were more than an assessment of state-of-the-art, but pointed at a variety of important issues that are still considered crucial today in the formulation of any environmental criminal policy.

The AIDP also presented several proposals and policy recommendations in this field to the UN Congress held in Bahia (Brazil) in 2010. In 2016 the AIDP organized, in collaboration with the Romanian Association of Penal Sciences, the Legal Research Institute of the Romanian Academy of Sciences and the Ecological University of Bucharest, the Second AIDP World Conference on The Protection of the Environment through Criminal Law was held in Bucharest. The publication of the conference proceedings[3] clearly reflect the interactions between environmental regulation (national, regional and international) and different enforcement regimes (private, administrative, criminal). In 2019 the AIDP did participate actively in the Conference organized by the Spanish colleagues at the Environmental COP25[4] on the topic "Towards international criminal law of the environment : from the global pact to the Ecocide Convention."[5]

It is obvious that prevention and compliance are of pivotal importance and that criminal enforcement is the ultimum remedium, also in the area of environmental

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[1] José Luis de la Cuesta, 'Resolutions of the Congresses of the International Association of Penal Law (1926-2004)' <www.penal.org/sites/default/files/files/NEP%2021%20anglais.pdf> accessed 10 March 2020.

[2] Idem.

[3] José Luis de la Cuesta and others (eds), *Protection of the Environment through Criminal Law* (AIDP World Conference Bucharest, Romania, 18th-20th May 2016) (Maklu 2016).

[4] The 25th United Nations Climate Change Conference.

[5] Organized by the University of Castilla la Mancha, the University Carlos II in Madrid, the AIDP and the Société Internationale de Défense Sociale.

protection. However, seen the seriousness of certain environmental violations and the (potential) harm caused, criminal enforcement is a necessary and autonomous enforcement regime that cannot only depend on the regulatory regime (licenses, licenses-conditions). In other words the interest at stake and the related harm can be so serious that it deserves criminal law protection against illicit behavior of individuals and of corporations. This is also in line with the fact that the protection of the environment has become a part of the human rights protection for which States have positive duties, not only concerning the elaboration of an effective domestic legal system to protect the environment through criminal law but also concerning the contribution to the criminal law protection of the environment at an international level.

In scholarly work and legal practice a great deal can be found about the global, transnational nature of many environmental crimes and the global harm resulting from some serious violations. Trafficking in endangered species (flora and fauna) or substances therefrom puts not only their survival at risk but also deprives humanity of extremely important natural resources for their own life quality and survival, not to speak of the damage to the biodiversity of planet earth. Trafficking in hazardous waste not only creates a high potential risk of pollution but also endangers human beings who recycle them in illegal circumstances. Emissions of greenhouse gases by manipulated diesel engines have their impact on global warming, an increase in the sea level and new phenomena such as El Niño in the Americas. Illegal mining is not only illicit exploitation of natural resources, but includes the social harm to local communities and the (potential) harm of post-mining premises. Illegal, unreported and unregulated (IUU) Fishing, often committed in a organized and transnational setting, is not only destroying the fisheries stocks, but undermines the livelihood of fisheries communities and destroys the natural habitat of the oceans, essential again for the survival of the commons.

It has become clear that the protection of the environment is not only about a specific nature related interest but also about the systemic preservation of the commons of nature, essential for the life conditions of nature, human beings included. The protection of the environment through criminal law has to aim at the preservation of this commons, as they consist of intrinsic and systemic legal interest for nature and humankind. All serious and longstanding (potential) harm to these commons of nature committed by gross negligence, recklessness or intent should qualify for criminal law enforcement as they endanger sustainable development and people's very existence. They are also related to a broader concept of serious human rights violations and positive duties for States to protect life and living quality standards, including those of minorities who live in areas with a great potential for natural resources that can be exploited. In other words, there is a mix of criminal offences, human rights violations and societal harm at stake. Finally, some of the violations could be not only be committed in times of peace but also in times of armed conflict and could thus qualify as war crimes under the Rome Statute. . Beyond this there is the discussion on the inclusion in the Rome Statute of "ecocide" as an autonomous crime and on the need of

specific international treaties on the criminal law protection of the environment, as for instance the proposed Conventions on environmental crimes and on Ecocide.[6] This is not only about the status of this offences, but also about potential competence for international jurisdictions, be it the ICC or ad-hoc international courts, and more enhanced systems of international judicial cooperation.

We are extremely grateful to the Young Penalists for having chosen the topic *The Criminal Law Protection of our Common Home* for their VII AIDP Symposium in Rome in November 2019 and for the publication of the proceedings in this precious volume. From the very outset we can see that although the topic, although very well embedded in the scientific agenda of the AIDP, is not outdated at all. It is not an hazard that the publication starts with a first section on the International Framework, with a variety of perspectives, going from the human rights dimension (contributions by E. Mazzanti and G. Guerrero) to the international criminal justice dimension (contributions by R. Barbosa and L. J. Sieders). These contributions reflect very well the richness of the ongoing debate on the international criminal law dimension of the topic. In a second section this criminal law protection is framed into a broader multi-tiered and multidisciplinary approach, focusing on its opportunities, limits and alternatives. The Young Penalists have understood very well that the interdisciplinary approach coming from criminology can be of great insight, as green criminology has become a subdiscipline of its own (contributions from A. Stevanović and L.F. Armendariz Ochoa). The multi-tiered approach is reflected in the contributions that focus on the relationship between regulatory policies and the precautionary principles and sustainable development (contribution from M. Iannuzziello) and the connections between environmental crimes and common offences as corruption (contribution from G. Salvanelli, A. Chines & A. Cecca). The third and last Chapter is fully dealing with the more specific focus of environmental compliance. The choice of the dimension rightly reflects that environmental compliance is not only an issue of prevention, but is also intrinsically related with the criminal enforcement itself (contribution of E. Saad-Diniz & F. Fagundes de Azevedo). Compliance is particularly relevant in the corporate setting and a tool to prevent criminal liability but also to identify the constitutive elements of corporate criminal liability (contribution from E. Birritteri) and to assess the process of environmental victimization (contribution from D. Arantes Prata). Finally, and this is already a link to the topic of the next cycle of the AIDP scientific agenda for the period 2019-2024 (artificial intelligence and criminal justice), artificial intelligence is playing an increasing role in environmental criminal compliance (contribution from R. Sabia).

This outcome of the Conference of the Young Penalists is without any doubt not only in line with the final recommendations that honorary president Jose Luis de la Cuesta

[6] Laurent Neyret (ed), *Des écocrimes à l'écocide : le droit pénal au secours de l'environnement* (Bruylant 2015); at the COP 25 a Spanish translation of the two draft conventions was published by Marta Muñoz de Morales Romero, *Hacia un derecho penal internacional de medio ambiente. Propuesta de una convención internacional sobre ecodicio y ecocrímines*.

summarized at the Bucharest Conference in 2016[7], but contain on certain specific aspects also further in depth elaboration of them.

On behalf of all our national groups and members I do thank the Young Penalists team in the period 2014-2019 for all their efforts- this was their VII Symposium- and for their contribution to the scientific agenda of the AIDP. For those wo are interested in their high-level publications I can refer to their excellent website[8]. Finally, we are also very confident and hopeful that the new Young Penalists team for the period 2019-2024 will be at the core of our scientific activities with a young and innovative approach.

[7] José Luis de la Cuesta and others (n 3) 343-348.

[8] See <www.youngpenalists.com/publications.html> accessed 20 March 2020.

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