

A dissertation submitted to the Department of Environmental Sciences and Policy of Central European University in part fulfillment of the Degree of Doctor of Philosophy

Environmental Auditing as a Tool of Environmental Governance in Ukraine

by

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June, 2016

Budapest, Hungary

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Anna Ruban

Acknowledgement

A PhD study is a long and hard process, which helps a student to transform into a confident independent researcher. Personally for me it was a process of self-transformation over the course of a long scientific journey. I am sure that it would not have been possible for me to reach the finish line of this PhD race without the endless support, help, inspiration and patience of my mentors, teachers, family and friends. Therefore, my PhD dissertation is a product of the collaborative work of many people that helped my dream come true.

I want to express my sincere gratitude to my supervisor, Professor Ruben Mnatsakanian. Overall, all four years he helped me to find solutions for different scientific puzzles and overcome many psychological challenges of the PhD journey such as: the feeling of getting lost in the complexity of theoretical ideas and the loneliness of writing process. I am specifically thankful for his care and willingness to help during the Revolution of Dignity in Ukraine in February 2014.

I have to admit that before I moved to Budapest I considered myself as a natural scientist. However, our department is interdisciplinary, therefore, at the beginning, it was very hard for me to start thinking outside of box of one field of science and accept other opinions and ideas. I am very thankful to associate professor Tamara Steger for acquainting me with qualitative research with different methods. Moreover, I am very grateful to Professor Aleh Cherp and Professor Lars Ryden for challenging me and helping me to become an independent critical thinking scholar. In addition, the research advisor, certified environmental auditor Oksana Volosko-Demkiv, played an important role in my research. I took an environmental auditing course at the National University of “Kyiv-Mohyla Academy” taught by her and it gave me a deep understanding of the research area. Moreover, she always provided me with support and help during my field work and on the writing-up stage. Finally, the person who read all my chapters thousands of times and by the end of my research became an expert in my field is Agnes Toth, an instructor at the CEU Academic Writing Center. I am extremely grateful to her for helping me to develop my writing skills and find my own way and style of academic writing.

I am thankful to my parents, Olena Karelina and Valerii Ruban, for accepting my way of living and supporting my choices and decisions throughout all of my life. They created a peaceful and cheerful environment, which allowed me to finish my PhD studies. I cannot forget to mention the wisdom and love that my grandparents that they provide me with. There is one more person in my family who helped me with her sense of humor and cool ideas, my sister, Tatiana Ruban.

I am not sure if I would have been able to finish this research without the support of my fabulous friends and peers at CEU: Yolanda Ariadne Collins, Vadim Vinichenko, Agnes Kellement, Csaba Toth, Noemi Gonda, Vivek Voora and Carl Nordlund. They were ready to discuss theories and different concepts while we were travelling, running on Margit island, working out in the gym, chilling in the sauna or having drinks over the weekends. I am happy that we managed to create a PhD community-of-practice that helped us to stay on track and constantly keep up with accomplishments. Moreover, I thank my friends from all around the world for understanding and patience with being so far away from real life for last three years. I am not able

to name all these friends, but my greatest thanks to Tanya Khodak, Valentina Medyana, Hanna Ekel, Olga Zhukova, Aleksandra Kovbasko and Alla Yahno-Kyryluk.

Finally, I want to express my sincere gratefulness to my lovely English boyfriend, Samuel McKean, for his support, love and concern at the last most stressful part of my PhD journey.

The Central European University

ABSTRACT OF DISSERTATION submitted by:

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for the degree of Doctor of Philosophy and entitled: Environmental Auditing as a Tool of Environmental Governance in Ukraine.

Month and Year of Submission: May, 2016.

In literature, environmental auditing is usually presented as a voluntary management tool used by companies and other organizations to improve their environmental performance. However, in some post-Soviet countries it has taken on an additional role of an instrument of state environmental control to some extent, and is a mandatory requirement in certain cases. This feature of environmental auditing in the countries undergoing political and economic transition has never been studied properly. Therefore, this dissertation explores a variety of environmental auditing used as an environmental policy tool in Ukraine, an example of those post-Soviet countries, and contributes to filling the existing gap in knowledge. Given these circumstances, I formulate the main research question in the following way: Why does the practice of environmental auditing in Ukraine differ from an approach commonly used in developed market economies? This main question encompasses two sub-questions: What were the driving forces behind the introduction and evolution of environmental auditing in Ukraine? What are the peculiarities of environmental auditing practices in Ukraine?

