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**A MULTIDISCIPLINARY APPROACH
TO THE PREVENTION, DETECTION, INVESTIGATION,
AND PROSECUTION OF CRIMINAL OFFENSES
AGAINST THE ENVIRONMENT AS A STANDARD
OF DIRECTIVE 2024/1203****

ABSTRACT: By adopting Directive (EU) 2024/1203 on the protection of the environment through criminal law, the European Union has established a new, uniform, and comprehensive standard in the field of environmental criminal law. This legal instrument replaces the earlier Directives 2008/99/EC and 2009/123/EC. One of its key novelties is the requirement for a multidisciplinary approach to the prevention, detection, investigation, and prosecution of criminal offenses against the environment. Environmental crime has a complex, cross-border, and often transnational dimension. In addition to legal and criminal procedure instruments, it requires the integration of knowledge and resources from different disciplines: law, criminology, ecology, chemistry, biology, toxicology, economics, and information technology.

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The Directive expressly emphasizes the obligation of Member States to provide sufficient qualified staff and adequate financial, technical, and technological resources for combating environmental crime.

In addition, the Directive highlights the importance of coordination and cooperation not only within a single state (between different institutions), but also at the level of the European Union. It underscores the role of Eurojust, Europol, the European Public Prosecutor's Office, and the European Anti-Fraud Office (OLAF) in providing technical and operational support. Such an approach implies that the fight against environmental crime cannot be reduced exclusively to criminal prosecution, but requires the integration of preventive measures, administrative sanctions, civil liability, and criminal-law instruments into a single comprehensive system. The multidisciplinary approach also includes the participation of the public and non-governmental organizations. Article 15 of the Directive provides procedural rights for persons and associations that protect the environment, thereby creating space for citizens and the civil sector to contribute to the protection of a public good. The Directive confirms the position that contemporary environmental crime cannot be successfully sanctioned without the integration of knowledge and cooperation among different disciplines and actors. The standard of multidisciplinary is an essential element of the European system for the protection of the environment through criminal law and a model that, in the process of harmonization, will also have a strong influence on candidate countries for EU membership.

Keywords: Directive (EU) 2024/1203, environmental crime, multidisciplinary approach, criminal law, environmental protection, investigation and prosecution, European Union

1. INTRODUCTION

By adopting Directive (EU) 2024/1203 of the European Parliament and of the Council on the protection of the environment through criminal law,¹ the European Union made a significant step toward strengthening the environmental criminal-law framework and improving environmental protection. This directive, adopted in April and entering into force in May 2024, represents a turning point in the development of European environmental criminal law, not only because of the expanded catalogue of criminal offenses and the tightening

¹ European Union: Council of the European Union, *Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC*, PE/82/2023/REV/1 OJ L, 2024/1203, 30 April 2024.

of sanctions, but above all because it introduces a multidisciplinary approach as a systemic standard in the prevention, detection, investigation, and prosecution of criminal offenses against the environment.

Unlike the previous Directives 2008/99/EC and 2009/123/EC, which were mainly focused on defining offenses and harmonizing minimum sanctions, the new directive introduces a comprehensive concept based on the integration of different disciplines and institutions. The starting premise of this concept is the understanding that environmental crime cannot be suppressed solely by applying criminal-law instruments, but requires the linking of knowledge and resources from several fields – law, ecology, chemistry, biology, toxicology, economics, criminology, and information technologies. Such integration enables not only more effective detection and proof, but also preventive action aimed at the early recognition and prevention of environmental risks.

The Directive particularly emphasizes the obligation of Member States to ensure sufficient human, technical, and financial resources for the implementation of this approach. In addition to strengthening the institutional capacities of the police, public prosecutor's offices, and courts, the emphasis is on their specialization, professional training, and continuous education. In this context, the formation of multidisciplinary teams that bring together legal experts, forensic experts, environmental inspectors, IT specialists, and scientists of various profiles becomes a necessary prerequisite for the effective suppression of environmental crime.

