

PhD Marina Malish Sazdovska,
Associate Professor, Faculty of Security – Skopje,

Vasil Arminoski,
Monitoring Operator,
Agency for private security “UNA” – Skopje,

Contemporary Criminalistics methods for detection of environmental crime through application of software for financial investigations

Abstract

Environmental crimes are serious crime happening very often and with sophisticated forms of committing the offenses. Environmental crime is present both at national and international level, as reflected by numerous operational actions in order for suppression of this type of crime. New technologies are a benefit used in various spheres of the social life. They are widely used within the Criminalistics science. Worldwide, there are new and more sophisticated methods applicable to various stages of the criminal investigation. The new programs, which can create, search, gather, analyze and share Criminalistics-bound data in various density timescales, can represent a great tool in hands of the police for effectively tackling this type of crime. The authors of the paper address several software solutions and the development of special computer programs used in the detection of crimes as well as collecting information for clarification of certain criminal events. The paper makes special reference to the computer program used for crime mapping in the Republic of Macedonia.

Keywords: *new technologies, crime detection, investigation, crime mapping*

1. Introduction

Object of protection in environmental crimes is the environment, ecosystems: water, air, soil, etc., and generally dangerous actions are: actions that endanger the life and health of humans and flora and fauna. These crimes can be in very large range, in very wide areas and causing adverse effects to human health and other living species (Malish-Sazdovska, 2009).

Also, from victim-based perspective, environmental crimes are placed in cross-border crime category because victims can be all inhabitants of a certain area in several countries affected by illegal criminal behaviors endangering the environment. Thus, regardless of religion, race and sex, victim can be anyone that feels the consequences of environmental pollution. Hence the seriousness of this type of criminality can cause harmful consequences of tremendous proportions.

Environmental crimes in some cases are related to economic crime in terms of the characteristics of offenders who are part of the responsible persons of legal entities. Namely these offenders commit crimes by not taking appropriate measures in some major industrial facilities to protect the environment by avoiding of installation of protective filters for air pollution or any other means of protecting the water, air, soil and etc. (Dzhukleski and Nikoloska, 2007)

In performing the environmental crimes, especially in severe cases, it is highlighted the environmental-economical conflict of interest of offenders, in connection with their performance of official duties and responsibilities.

Certain environmental crimes are performed by certain management structures and persons responsible for polluting the environment and the nature, but they are not a subject of sanction for such crimes. Namely, managers of major industrial facilities, not taking protective measures in the manufacturing process, pollute the environment. Often these people are linked to other relevant institutions which instead of prosecute them, don't undertake activities for their prosecution or go unpunished due to the inefficiency of the court proceedings. So, in such cases, usually it comes to so-called "white collar" crime or situations of bribery and corruption of competent authorities for not taking legal actions against certain perpetrators of environmental crimes (Nikoloska, Malish-Sazdovska and Blazevska, 2014).

Such situations and conditions in political life, prolong the same punishable behavior, namely realized in the production process, not using protective filters, the location of the industrial facilities is not adequate etc., thus continuing the already started process of environmental pollution (Malish-Sazdovska, 2005). Also there are often cases of improper handling of certain waste materials that are not in accordance with the procedure for disposal. In those cases the offenders make illegal financial transactions that damage the economic system and the state budget.

In the Republic of Macedonia there is a mild penal policy which is characterized by minimal, and mostly mild penalties and conditional sentencing, which conditions recidivism of perpetrators of environmental crimes (Malish-Sazdovska, 2014).

By adopting EU standards through harmonization of Macedonian legislation with the European, this problem should be overcome because so called eco tax is predicted, also implementing regulations for environmental protection, preparation of elaborations for assessment of the threats against the environment from production processes, issuing of integrated environmental permits and etc.

2. Environmental crimes carried out with abuse of official position and authority

Environmental crime (Article 218) states that Whosoever, by discharging toxic or exhaust gases, an amount of materials or ionic radiation higher than the maximum allowed by law in the air, water or soil, or in any other manner may cause or causes significant deterioration of the quality of the air, water or soil or danger to the human life or health or destruction of animal and plant life to a larger extent, or of rare species of plants or animals, shall be sentenced to imprisonment of four to ten years (Criminal Code of the Republic of Macedonia, 1996).