To explore the practice of environmental auditing in Ukraine, I use a combination of the shift of policy paradigms theory, the collective action theory and the community of practice theory. This theoretical framework provides me with a lens to analyze the rationales for its introduction, the stages of its development, its varieties and purposes in Ukraine. My research design includes various qualitative with some elements of quantitative methods for data collection (literature review, semi-structure open-ended interviews, and participant/non-participant observations) and data analysis (coding). This combination of theoretical framework and qualitative methods focused on environmental auditing as practiced and perceived by practitioners, which may differ from a normative picture codified in laws and regulations, has never been used for investigating this policy instrument in Ukraine. Using a theory-based research, I contribute to filling the gap in scientific knowledge, as the existing literature on this topic focuses more on guidance for practitioners.

This study has found that environmental auditing in Ukraine is a heterogeneous or hybrid policy instrument combining features of both command-and-control and market-based policy tools. This phenomenon reflects a complex combination of influences of the Soviet past and international practices that shaped its development during transition to a market economy. There are two types of environmental auditing in Ukraine: mandatory, used mainly as a state control tool in the privatization of public property, and voluntary, used to improve environmental performance of organizations, typically in the context of environmental management system certification, or to identify environmental liabilities for projects involving foreign investment. These two types of environmental auditing, based on different normative documents and having different objectives, largely rely on the same practitioners – environmental auditors, who often have several certificates allowing them to conduct both procedures. The analysis of the NGO ‘Union of Environmental Auditors’ showed that, it is not a community of practice, and has been created to satisfy personal interest of particular group of individuals.

Based on my findings, I provide considerations on the possible future development of environmental auditing in Ukraine, as well as avenues for my further research.

Keywords: environmental policy instruments, environmental auditing, environmental management system, environment, country with transition economy, Ukraine.

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List of Abbreviations

BS – British Standards Institution

CoP – Community of Practice

DSTU – Derzhavni Standarty Ukrainy (National Standards of Ukraine)

EAEU – Eurasian Economic Union

EBRD – European Bank for Reconstruction and Development

EMS – Environmental Management System

EMAS – European Eco-Management and Audit Scheme

EPA – Environmental Protection Agency

EU – European Union

ICC – International Chamber of Commerce

IFC – International Finance Corporation

INTOSAI WGEA – International Organization of Supreme Audit Institutions Working Group on Environmental Auditing

ISO – International Standard Organization

OECD – Organization for Economic Co-operation and Development

Spilka – Union of Environmental Auditors

UNEP –United Nations Environmental Programme

USSR – Union of Soviet Socialist Republic

WB – World Bank

WTO – World Trade Organization

Introduction

Auditing is a practice which everyone experiences every day consciously or unconsciously. Humans try to check and evaluate what is going in their life by using different forms of assessing, evaluation, and auditing. The logic behind this statement is the idea that "individuals must be accountable for their actions and this accountability must be verified somehow"(Power 1997:2). Auditing helps in this justification process and in assessing the rightness of human actions and decisions in everyday life. Nowadays this practice is used in various spheres, consequently, there are different types of auditing: management audit; financial audit; environmental audit; value for money audit; forensic audit; medical audit; technology audit; teaching audit; and so on. Therefore, Michael Power (1997) argued that we are living in audit society nowadays.

However, scholars find the topic of auditing and its types boring to explore, thereby there is not much research on it (Power 1997). This statement is supported by Lee Parker's research (2005) on publications on social and environmental accounting and auditing in six prominent interdisciplinary journals, which were published in 1988-2003. The conclusions of his investigation showed that almost all of articles were dedicated to environmental and social accounting issues, while the concept of environmental auditing is still unexplored (Parker 2005). Moreover, the existing literature on this topic focuses more on guidance for practitioner than a theory-based research. In addition, the studies conducted on environmental auditing were done for more developed countries, while its practice in developing or transition countries is still uninvestigated (Rika 2009). This highlights that the gap in knowledge on environmental auditing, which should be investigative.