In addition to the national level, the Directive also emphasizes the importance of European and international coordination. Institutions such as Eurojust, Europol, the European Public Prosecutor's Office (EPPO), and the European Anti-Fraud Office (OLAF) have a central role in providing technical and operational support to Member States, thereby creating an integrated system of cooperation and shared responsibility at Union level.

Furthermore, in Article 15, the Directive recognizes the importance of the participation of civil society, the public, and non-governmental organizations, which are guaranteed procedural rights in connection with environmental protection. In this way, access to justice becomes more inclusive, while the protection system becomes more transparent and democratic.

In essence, Directive (EU) 2024/1203 does not treat environmental crime as an isolated category of offenses, but as a systemic threat that requires interdisciplinary, preventive, and science-based action. By introducing the multidisciplinary approach, the EU has established a new model of environmental criminal law based on integration, cooperation, and shared responsibility. In addition to improving judicial efficiency within the Union, this model has the potential to shape reform processes in candidate countries for membership as well, including the Republic of Serbia.

2. MULTIDISCIPLINARITY AS A SYSTEMIC PRINCIPLE IN EU ENVIRONMENTAL CRIMINAL LAW

Directive (EU) 2024/1203 represents a turning point in the way the European Union understands and institutionally organizes the fight against environmental crime. Whereas earlier normative instruments focused on defining criminal offenses and sanctions, the new directive introduces a broader concept – multidisciplinary as a systemic principle. This approach stems from the awareness that contemporary environmental crime is not only a legal issue, but a phenomenon situated at the intersection of law, science, technology, and economics.

The preamble to the Directive particularly emphasizes that “environmental criminal offenses have a complex and often transnational dimension that requires coordinated action by several disciplines and institutions.” It is precisely this statement that forms the basis of the new normative standard. Environmental criminal offenses, such as unlawful waste management, the discharge of polluting substances, trade in endangered species, or the destruction of protected habitats, often involve complex technical and scientific processes that traditional criminal-law mechanisms cannot fully encompass.

A multidisciplinary approach involves the integration of different professions and sectors at all stages: from prevention, through detection and investigation, to prosecution and the enforcement of sanctions. This means that experts in ecology, chemistry, biology, toxicology, information technologies, financial forensics, and other scientific disciplines are increasingly included in criminal proceedings. Their role is not secondary, but essential, because it enables the proof of causal links, the assessment of the degree of damage, and the identification of perpetrators within complex technical systems.

It is particularly important to emphasize that this principle does not remain at the declaratory level. In several of its provisions, especially in the articles concerning implementation and resources, the Directive prescribes the obligation of Member States to provide “sufficiently trained staff, financial resources and technical equipment” for the effective implementation of the Directive. This includes not only the police and the public prosecutor’s office, but also inspection authorities, laboratories, judicial institutes, and even universities and research centers as sources of expert knowledge.

The practical value of such an approach is reflected in the creation of a network of expertise in which every actor – legal, technical, or scientific – has a role in identifying, proving, and preventing environmental offenses. This builds a new model of environmental justice, which is essentially preventive and collaborative. Instead of a vertical relationship between the State and the perpetrator, horizontal cooperation is established among institutions,

professions, and civil society, enabling timely response and long-term protection of natural resources.

Multidisciplinarity, as defined by the Directive, is not only an instrument but also a value framework. It promotes a culture of shared responsibility, in which environmental protection becomes an integrated part of the judicial, administrative, and scientific system of every Member State. In this way, an effect is achieved that goes beyond individual criminal proceedings – an institutional framework is created in which knowledge, technology, and law are interwoven in the service of protecting a public good.

3. INSTITUTIONAL AND EXPERT INFRASTRUCTURE FOR THE APPLICATION OF THE MULTIDISCIPLINARY APPROACH

The application of the multidisciplinary approach in the prevention and suppression of environmental crime, as provided for by Directive (EU) 2024/1203, requires the existence of appropriate institutional and expert infrastructure. This approach cannot be implemented in practice without well-coordinated cooperation among various bodies, institutions, and expert bodies operating at the national and supranational levels.