Paragraph 2 from this Article: refers to: an official or responsible person in a legal entity who, by not adhering to the regulations for protection of the environment, omits to place filtering devices or permits construction, activation or use of a plant that pollutes the environment or who in any other manner omits to take measures for prevention or disabling pollution of the air, soil, water, which exceeds the allowed limit or for prevention of noise that significantly exceeds the allowed limit and thus causing danger to the human life or health or destruction of the animal and plant life to a larger extent, or of rare species of plants or animals, shall be sentenced to imprisonment of at least four years.

While paragraph 3 from Article 218 states that: the sentence referred to in paragraph (2) of this Article shall be imposed on whosoever, contrary to the regulations, manages or operates a plant where dangerous activities are carried out or where hazardous materials and preparations are stored or used, which outside of the plant may threaten the quality of the air, water or soil permanently or to a larger extent, or may threaten the human life or health to a larger extent, or endanger the plant or animal life on the wider area to a larger extent.

This is a basic environmental crime, provided as an attack on the totality of goods that are basic elements of the biosphere, or enable the existence of living beings. This provides an act of not keeping to the regulations for the protection and improvement of the environment. An offender is any person who commits an environmental crime, and thereby causes danger to people's lives, citizens and authorities.

Subject of concern of the authors of this paper are environmental crimes in connection with economic crimes with serious financial implications. The focus of the research paper is application of software for financial investigations in order to detect these crimes, because only the implementation of financial

investigations can provide evidence of the crime. Namely, financial investigations should be part of a broader method for detecting, proving and clarifying the environmental crimes, under which despite the police that is available to the competent authorities, a significant part is taken by the financial investigation too (Angeleski, 2007).

3. Competent bodies for financial investigations

Among other bodies for detection of environmental crimes, criminal police has the authority and is responsible for the suppression of all crimes *ex officio*, including environmental crimes acting on a preventive and repressive plan (Angeleski, 2007).

Specifics of preventive acting of the **Police** would consist of: monitoring, control and surveillance of critical sectors of environmental pollution and obtaining ecological information from criminal and other information systems. In this sense, for controlling the pollution and polluters is necessary to create an environmental map, containing information about existing and potential polluters, indicating the type of pollution.

The second direction of preventive actions of the police, besides informing, i.e. indication of the competent authorities of existence of environmental crime, is also the cooperation and delivering technical assistance from specialized agencies and institutions in taking preventive measures and activities to eliminate the polluters and factors of the pollution.

Suppressive measures however, are realized by undertaking forensic and investigative activities in order to detect and prove environmental crimes. But the fact that in certain environmental offenses, inspection bodies have certain authority as specialized bodies, occurs the need of necessary cooperation between them and the bodies of police. Besides independent undertaking of certain suppressive measures and activities, as a second segment in police activity in this plan is the obligation to provide technical assistance or to cooperate with the specialized bodies in the field of environmental protection. This is especially a case when performing difficult environmental crimes, when despite taking activities by the competent institutional bodies, it is necessary to use the authorities of the police (Malish-Sazdovska, 2014).

Aside from the important role of the police in detecting environmental offenses also the **Financial Police** and the **Financial Intelligence Unit** take part.

Financial police in accordance with its legal authority has the authority to: 1) identify and carry out criminal investigation of criminal offenses that are prosecuted *ex officio* such as: money laundering and other proceeds from Article 273, illegal trade from Article 277, smuggling from Article 278, tax evasion from Article 279 of the Criminal Code and other criminal acts of illegal property of considerable value, to capture and turn in the perpetrators, provide evidence,

other measures and activities that can be used for non-interrupted process of the criminal proceedings ex officio or by an order of the public prosecutor through performing judicial police authorities in accordance with the law; 2) collect and analyze data on cash transactions, take pre-investigation and other measures when there are grounds for suspicion of criminal acts, follows the money trail in order to detect criminal offenses determined by the law, inspect and review accounting data and records in computer systems in the presence of a responsible person or by an authorized person and performs other duties in accordance with the law; 3) conduct forensic computer analysis of temporary seized computer systems and other electronic devices; 4) submit a criminal complaint to the public prosecutor for crimes within its jurisdiction, prosecuted by official duty; 5) submits initiative for taking tax and other procedures for assessment and collection of public duties to the competent authority; 6) coordinates, gives initiative, files criminal charges, exchange information and organize training for persons involved in the system of irregularities in order to protect the financial interests of the Republic of Macedonia and the European Union; 7) prepare and submit proposal strategy to protect the financial interests of the Republic of Macedonia and the European Union and 8) perform other duties prescribed by the law (Law on financial police, 2014).