My research on environmental auditing in Ukraine will contribute to the existing gap in knowledge on its practice in countries undergoing economic and political transition. Thereby, my research will add a geographical variation to existing literature on environmental auditing as there

are few publications on this topic in the international peer-reviewed journals. In addition, in Ukraine the published articles and books on environmental auditing highlight the need for proper research. According to Kulyk (2010:160), "... there is no fundamental research on environmental auditing [in Ukraine]". Other scientists have criticized the *Law of Ukraine "On Environmental Auditing"* in the following ways: "The law has many drawbacks, therefore further research on its implementation is needed" (Gurska 2009:133), and the *Methodological Recommendations* as such: "...theoretical and methodological issues of environmental auditing should be explored more" (Goncharenko 2011:168). These all validate the necessity to study environmental auditing in Ukraine, which demonstrates the relevance and value of my research.

Moreover, there is a need to explore environmental auditing in the context of the approximation of Ukrainian legislation to European standards as a part of the EU-Ukraine association agreement. On 21 March 2014 President, Petro Poroshenko signed a political provision of the treaty of the Ukraine-European Union Association Agreement, while an economic part was signed on 27 June, 2014. This started a new process of transition in the country of research, where the European standards became the benchmarks for Ukrainian development. This transition will be a long and complex process, as many changes have to be implemented in all sectors. The environmental issues are regulated by ANNEX XXX, Chapter 6 of *the Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part*. According to the *National Strategy of Approximation of Ukrainian law on Environmental Protection to EU (2015)*, this process will take up to 10 years from the day of signing to complete the implementation of this strategy. However, all member states of the EU permanently approximate their own legislation to new all-European standards, therefore this process will become permanent in Ukraine.

The process of approximation requires a comparative analysis of the Ukrainian and the European Union's environmental governance systems, which are regulated by different tools and

mechanisms. The last fundamental overviews of Ukrainian environmental regulatory instruments were done in 2003 (OECD 2003; Veklych 2003). That year, two similar studies on this topic were carried out by the Organization for Economic Co-operation and Development (OECD) and by Oksana Veklych¹, the Ukrainian pioneer in environmental economics. In these two studies environmental auditing was presented as one of the market-based economic instruments, while the findings of my research show that in Ukraine environmental auditing belongs to command and control and market-based group of instruments as it has two types, mandatory and voluntary. Therefore, the results of these two studies need to be updated for the current approximation of Ukrainian legislation, because environmental governance is a dynamic system, and its instruments are constantly changing and upgrading (Young 2013). Consequently, there is a need for research on Ukrainian instruments and mechanisms of environmental governance to help ensure the success of the EU-Ukraine integration process. Therefore, my research contributes to the practical landscape of the European policy making process by analyzing environmental auditing which is one of the tools of environmental governance in Ukraine as a EU-candidate country.

Considering the above mentioned research problem and gaps in the scientific body of knowledge, **the main research question** was framed as follows:

Why does the practice of environmental auditing in Ukraine differ from the approach commonly used in developed market economies?

My thesis aims to address this overarching research question, through the following two sub-questions:

SUB-QUESTION 1. What were the driving forces behind the introduction and evolution of environmental auditing in Ukraine?

¹ **Oksana Veklych:** Professor, the Institute of Environmental Economics and Sustainable Development of the National Academy of Sciences of Ukraine, Kyiv.

In order to answer this question, **the following objectives** need to be accomplished:

- to define environmental auditing in the Ukrainian reality;
- to describe and explain the introduction and evolution of environmental auditing in Ukraine in the legislative and practical landscapes.

SUB-QUESTION 2. What are the peculiarities of environmental auditing practices in Ukraine?

The following objectives should be met:

- to identify peculiarities of environmental auditing in Ukraine;
- to analyze the existing community of environmental auditors through the lens of the community of practice theory;
- to provide thoughts on how the EU-Ukraine integration process will possibly affect environmental auditing in Ukraine.

The research design of my study includes the theoretical framework and a combination of various qualitative methods. To answer these questions, I created a theoretical framework based on the application of the shift of policy paradigms theory, the collective action theory, and the community of practice learning theory. The first theory defines the circumstances of the introduction and evolution of environmental auditing in Ukraine, while the mixture of last two theories explains the role of personal interest and influence of social group behaviors of humans in this process. Therefore, taken together, these theories are relevant for the purposes of my research.