First, the Directive emphasizes the role of the police and investigative authorities as primary actors in the detection and documentation of environmental criminal offenses. However, unlike classic forms of crime, environmental crime often cannot be established by traditional methods. Police officers must possess specific knowledge in the fields of ecology, chemistry, biology, geology, and toxicology in order to understand the structure and consequences of harmful acts. The Directive therefore provides for the obligation of Member States to establish specialized police units or teams that will be trained and technically equipped for the detection and prevention of environmental crime.

The next level is the public prosecutor's office, which has a central role in prosecuting these offenses. The Directive particularly insists that prosecutors must have access to professional consultants and experts from the natural and technical sciences. Only in this way is it possible to assess properly whether there is a causal link between the act and the resulting damage, as well as what the objective parameters of environmental endangerment are. A model that is increasingly being applied in the practice of certain Member States is the establishment of "environmental prosecution units" –specialized departments within public prosecutor's offices that deal exclusively with environmental criminal offenses.

No less significant is the role of inspection authorities, which constitute the link between the administrative and criminal systems. Environmental inspectors are often the first to obtain information about unlawful acts, and their effective cooperation with the public prosecutor's office and the police is therefore a prerequisite for the timely initiation of proceedings. The Directive emphasizes the need to formally establish channels of communication and data exchange among inspections, public prosecutor's offices, and courts, in order to avoid mistakes that in the past often led to impunity.

Forensic and laboratory support gives this system a special dimension. Testing samples of soil, water, air, plants, or animals requires the application of the most modern methods and technologies. In this context, the directive encourages Member States to develop national and regional centers for environmental forensics that would provide independent and reliable expert support to prosecution authorities and courts. These centers are tasked not only with analyzing evidence but also with participating in preventive activities and risk assessments.

The Directive also points to the necessity of applying information and communication technologies (ICT) in detecting and monitoring environmental crime. Modern surveillance systems, satellite monitoring, geographic information systems (GIS), and big data analytics are increasingly becoming part of the arsenal by which States can identify patterns of unlawful behavior and detect suspicious activities. The development of these technologies enables early warning and faster response, which is of key importance in cases where environmental damage may have irreversible consequences.

The institutional framework established by the Directive implies not only a vertical hierarchy of action (from the local level to the European level), but also horizontal cooperation between different sectors and disciplines. Member States undertake to develop mechanisms for coordination and data exchange among judicial authorities, inspections, laboratories, scientific institutes, and non-governmental organizations. In this way, an "ecosystem of institutional cooperation" is formed in which every actor contributes to the comprehensive objective – effective environmental protection and crime prevention.

A system conceived in this way represents one of the highest standards that the European Union has so far established in the field of environmental criminal law. It requires Member States to abandon a fragmented approach and build integrated structures that connect law, science, and technology into a common protection network. This is precisely the essence of multidisciplinary in practice – the functional unity of institutions and experts of different profiles in the common objective of preserving the environment.

4. EUROPEAN INSTITUTIONAL FRAMEWORK AND CROSS-BORDER COOPERATION

One of the essential novelties introduced by Directive (EU) 2024/1203 is the strengthening of the European dimension in the fight against environmental crime. Whereas earlier European Union instruments in this area were predominantly directed toward national regulations and sanctions, the new directive fully recognizes the transnational character of environmental criminal offenses. Illegal waste management, trade in dangerous substances or endangered species, and pollution of international watercourses do not recognize State borders. Therefore, effective environmental protection is inconceivable without cross-border cooperation and without the active role of European institutions that have a mandate to coordinate, support, and harmonize the conduct of Member States.