Financial police in accordance with its legal authority has the authority to: 1) identify and check persons' identity 2) calling in citizens and gather information 3) detain; 4) imprison; 5) arrest; 6) diversion, directing or restriction of movement of persons and vehicles in a certain area during the necessary time; 7) temporary seizure of objects; 8) inspection and review of business books and other documentation; 9) undercover police action; 10) keeping, examination of persons, luggage and vehicles; 11) collection, processing, analysis, usage, evaluation, transmission, storage and deletion of data; 12) providing handwriting samples and signatures; 13) usage of technical equipment and 14) application of special investigative measures and undercover sources of data in accordance with the penal procedure.

Financial Intelligence Unit is a financial intelligence body and acts intermediately between the private sector (or entities) and the investigative and judicial bodies (Malish-Sazdovska, 2005). Main responsibilities of the Directorate are: collecting, processing, analyzing, storing and delivering data. Directorate receives reports on: suspicious transactions/activities related to money laundering or terrorist financing, one or several connected cash transactions in excess of € 15,000 or more in denars and reports submitted by the Customs Administration on entry and exit of cash over 10,000 Euros in denars (The Financial Intelligence Unit, 2012).

Also the Directorate on daily basis receives electronic reports from: notaries –for all purchase agreements exceeding 15,000 Euros, from the banks - data on all disbursed loans over 15,000 Euros, from insurance companies - data

about signed life insurance policies worth over 15,000 Euros and car dealers - data on contracts for the purchase of new vehicles worth over 15,000 Euros.

In case of a suspicious transaction report, the undertaken procedure consists of 7 steps: administrating, initial checkup, priority and manner of acting determining, mandatory checkup, analysis of the received data, reporting of the case before the Commission and preparation of a report or notification. After completing, the procedure report of suspicious activity is submitted to the relevant investigative authorities - Ministry of Interior, Financial Police, Public Prosecution when suspicion of committing a crime of money laundering or terrorist financing is determined. Reports on suspicious activities is prepared for cases when there is an established doubt for another crime and also the competent authority is notified.

4. New technologies for detection of crime

Various Criminalistics methods and techniques can be used within the scope of the Criminalistics analysis. Such are: statistical analysis of crime; analysis of patterns of crime to identify the criminal hotspots - mostly related to the use of geographic information system (GIS); network analysis (tactical analysis); analysis of telephone contacts - by using sophisticated software such as the Analytical program I2 or Watson; analysis of financial transactions; analysis of time series; analysis of criminal markets; risk analysis and many other (Stefanovska, Gogov, 2015).

Also, of particular importance in these and other methods is the use of Geographic Information System (GIS) in creating, maintenance and storage of digital geographic data with computer equipment (hardware and software) enabling processing, analysis and visualization of geographic and tabular data (Stefanovska, Gogov, 2015).

Modern software solutions can also be used to manage major accidents caused while transporting dangerous goods. Namely, incidents can happen when hazardous materials are transported. Thus, in order to select the optimal routes for transportation of dangerous goods and implement preventive measures to minimize the risk, some forms of simulation can be exercised. Numerous models for selection of optimal routes can be used. Such is the Geographic Information System (GIS) to address the problem of routing and accurate prediction of the spatial consequences from disposal of hazardous substances. In addition, "Kovers" project which performs Multifactor optimization of the transport of dangerous goods can also be used, as well as the software for managing and planning routes CAMEO (Computer-aided Management of Emergency Operations) comprised of two modules: dispersion of toxic gases ALLOHA and program for electronic cartographic support MARPLOT (Ristic, Indjic and Karkalic, 2014).

Other effective tools besides the GIS systems to detect certain crimes,

especially theft are also the alarm systems. To be more specific, alarms fitted to certain facilities, vehicles and so on are the electronic devices signaling at the moment of a break in, a sign for a police or private security agencies action. In this way, the use of alarm systems helps in the actions to detect perpetrators of crimes. Hence, thefts in apartments, vehicles, industrial equipment and any other place which is protected with an alarm device can be easily exposed.

5. New technology for detection of crime in Republic of Macedonia

State authorities responsible for detection and suppression of crime in the Republic of Macedonia have realized the need for application of new modern solutions for actions against contemporary forms of crime. Mostly it is about using modern software solutions for data processing, filtering and their use to suppress certain kinds of crime.