The current study is a qualitative research project with some elements of quantitative study, which includes multiple methods for data collection and data analysis. Firstly, I started by reviewing literature on environmental governance, regulatory tools and mechanisms, the

environmental management system, and environmental auditing in international practices and in Ukraine. This helped me to understand the situation in the field and to identify the gaps in the body of knowledge. Secondly, I conducted 46 open-ended semi-structured interviews with environmental auditors, 7 interviews with scientific experts in environmental governance and auditing, and 3 representatives from the Ministry of Ecology and Natural Resources of Ukraine. Thirdly, I used the participant and non-participant observation methods for collecting information during two public hearings and one meeting of the Union of Environmental Auditors during my field work. Data analysis was an integral part of my research as it helped me to reflect on the collected data and to adjust further steps for data gathering. I analyzed the findings through the coding method. This combination of theories and methods has never been used to study environmental auditing in Ukraine, as its practical aspects have never been a focus of research. Therefore, my research design is another contribution of my research to the methods of environmental auditing studies.

The **target audience** of my research is policy makers (The Ministry of Ecology and Natural Resources), the scientific society (academia), foreign agencies, financial institutions (EBRD, IFC, World Bank, and Ukrainian commercial banks), the owners of companies and entrepreneurs, environmental auditors, and civil society. The findings of my study provide new knowledge for theoretical and practical implications of environmental auditing.

This dissertation consists of five chapters. Chapter 1 serves as the introduction to the research topic by describing the emergence and evolution of environmental auditing in the USA and its spread to other parts of the world. Moreover, this Chapter presents a variety of the definitions, steps of procedure and types of environmental auditing. Lastly, it also includes a comparative analysis of mandatory environmental auditing in four post-Soviet countries: the Republic of Belarus, the Republic of Kazakhstan, the Russian Federation and Ukraine. Chapter 2 explains the theoretical lens through which I analyzed environmental auditing in Ukraine. The theoretical framework includes the shift of policy paradigm, the collective action, and the community of

practice learning theories. These three theories have several concepts in common: social learning, interest (domain), group, community and individuals' behavior in groups, which were used to analyze the focus of my research. Chapter 3 gives a detailed description of my research methodology by describing a qualitative case study together with methods used for data collection (literature review, semi-structured open-ended interviews, and participant/non-participant observations) and analysis (coding). Moreover, this chapter provides an overview of the methodological and logistical constraints of my research. Chapter 4 summarizes the three evolutionary stages of environmental auditing in Ukraine through the lens of the collective action theory and provides a description and analysis of the various types of environmental auditing in Ukraine. Moreover, it presents my thoughts about future of these types of environmental auditing in the context of the EU-Ukraine integration process. Chapter 5 describes the training and certifying procedure of environmental auditors in Ukraine, followed by the analysis of the non-governmental organization Union of Environmental Auditors (Spilka) through the perspective of the community of practice theory. The conclusion section presents the main findings and answers the main question and two sub-questions of my research.

Chapter 1. Environmental Auditing Worldwide

This chapter places my research in the bigger picture of knowledge of environmental auditing. It explains how environmental auditing emerged as a tool of environmental policy under the influence of the expansion of environmental problems caused by human activities that led to the strengthening and increased strictness of environmental legislation all around the world in the last quarter of the 20th century (Watson and MacKay 2003). This tool was introduced in the US at the end of the 1970s and the beginning of the 1980s, and later disseminated all around the world (Hillary 1995; Hunt and Jonson 1995).

The first section is dedicated to the history of environmental auditing and reasons of its first introduction in the US and dissemination to other parts of the world, in particular to Europe, as was already mentioned. Moreover, it includes the analysis of four definitions of the environmental audit formulated by different organizations and institutions, its types, and procedural stages. The second section presents a comparative analysis of a modification of environmental auditing, which took on an additional role of the state control and is presented in the countries of transition from centrally planned to market economies like: the Republic of Belarus, the Republic of Kazakhstan, the Russian Federation and Ukraine. The sub-sections describe two types of environmental auditing: mandatory and voluntary by explaining the reasons for their emergence, the similarities and differences of the definitions, and role according to the national policy documents in these four post-Soviet countries.