4.1. The Role of Eurojust in Coordination and Judicial Cooperation

The basic task of Eurojust is to support and strengthen cooperation among national authorities competent for investigation and criminal prosecution in relation to serious criminal offenses falling within Eurojust's competence,² where those criminal offenses affect two or more Member States or require joint prosecution, on the basis of actions carried out and information obtained by the authorities of the Member States, Europol, the EPPO, and OLAF. In carrying out its tasks, Eurojust takes into account all requests from the competent authority of a Member State, all information provided by EU bodies, institutions, offices, and agencies, and facilitates the execution of requests for judicial cooperation and decisions on judicial cooperation, including, *inter alia*, requests and decisions based on instruments implementing the principle of mutual recognition. Eurojust performs its tasks at the request of the competent authorities of the Member States, on its own initiative, or at the request of the EPPO within the limits of the EPPO's competence.³

² Schinina, M. (2020). What balance between Eurojust and Europol from a parliamentary angle?. *New Journal of European Criminal Law*, 11(2).

³ Weyembergh, A., Theodorakakou, G. (2023). The role of Europol and Eurojust in countering the threat of FTFs: An evolving mandate. *New Journal of European Criminal Law*, 14(2).

European Union: European Parliament and Council of the European Union, Regulation (EU) 2018/1727 of the European Parliament and of the Council of 14 November 2018 on the European Union Agency for Criminal Justice Cooperation (Eurojust), and replacing

In this context, the Directive expressly refers to the importance of Eurojust as a key institution for coordinating judicial cooperation in criminal matters. Eurojust acts as an operational hub that enables rapid communication and the exchange of information between national public prosecutor's offices and courts, especially in cases requiring simultaneous investigations in multiple Member States. In accordance with the Directive, Eurojust may assist in the formation of Joint Investigation Teams (JITs), in which prosecutors, police officers, inspectors, and forensic experts from different States cooperate. This mechanism enables synchronized evidence-gathering, the avoidance of conflicts of jurisdiction, and the accelerated initiation of criminal proceedings.

4.2. Europol as a Source of Intelligence and Technical Support

Europol was established by Council Decision 2009/371/JHA of 6 April 2009 establishing the European Police Office (Europol)⁴ as a European Union body for the purpose of supporting and strengthening the action of the competent authorities of the Member States and their mutual cooperation in preventing and combating organized crime, terrorism, and other forms of serious crime affecting two or more Member States. Article 88 of the Treaty on the Functioning of the European Union (TFEU)⁵ provides that Europol is to be governed by a regulation adopted in accordance with the ordinary legislative procedure, which occurred in 2016. Namely, on May 11, 2016, Regulation (EU) 2016/794 on the European Union Agency for Law Enforcement Cooperation (Europol), replacing and repealing Decisions 2009/371/JHA, 2009/934/JHA, 2009/935/JHA, 2009/936/JHA, and 2009/968/JHA⁶ was adopted.

In the Preamble, it is emphasized that large criminal and terrorist networks pose a serious threat to the internal security of the EU and to the safety and livelihood of its citizens, while available threat assessments show that

and repealing Council Decision 2002/187/JHA, PE/37/2018/REV/1 OJ L 295, 21 November 2018. Art. 2.

⁴ European Union: Council of the European Union, Council Decision of 6 April 2009 establishing the European Police Office (Europol), OJ L 121, 15 May 2009.

⁵ Conference of the Representatives of the Governments of the Member States, Consolidated version of the Treaty on the Functioning of the European Union, 2008/C 115/01, European Union (EU), 13 December 2007.

⁶ European Union: European Parliament and Council of the European Union, Regulation (EU) 2016/794 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Law Enforcement Cooperation (Europol) and replacing and repealing Council Decisions 2009/371/JHA, 2009/934/JHA, 2009/935/JHA, 2009/936/JHA and 2009/968/JHA, OJ L 135, 24 May 2016.