Financial Intelligence Directorate considers introducing powerful software system in its work. It should provide data for each reported or suspected person or data collection, automatic processing, case analysis and would generate reports. The system would have extensive and accurate database pertinent to dealing with this type of crime. In addition, it would have a module for visual data analysis. The system should more effectively coordinate the activities of the competent authorities for combating crime: Ministry of Interior, Public Prosecutor, the Financial Intelligence Directorate, the Financial Police, the Customs Administration and the Public Revenue Office,. By it, these authorities would be connected for communication which is targeted to data and information exchange as well as effective suppression of financial crime. A special feature would also be the module which is generating final intelligence reports in the domain of financial intelligence which would be further sent to the competent authorities which are combating the crime (www.ufr.gov.mk).

In this way a full system is introduced in all phases and steps of the process of possible unlawful conduct as well as a system to effectively combat the crime. A system which is set in such a manner would minimize the possibility of money laundering and financing terrorism. Also, it is planned to use an interactive web application through which banks, lawyers, savings houses, bailiffs, notaries and other entities under the Law would submit data, and request examination of suspects and potentially dangerous persons intending to carry out financial crime. In addition, within the system a module for automatic generation and sending data or requests for further information to banks would also be installed (www.ufr.gov.mk).

Financial Intelligence Directorate in the Republic of Macedonia uses modern software applications for its analysis such as:

- Suscriptor (software for keeping electronic archive);
- DocuShare - Document Management System (software for managing

documents);

- ICM - Investigation Case Management (Application for data processing and electronic case management);
- I2 -Analyst Notebook (software for automatic creation of graphic patterns of cases);
- Business Intelligence (software to create reports from data in the database);
- SPSS (software for statistical analysis of data from the database).

These tools are very useful for the operational functioning of the Directorate, having regard to the fact that during one calendar year, they receive 200 reports about suspicious activities of the entities.

5.1. I2 -Analyst Notebook (software for automatic creation of graphic patterns of cases)

The i2 Analyst's Notebook is the name for a packaged solution which includes the i2 Link Notebook and i2 Case Notebook software (IBM Software – Company Factsheet, 2013).

Using the i2 Link Notebook software for financial investigations in combating environmental crime can be very powerful toll in the hands of the criminal authorities. This software is enabling the investigators to create entity relationship diagrams (a kind of visual database) allowing raw intelligence – largely textual reports (e.g. witness statements) – to be entered manually, revealing the relationships within the data and enabling data from different sources to be collated and graded. Automatic and manual layouts, and the ability to create, share, search, analyze and crucially print, even extremely large charts (sometimes tens of meters in length), dramatically improved law enforcement's ability to understand and communicate the status of investigations, and to direct and manage the process.

The i2 Case Notebook provided similar data entry and visualization of time series data (i.e. laying events out along themes such as people and places), again able to handle very large data sets. Even with variable density timescales, due to the very large number of events uncovered in a large investigation, a single Case Chart could cover several walls in an office, or stretch tens of meters along a corridor.

While initially for manual data entry, these tools were then extended with add-on components to allow integration with databases. These database add-ons allowed mapping between a database entities (such as person, place, organization, vehicle, asset, event) and the relationships between entities (such as associate, owns, related) and visual entities used to represent those records on the chart (person icon, place icon etc.).

The i2 Analyst's Notebook played an integral part of *Human Terrain System* – a United States Army program which embeds social scientists with

combat brigades. Also this software was successfully used in wide-scale financial fraud investigation within the U.S. Army (Jackson Joab, 2009). Today, this software solution is used by more than 2000 organizations in 149 different countries, including member-states of NATO.

6. Practical example of crimes detected

6.1. An example of an organized criminal group and illegal operation of the legal entity rimkos trade ltd Bitola

Financial Police to the Public Prosecutor's Office for Organized Crime and Corruption filed a criminal complaint against an organized group composed of nine (9) individuals on grounds of reasonable doubt that according the Criminal Code of the Republic of Macedonia they committed the following crimes: criminal association, tax evasion, forgery or destruction of business records, abuse of official authority, helping and encouraging (Financial police, 2015).

Namely, during 2010, 2011 and 2012 the organizer of the group R.K. from Bitola, owner and manager of the legal entity RIMKOS TRADE LTD Bitola, knowingly and with intent to gain illegal profit, formed a criminal group to issue invoices containing false data and to conduct illegal financial transactions. The purpose of this criminal group was to conceal illegally purchased secondary raw materials – waste, in a way that among legal entities Margoni, Shane Ton, Victory Tim, Laterna Trade, FruitTrade and Dzole 2011 circulate invoices containing false data, concealing the true origin of the secondary raw materials. Based on these invoices, the organizer of the criminal group showed groundless refund of VAT and reduced VAT obligations.