1.1. Environmental Auditing in the USA and its Dissemination in the World

Stricter environmental legislation and the growth of penalties and fines, together with the introduction of new neoliberal practices and tools, the establishment of self-assessment approach for environmental management, and privatization of state property, were influential factors in the established of environmental auditing. Moreover, in 1989, the Brundtland Report *Our Common*

Future introduced the idea of sustainable development², which has become a common goal of environmental governance in all countries since the 1992 *UN Conference on Environment and Development* in Rio de Janeiro. The industrial sector responded to this new development approach with the creation of an *environmental management system (EMS)* with an attempt to improve production process (Watson and Emery 2004). The origin of environmental management system is quality standards that enlarged by environmental component. Consequently, enterprises and companies have added an environmental component to their management system based on the results of environmental auditing (Ledgerwood, Street et al. 1992). Moreover, at the same time financial investors started to pay more attention to the sustainability issues of their potential clients and added an obligatory requirement of environmental and social audit. All these circumstances and influences together provoked an introduction of a new market-based tool: environmental auditing, which initially meant a compliance with the environmental legislation (Todea. N, Stanciu. I.C et al. 2011). However, over time it transformed into a management mechanism based on inner self-assessment and monitoring intentions (Power 1997).

At the end of the 1970s and the beginning of the 1980s, environmental legislation became stricter and stronger. Particularly these conditions were one of the key factors for the development of the environmental auditing concept in North America, which later spread all around the world (Hunt and Jonson 1995). Originally, environmental legislation consisted mostly of command-and-control tools which included permits, bans, standards, licenses, zoning use restrictions, and so on (Ryden, Migula et al. 2003). The purpose of these regulatory tools is inspection, control and monitoring. However, they were often criticized due to their complexity and cumbersome nature, ineffectiveness, high expenses, and rigidity (Jordan, Wurtzel et al. 2003; Watson 2004). Therefore, in the neoliberal era, new market-based instruments partly replaced command-and-control as they

² **Sustainable development** is a development which meets the needs of current generations without compromising the ability of future generations to meet their own needs (Brundtland, G., Harlem (1987). Report of the World Commission on Environment and Development: Our Common Future, UN General Assembly: 300.)

were seen as more economically effective. These new policy mechanisms were represented by “...eco-taxes, voluntary agreements between industry and public authorities, and ‘informational devices’ such as: eco-labels and environmental auditing schemes” (Watson and Emery 2004:917). Nevertheless, for proper functioning of environmental governance systems, both command-and-control and market-based tools are needed (Klemmensen, Pedersen et al. 2007).

As it was said, the strengthening of environmental legislation created a background for the establishment of environmental auditing in the United States. A restriction of the hazardous waste legislation was one of the main stimuli for its establishment in the 1980s (Watson and Emery 2004). For instance, the Security and Exchange Commission opened a case against three big national manufactures due to their negative impact on the environment and human health: the US Steel in 1977, the Allied Chemical in 1979, and the Occidental Petroleum in 1980 (Collier 1995). These polluters were forced to undertake a company environmental audit and to show their environmental liabilities. This is an example of a mandatory environmental audit, which was required by the government. However, in 1981, the Shell Oil company proactively conducted a voluntary environmental audit, which showed that environmental auditing had speedily expanded beyond the frames of the obligatory tool (Watson and MacKay 2003). Nowadays, environmental auditing is primarily a voluntary activity for assessing environmental liabilities and improving environmental performance of the enterprise.

The US Department of Justice (DOJ) and the US Environmental Protection Agency (EPA) both encourage enterprises and companies to conduct voluntary compliance environmental audits (Tibor and Feldman 1996). Consequently, the penalties and fines for enterprises can be minimized if the following conditions of the EPA Audit Policy are satisfied (US Environmental Protection Agency 2000): systematic discovery of the violation through an environmental audit or a compliance management system, voluntary discovery, prompt disclosure, discovery and disclosure independent of government or third party plaintiff, correction and remediation, no repeat violations

other violations excluded, and cooperation. If all of these requirements are met and present in the environmental auditing report, the EPA will not inspect the business further (Friesen 2006).