criminal groups are increasingly engaging in different forms of criminal activity across national borders. National law enforcement authorities therefore need to cooperate more closely with their partners in other Member States, and it is therefore necessary to equip Europol to better support Member States in crime prevention, analysis, and investigations throughout the EU. Also, given the fact that serious criminal offenses are often committed across internal borders, Europol should support and strengthen the activities of Member States and their mutual cooperation in preventing and combating serious offenses affecting two or more Member States. Since terrorism is one of the most significant threats to EU security, Europol should assist Member States in facing the most common challenges in this regard.⁷ Furthermore, Europol should support and strengthen activities and cooperation in addressing those forms of crime that affect the interests of the Union.⁸ Organized crime, as one of the forms of crime within Europol's competence, continues to fall within the scope of the main objectives of this body, since, owing to its scale, significance and consequences, it requires a joint approach by Member States; however, Europol should also provide support in preventing and combating related criminal offenses committed for the purpose of procuring the means to commit offenses falling within Europol's competence, or of facilitating, carrying out or ensuring the impunity of their commission.⁹ It is also important to note that Europol, established by the Regulation, replaced Europol established by Decision 2009/371/JHA.¹⁰

Accordingly, the second key actor in the European architecture of environmental security is Europol, which, within the framework of its tasks, provides intelligence, analytical, and technical support to Member States. Environmental crime is, by its nature, highly profitable and often linked to other forms of organized crime, such as money laundering, corruption, or trafficking in human beings. This is precisely why Europol is developing specialized analysis projects dedicated to monitoring and analyzing environmental

⁷ Tas, S. (2023). The dangerous increasing support of Europol in national criminal investigations: An additional layer of complexity. *New Journal of European Criminal Law*, 14(4).

⁸ Weyembergh, A., Armada, I., Brière, C. (2015). Competition or Cooperation?. State of Play and Future Perspectives on the Relations between Europol, Eurojust and the European Judicial Network. *New Journal of European Criminal Law*, 6(2), 258–287.

⁹ Strategic Seminar: "Eurojust and the Lisbon Treaty: Towards More Effective Action". Bruges, 20–22 September 2010 Report. (2011). *New Journal of European Criminal Law*, 2(1).

Recitals 4 and 5 of Regulation 2016/794.

¹⁰ Banović, B., Bejatović, S., Turanjanin, V. (2020). *Međunarodno krivično pravo*. Kragujevac: Faculty of Law, University of Kragujevac, 603.

Art. 1 of Regulation 2016/794.

criminal activities, including the use of new technologies to detect illegal activities in real time.

4.3. The European Public Prosecutor's Office (EPPO) – A New Dimension of Prosecution

The EPPO was established as a European Union body with legal personality, while cooperating with Eurojust and relying on its assistance.¹¹ The EPPO is responsible for investigating, prosecuting, and bringing to judgment the perpetrators of, and accomplices to, criminal offenses affecting the financial interests of the Union as provided for in Directive (EU) 2017/1371 of the European Parliament and of the Council of 5 July 2017 on the fight against fraud to the Union's financial interests by means of criminal law.¹² In that sense, the EPPO conducts investigations, carries out acts of prosecution, and exercises the functions of prosecutor in the competent courts of the Member States until the case has been finally disposed of.¹³

The EPPO is obliged to observe the principles of the rule of law and proportionality in all its activities. It conducts investigations impartially and collects all relevant evidence, regardless of whether it is inculpatory or exculpatory. It also opens and conducts investigations without undue delay. The competent national authorities actively assist and support the investigations and prosecutions carried out by the EPPO, with all actions, policies, and procedures being guided by the principle of sincere cooperation.¹⁴

The European Public Prosecutor's Office occupies a special place in the Directive as the most recent form of supranational prosecutorial body within the EU.¹⁵ Although its primary mandate is directed toward the protection of the financial interests of the European Union, Directive 2024/1203 recognizes the possibility of involving the EPPO in proceedings concerning environmen-

¹¹ Weyembergh, A. (2011). The Development of Eurojust: Potential and Limitations of Article 85 of the TFEU. *New Journal of European Criminal Law*, 2(1).

European Union: Council of the European Union, Council Regulation (EU) 2017/1939 of 12 October 2017 implementing enhanced cooperation on the establishment of the European Public Prosecutor's Office ('the EPPO'), OJ L 283, 31 October 2017. Art. 3.

¹² European Union: the European Parliament and the Council of the European Union, Directive (EU) 2017/1371 of the European Parliament and of the Council of 5 July 2017 on the fight against fraud to the Union's financial interests by means of criminal law, OJ L 198, 28 July 2017.