The organizer of the group R.K. from Bitola was aware that according the legislation the purchase of secondary raw materials obtained from individuals is not a subject to VAT and in the account records of the legal entity Rimkos Trade submitted invoices containing false data, as if they were issued by legal entities managing by the members of the criminal group. For this purpose R.K., transferred the money from the bank account of his company, first to the bank accounts of other legal entities, where the members of the criminal group withdraw them in cash from the bank the same day and after keeping for themselves the amount of VAT, the rest of the money were used for purchasing of secondary raw materials - waste in cash from individuals.

The organizer of the criminal group R.K. for certain amount of money, besides Macedonian citizens, involved a person, a foreign citizen without a residence permit in the Republic of Macedonia. This person only formally had the status of an owner and manager of a legal entity which completely was managed by the organizer of the criminal group that committed these criminal behaviors.

Once members of the criminal group achieved the target, i.e., issuing invoices containing false data, in order not to submit VAT tax return required for operation of legal entities and not to pay their tax obligations before the end of calendar years, they sell the legal entities involved in the business of fictitious invoices. They sold legal entities to people with extensive criminal record and low social status, believing that their absence as responsible individuals is a sufficient guarantee to be protected and to avoid criminal responsibility and their connection with the criminal way of working of the organized group.

In this way, the members of the criminal group in 2010, 2011 and 2012 with issuing invoices containing false data for and on behalf of the above mentioned legal entities didn't register, neither paid VAT in the amount of 172.394.192,00 Denars and personal income tax in the amount of 29.238.790,00 or damaged the Budget for a total amount of 201.632.982,00 Denars, or about 3.2 million (ca 52.050,00 Euro).

Financial police in the region of Bitola, Prilep and Strumica, conducted a major action to track down suspects and arrested eight Macedonian citizens-members of the group and the ninth member who is a citizen of the Republic of Serbia is unavailable to the law enforcement authorities and they are still searching for him.

6.2. An example of an organized criminal group and illegal operating of the legal entity Refus Trade LLC export-import Skopje

Financial Police to the Public Prosecutor's Office on grounds of suspicion of committing the crime "Tax Evasion", punishable under Article 279 of the Criminal Code of the Republic of Macedonia filed criminal charges against two people (Financial police, 2015). One person is a Bulgarian citizen, owner and manager of the Company for Trade and Services Refus Trade LLC import - export Skopje. In the period from 31.01.2011 to 29.12.2011 he and the second Bulgarian citizen D.V. who was the owner and manager of the legal entity Refus Trade LLC in the period from 29.12.2011 until today, for operating of the legal entity Refus Trade LLC during 2011 and 2012 have not reported and not paid VAT and personal income tax in the amount of 160,000 Euros.

Crime was committed in a way that the legal entity Refus Trade LLC Skopje issued and submitted to various buyers 88 invoices with 18% VAT for sale of secondary raw materials - waste, without any records. They didn't submit mandatory VAT registration to the Public Revenue Office and not reported the amount of VAT stated, although every legal entity is a registered VAT payer.

Once the offenders have collected the receivables for the sold secondary raw materials, they had withdrawn all the money in cash together with the amount of VAT which should be paid on the Budget's account. The first offender was

aware that the overall operations of the legal entity is a crime, and in an attempt to avoid criminal responsibility, just 2 days before the end of the year having an obligation to calculate and pay VAT, he assigned the ownership of legal entity Refus Trade LLC Skopje to another Bulgarian citizen.

Proof that the transfer of ownership of the company is only a cover for hiding the crime is the fact that the first person after formal legally ceded the ownership of the legal entity of the second person he still continued to work with the company or on behalf of the legal entity Refus Trade. Namely he continued to deliver secondary raw materials - waste to more companies and the money from the customers, immediately after the transfer he withdrawn the cash from the company's account as an authorized signatory. Financial Police arrested him and handed over for questioning before the competent public prosecutor proceeding according the criminal charges.

The second offender who is a citizen of the Republic of Bulgaria is not on the territory of the Republic of Macedonia and not yet available to the law enforcement authorities.

7. Analysis of the criminal aspects of criminal cases

These crimes fall under the crimes of economic and financial crime, but are also directly related to environmental crimes, because they are related to the legislation regarding waste products, waste and secondary raw materials. Thus, there is a direct correlation between economic and financial and environmental crime.

Forensic science provides answers to many questions about the perpetrators of the crimes, specifically answers the nine golden questions about the crime (Dzhukleski, 2006).