The US EPA announced the '*Environmental Audit Policy Statement*' in 1986. However, only in 1995, an environmental audit policy document entitled '*The Incentive for Self-Policing: Discovery, Disclosure, Correction, and Prevention of Violations*' was launched (Cahill, Kane et al. 1996). The last document presented environmental auditing as a potentially powerful tool for human health and environmental protection. However, it also highlights that the results of environmental auditing could be harmful for the company or individuals, because of the disclosure of environmental violations (Phillips 1994). To conclude, in the US environmental auditing appeared as a response to stricter environmental legislation at the end of the 1970s and beginning of the 1980s. Moreover, it was highly promoted by the US Environmental Protection Agency as it was seen as a useful tool for environmental protection.

American subsidiary companies and *the International Chamber of Commerce (ICC)*³ played important role in both developing and promoting environmental auditing as a need for self-regulation and self-management by the business community, and ensuring its disseminated to the rest of the world (Welford and Gouldson 1993). Using environmental auditing as a managerial tool is a response to a unitizing global market and a necessity for unifying rules for a large variety of actors. In 1991, the ICC together with the US manufacturing firms published '*The Guide to Effective Environmental Auditing*', where they collected different experiences of conducting environmental auditing (Maltby Josephine 1995). This document helped to standardize rules for environmental auditing, which can be used by different stakeholders. Accordingly, if the same criteria for environmental auditing are used for companies in different parts of the world, it offers comparative results and can help to build a competitive strategy based on these findings.

³ **The International Chamber of Commerce (ICC)** is the largest representative business organization founded in 1919 (<http://www.iccwbo.org/about-icc/history/the-merchants-of-peace/>).

The EU member countries started working on common environmental legislation only in the early 1990s (Welford and Gouldson 1993). However, even before that, governments in some EU member countries were encouraging industries to improve environmental performance and to reduce impact on the environment by using different approaches. For example, in the UK, the *British Standards Institution (BSI)* designed the *BS 7750* environmental qualitative standard in 1992 to stimulate organizations to implement an effective management system with good environmental performance and a presence of environmental auditing (Hunt and Jonson 1995). This standard allows the company to gain public recognition by implementing the environmental management system (Ledgerwood, Street et al. 1992). It was spread all over the UK and to several Asian countries. Likewise, *BS 7750* was used as a basis for the development of the *ISO 14001* environmental quality standards later (Maltby Josephine 1995:15).

In the 1990s, the European environmental legislation became stricter and industries were trying to find a way to comply with it. In 1991, the first draft of the Code for Environmental Audit was created, which provided ideas for industries to overcome the challenge of stricter legislation (Ledgerwood, Street et al. 1992). This new environmental audit mechanism was mostly developed for the nuclear industry as, at that time, 20 percent of European electricity was produced by nuclear power plants. Interestingly, that the effects of the Chernobyl nuclear disaster, which happened in Ukraine in 1986, stimulated the creation of this Code and introduced environmental auditing in the European Union (Ledgerwood, Street et al. 1992:13).

In 1993, after two years of work, an environmental quality standard named *the European Eco-Management and Audit Scheme (EMAS)* was launched by the Council of European Communities (The Council of the European Communities 1993; Dettenkofer, Kummerer et al. 1997). In this way, a voluntary environmental auditing concept was introduced in a form of directive in the European Union. Thus, member states have the right to adopt a compulsory scheme (e.g. an industry code) for industries if there was a demand for it in their countries (Welford and

Gouldson 1993). However, the member countries do not have to pass enabling legislation as it is regulated by the directive on the top level (Ledgerwood, Street et al. 1992). The EU member states are required to establish structure for EMAS promotion and wide use (Gouldson and Murphy 1998). Since publishing the EMAS standard has been revised twice, in 2001 and 2009 (European Commission 2011). The last revision of this standard introduced EMAS III or EMAS Global, which presented mechanisms for dissemination EMAS outside the European Union. However, this mechanism is not well developed based on the findings of my internship project, which is presented in Chapter 4.