¹³ Art. 4 of Regulation 2017/1939

¹⁴ *Ibid.*, Art. 5.

¹⁵ See: De Hert, P., Papakonstantinou, V. (2019). Data Protection and the EPPO. *New Journal of European Criminal Law*, 10(1).

tal offenses when they have a financial dimension – for example, the misuse of European funds intended for environmental protection or renewable energy projects. In this way, the European Public Prosecutor's Office becomes an important instrument in preventing systemic corruption and financial abuses that have environmental consequences.

4.4. The Role of OLAF in Prevention and Administrative Investigations

The European Anti-Fraud Office (OLAF) was established with the aim of strengthening the fight against fraud, corruption and all other illegal activities detrimental to the financial interests of the European Union and the European Atomic Energy Community, by Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999.¹⁶ OLAF exercises the powers conferred on the Commission concerning on-the-spot checks and inspections in the Member States and, in accordance with applicable cooperation and mutual assistance agreements, in third countries and on the premises of international organizations. In order to establish whether fraud, corruption, or any other illegal activity detrimental to the financial interests of the Union has occurred in connection with a grant agreement or decision or a contract concerning financing with Union funds, OLAF may carry out on-the-spot checks and inspections. During on-the-spot checks and inspections, OLAF staff act in accordance with applicable Union law, the rules and practices of the Member State concerned, and the procedural guarantees prescribed by the Regulation. At OLAF's request, the competent authority of the Member State provides OLAF staff with the assistance necessary for the effective performance of their tasks. If, under national rules, such assistance requires authorization by a judicial authority, an application for such authorization is submitted.¹⁷

¹⁶ European Union: European Parliament and Council of the European Union, Regulation (EU, Euratom) No. 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No. 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No. 1074/1999, OJ L 248, 18 September 2013.

¹⁷ Art. 3, paras. 1–4 of Regulation 883/2013.

During an external investigation, OLAF may have access to all relevant information, including information in the databases of institutions, bodies, offices, and agencies connected with the matter under investigation, in order to establish, where necessary, whether fraud, corruption, or any other illegal activity detrimental to the financial interests of the Union has occurred.¹⁸ If, before a decision to open an investigation is taken, OLAF receives information indicating that fraud, corruption, or any other illegal activity detrimental to the financial interests of the Union has occurred, it may inform the competent authorities of the Member State concerned and, where necessary, the competent Commission service. At OLAF's request, the competent authorities of the Member States concerned inform OLAF of the measures taken and of their results.¹⁹

In addition, OLAF has a preventive and investigative role in administrative proceedings that precede or accompany criminal investigations. OLAF may detect irregularities in the use of European Union funds for environmental projects, which is particularly significant in the context of increasing investment in the green transition. OLAF's cooperation with Eurojust and the EPPO ensures vertical integration – from administrative supervision, through prosecutorial analysis, to criminal prosecution.

4.5. Cross-Border Cooperation as a Condition of Effectiveness

The Directive insists that all Member States must ensure effective mechanisms of cross-border cooperation based on mutual trust and the principle of mutual recognition.²⁰ This entails the accelerated exchange of information, harmonized procedures for gathering evidence, and common data-protection standards.²¹ In this context, special attention is devoted to the development of interoperable IT systems enabling real-time communication between the competent authorities of different States.

In this way, the European Union is creating an integrated system for combating environmental crime, in which national and supranational levels no

¹⁸ Weyembergh, A., Brière, C. (2017). The future cooperation between OLAF and the European Public Prosecutor's Office. *New Journal of European Criminal Law*, 9(1).

¹⁹ Art. 3, paras. 5–7 of Regulation 883/2013.

²⁰ Höhn, C. (2023). Strengthening cooperation with external partners: Looking for a common response to the phenomenon of foreign terrorist fighters. *New Journal of European Criminal Law*, 14(2); Ligeti, K., Marletta, A. (2016). EU Criminal Justice Actors: Accountability and Judicial Review Vis-À-Vis the EU Citizen. *New Journal of European Criminal Law*, 7(2).