If analyzes the perpetrators who carried out the above mentioned crimes and their modus operandi the following can be concluded:

- It is a question of *organized crime groups*. Namely, there is not only one individual perpetrator, but for the purpose of these criminal activities an organized crime groups are formed, indicating that this is an organized crime;
- Committing crimes in concert to commit *more crimes* that are directly and immediately connected. Thus, the perpetrators carried out the following offenses under the Criminal Code of the Republic of Macedonia: criminal association, tax evasion, forgery or destruction of business records, abuse of official position, helping and encouraging;
- in some cases, there is *an involvement of foreign citizens*. In these cases citizens from Serbia and Bulgaria. This leads to the conclusion that environmental crimes with economic aspects

- are often transnational, including foreign citizens in organized criminal groups;
- modus operandi of committing crimes is made through: issuing invoices containing false;
 - data and conducting illegal financial transactions; sales of legal entities involved in the business of fictitious invoices; not registering and not paying VAT and personal income tax and in other ways too. Consequence of these crimes is: concealing the true origin of secondary raw materials; showing unjustified VAT refunds and reduction of VAT obligations and ultimately damaging the budget of Republic of Macedonia;
 - basic *motive* of committing these crimes is *acquiring illegal material benefit*. The economic gain is the main motive why the perpetrators of economic and financial crimes carry out these crimes, but parallelly, legal provisions for environmental protection are violated. Thus effective control is not provided in the usage of secondary raw materials, and the question of adequate waste disposal is raised and directly interferes in the area of environmental protection;
 - in some cases there is bribery and corruption;
 - action “Zeleno” was implemented to reveal inspectors and owners of legal entities, who by abuse of position and authority, bribing and bribe taking, enabled certain legal entities to carry out waste treatment and waste materials in the country. Supposedly, investigators pressured specifically defined legal entities-producers of packaging waste to conclude contracts with exactly specified managers whose owners and managers are part of the turned in offenders, and are in close relations with the officials.

In order to detect these and many other crimes, Financial Police and Financial Intelligence Unit are actively participating in financial investigations. Financial investigations are procedures applied in parallel with the criminal investigation and aim to disclose proceeds of crime, identify the property that can be confiscated temporarily provide (seized) property of the suspect in order to allow future final confiscation (Nikoloska, 2015).

Namely, these authorities, applying the measures and activities authorized in accordance with applicable legislation of the Republic of Macedonia, successfully solve crimes, detect perpetrators and determine the damage of the budget. Financial investigations are applied because of the fact that the main objective of these crimes is gaining illegal profit and achieving large criminal profits. For this purpose the Information Technology is used to monitor the flow of money; monitor suspicious financial transactions; provide evidence (documents for illegal financial transactions).

If during the financial investigation tangible evidence of the economic and financial crime are not provided, the monitoring of external manifest forms of the crime through the manifestation of the “wealth” of the perpetrators, who were unable to obtain it legally, is needed.

So with the implementation of financial investigations by the authorities, successfully dealing with this type of criminal behavior is possible, detecting offenders and filing of criminal charges against them. After that follows a legal proceeding where the material and other evidence of the criminal section is shown and perpetrators are presented, imposing appropriate punitive measure. Financial implications of the crime should be also taken into consideration, whether to confiscate the property or other measure will be applied.

8. Conclusion

This kind of economic and financial crime that is directly related to environmental crimes, or has direct implications for the protection of the environment is present in the Republic of Macedonia. According to criminalistic characteristics of the crimes it comes to organized crime, with serious consequences for the Budget of Republic of Macedonia. Despite the fact that the perpetrators illegally enrich themselves they are doing economic damage to the economic system of the state, through non-payment of VAT, use of fictitious invoices, sale or expropriation of legal entities and etc.

However, it's encouraging to know, that the competent authorities in the country through implementation of financial investigations disclose these crimes. It must be noted that often these crimes have an international aspect, because foreign citizens are involved in organized crime group. It just confirms once again the conclusion, that without system access and mutual cooperation between institutions on national and international level, effective struggle against any kind, including this kind of criminal activity is impossible.

Characteristic of environmental crimes is the sophisticated way of execution of the crime, but also the connection with other criminal behaviour. Thus, environmental crime is linked to committing other offenses as abuse of official position, counterfeiting, terrorism financing and etc. In order to successfully combat this kind of crime requires monitoring of financial flows of perpetrators, particularly through implementation of financial investigations. Authors of this paper elaborated financial investigations for detection of environmental crimes, and performed analysis of the case study of specific examples.

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