²¹ Vanbeselaere, L. (2025). Youth justice or criminal law? The scope of 'judicial cooperation in criminal matters'. *New Journal of European Criminal Law*, 16(4).

longer act in isolation, but as parts of a single judicial area. Such an architecture not only increases the effectiveness of investigations and proceedings, but also symbolizes a new stage in the construction of “European environmental justice” – a system in which environmental protection becomes a common, rather than exclusively national, value.

5. COOPERATION WITH THE SCIENTIFIC COMMUNITY AND CIVIL SOCIETY AS PART OF THE STANDARD OF MULTIDISCIPLINARITY

One of the most innovative and progressive provisions of Directive (EU) 2024/1203 is the explicit recognition of the role of the scientific community and civil society in the fight against environmental crime. In this way, for the first time within a criminal-law instrument, the European Union fully integrates the public, scientific, and non-governmental sectors into the institutional system of environmental protection. This concept represents a logical continuation of the broader European trend in which environmental protection is no longer viewed as the exclusive responsibility of the State, but as a shared obligation of society as a whole.

The Directive emphasizes that the fight against environmental crime is impossible without strong scientific support. Environmental criminal offenses are, by their nature, often technically complex and evidentially demanding: establishing causation, measuring pollution, identifying dangerous substances, or assessing damage to an ecosystem requires highly specialized knowledge and modern research methods. For this reason, the Directive encourages Member States to establish institutionalized cooperation with universities, research centers, and accredited laboratories in order to ensure reliable expert support at all stages of the proceedings – from investigation to expert testimony in court.

In addition, cooperation with the scientific community also has a preventive dimension. Universities and scientific institutes can contribute to the creation of public health policies, the development of new technologies for detecting and monitoring pollution, and the training of officials in the application of environmental standards. In this way, science becomes not only an instrument of proof but also an active partner in crime prevention, which represents an essential aspect of multidisciplinarity.

One of the most significant novelties of the Directive is contained in Article 15, which guarantees procedural rights to citizens and associations engaged in environmental protection. This provision reflects the evolution

of European environmental law toward democratization and transparency. Citizens and non-governmental organizations (NGOs) are no longer passive observers, but active actors who may participate in proceedings, submit applications, initiate investigations, and seek legal protection on behalf of the public interest.

In practice, this means that the civil sector is recognized as a “sensor of society” that is the first to identify environmental problems and alert institutions. Many cases of environmental crime in Europe, such as the illegal disposal of hazardous waste or the destruction of protected habitats, were initially uncovered thanks to the activism of local communities or non-governmental organizations. The Directive therefore not only encourages cooperation between State authorities and civil society, but requires that procedures for public participation be formally established and institutionalized.

The combination of expert knowledge and public oversight represents the essence of the new European standard. The scientific community provides evidence and technical precision, while civil society provides social oversight, transparency, and an ethical dimension. This synergy not only strengthens the legitimacy of State measures but also increases citizens’ trust in institutions. The Directive proceeds from the position that an effective fight against environmental crime requires public trust, and that such trust can be built only through open, transparent, and inclusive mechanisms.

In this context, the Directive also recognizes the role of the media, academic forums, and public campaigns as instruments of prevention. An informed and educated citizen is less susceptible to manipulation and more prepared to recognize and report environmental irregularities. For that reason, cooperation with non-governmental organizations and scientific institutions is not viewed as an additional option, but as a structural condition of an effective system.

Although the Directive formally applies to Member States, its normative influence also extends to candidate countries, including Serbia. In the process of harmonizing national legislation with EU law, it will be necessary not only to align substantive norms, but also to develop institutional mechanisms of cooperation with the academic and civil sectors. It is precisely this element – multidisciplinary involvement – that represents a qualitative leap that will condition further reforms in the field of environmental law and environmental management.

6. INTEROPERABILITY, EDUCATION, AND CAPACITY BUILDING AS PRECONDITIONS FOR MULTIDISCIPLINARY ACTION

The effective application of the multidisciplinary approach, as prescribed by Directive (EU) 2024/1203, is not possible without three key preconditions: the interoperability of institutions, the continuous education and training of experts, and the building of institutional and technological capacities. These elements constitute the foundation of a functional system that enables cooperation among different disciplines and actors in the fight against environmental crime.

The concept of interoperability in the context of the Directive represents the possibility of continuous and secure data exchange between institutions participating in the prevention, detection, investigation, and prosecution of environmental criminal offenses. This includes connecting national police, prosecutorial, and judicial databases with European information systems (for example, SIS, Europol Information System, Eurojust Case Management System), as well as the development of national platforms for environmental data. The objective is to create an integrated digital ecosystem in which authorities will be able to access relevant information, inspection results, forensic reports, and scientific analyses in real time.

The Directive encourages Member States to develop interoperable IT systems based on common standards, enabling data protection, the rapid flow of information, and easy communication between national and European institutions. Such systems are particularly important in situations where there is a risk of destruction of evidence, where an urgent response is needed in the event of industrial accidents, or where environmental damage is cross-border in character.

Directive 2024/1203 particularly emphasizes the need for specialized education and training of all actors involved in the fight against environmental crime. This applies to police officers, prosecutors, judges, and inspectors, as well as to experts from scientific disciplines who provide expert support. The Directive recommends that Member States establish multidisciplinary training programs that would include a combination of legal, technical, and ethical knowledge.

The aim of these programs is not only to raise the level of competence, but also to develop a shared professional culture among different professions. Legal experts must understand the basic principles of ecology and toxicology, while scientists should be familiar with procedural rules and evidentiary standards in criminal proceedings. Such mutual education creates the basis for

better understanding and more effective cooperation, which is the essence of multidisciplinarity in practice.

Capacity building is the most concrete aspect of applying the multidisciplinary approach. The Directive emphasizes the obligation of Member States to ensure sufficient financial and technical resources for institutions dealing with environmental crime. This entails the modernization of laboratories, the procurement of equipment for pollution monitoring, the development of data-analysis software, and the improvement of the technical infrastructure of inspection services.

In addition, capacity building also includes the development of specialized institutions, such as environmental forensics centers, national schools for the training of investigators and prosecutors in the field of environmental crime, and risk-analysis units that combine data from several sources. In this way, the structural sustainability of the system is built, guaranteeing that the multidisciplinary approach is not only formally proclaimed but also genuinely applicable in practice.

Public education constitutes a special dimension of capacity building. The Directive recognizes the importance of raising citizens' environmental awareness and developing a culture of legality. Education in schools, media campaigns, public forums, and cooperation with non-governmental organizations contribute to creating a social climate in which environmental crime is no longer "invisible" or "tolerated." Only a society that understands the causes and consequences of pollution can support institutions in suppressing it.

7. CONCLUSION

Directive (EU) 2024/1203 on the protection of the environment through criminal law represents one of the most significant steps in the development of the European environmental criminal justice system. Its greatest quality lies not only in expanding the catalogue of criminal offenses or in tightening sanctions, but in establishing the multidisciplinary standard as a key principle in the prevention, detection, investigation, and prosecution of environmental offenses. In this way, the European Union has acknowledged that environmental crime requires the integrated action of legal, scientific, technical, and administrative structures.

The Directive sets ambitious but realistic requirements: the building of institutional capacities, specialized training, system interoperability, and formalized cooperation between State authorities, scientific institutions, and civil society. Such a model is no longer based on the classic vertical relationship

between the State and the perpetrator, but on a horizontal network of cooperation in which every actor has responsibility and makes a contribution.

In this sense, multidisciplinary is not only a methodological approach, but a new paradigmatic framework of European environmental criminal law. It symbolizes the transition from a repressive model to a preventive and cooperative one, in which law becomes an integral part of the broader system of environmental management. For candidate countries, such as Serbia, this standard represents both a challenge and an opportunity – an opportunity to build modern, responsible, and science-supported judicial practice in the service of protecting a public good and future generations.

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