The main aim of the EMAS environmental quality standard is “to get the industry to move beyond compliance via public pressure and participation in the environmental affairs of the companies” (Nelson 1998:86). Any kind of organization can get this certificate which shows compliance with the environmental legislation through a productive process and a good environmental management system with long-term planning. The main goal of EMAS is the promotion of the continuous improvement of environmental performance over time by “establishing and implementing environmental policies, programmes and management systems; periodically evaluating in a systematic and objective way the performance of the site elements; and providing environmental performance information to the public” (Hillary 1995:35). It is necessary to remember that EMAS does not replace existing national environmental legislation but rather helps ensure its compliance. Basic command-and-control legal environmental requirements are just the baseline for EMAS, therefore it goes far beyond them (Gouldson and Murphy 1998)

The idea behind a new management approach is to prevent penalties and fines at the initial stage of creating a company’s development strategy by self-auditing, self-evaluating, and self-informing. According to this approach, if an owner wants to develop a management approach of self-assessment with a vision of the future, s/he first need to assess the impacts of the enterprise on the environment and human health, then to invest in improving the industrial process accordingly

rather than later paying big penalties or fines. An illustration of this new management approach is a shift in the perception of waste issues as ‘waste management’ was introduced instead of ‘waste disposal’ (Power 1997). This kind of management pivot sees environmental auditing as an essential part of the environmental management system, which should generally be a part of the company’s broader management system. EMS includes various steps and procedures that help to decrease the negative impact on the environment as well as improve company-environment relations (Klemmensen, Pedersen et al. 2007).

A company can develop an environmental management system on a voluntary basis just for themselves, or can choose to be certified according the environmental quality standards by an external verifier. The origins of environmental quality standards are quality basic quality standards of the production process. The two frequently used standards for this purpose are the EMAS and the ISO 14001 standard series (Welford and Gouldson 1993). Environmental auditing is not just a simple assessment or inspection, but is a complex examination of the enterprise, which also includes compliance analysis to legal requirements and policies. According to the requirement of EMAS and ISO 14000, environmental auditing should not be a single action but an ongoing process of improving environmental performance and anticipating environmental violations of the company. Therefore, environmental auditing is a managerial tool which is becoming more sophisticated over time and should be properly used (Welford and Gouldson 1993).

The ISO 14001 series is a widely adopted voluntary regulation all around the world that stimulates enterprises to improve their environmental performance, beyond governmental requirements (Parakash. A. and Potoski. M 2006). It was developed by *the International Standard Organization (ISO)* in 1996, three years after EMAS was introduced. *ISO 14000 series standards* covered the following five areas: environmental management system, environmental auditing, environmental labeling, life cycle assessment, and environmental performance evaluation (Taylor, Sulaiman et al. 2001). Out of the ten standards of the ISO 14000 series, only three: *ISO 14010*

(General Principles of Environmental Management System (EMS) Auditing), ISO 14011 (EMS Auditing Procedures), and ISO 14012 (Qualification Criteria for Environmental Auditors) are dedicated to environmental auditing and provide guidelines for environmental management system and auditing procedure (Cahill et al 1995). These three standards include the following issues: “clearly defined and communicated scope and objectives; auditor independence; due professional care; quality assurance; systematic procedures; appropriate audit criteria; sufficient audit evidence; written audit report; and qualified auditors” (Cahill, Kane et al. 1996:27).

The ISO 14000 and EMAS environmental quality standards are seen as an indirect market force that require companies and enterprises to get one of these certificates if they want to enter and compete on the international market (Taylor, Sulaiman et al. 2001). In fact, the ISO 14001 is part of the *World Trade Organization's (WTO)* trading agreements (Watson and Emery 2004), which is presented as an indirect market force for improving companies' environmental performance (Watson and Emery 2004). Moreover, suppliers were forced to undertake environmental auditing and certify their companies according to the ISO 14001 standard to continue working with large producers. However, at the same time it creates barriers for industries in developing countries to enter the global market, for instance, because getting the ISO 14000 certificates is an expensive process and not every enterprise can afford it (Hartwick and Peet 2003).

In general, the objectives of any environmental quality standards are the following: “assuring compliance with regulations; determining liabilities; protecting against liabilities for company officials; fact-finding for acquisitions and divestitures; tracking and reporting of compliance costs; transferring information among operating units; increasing environmental awareness; and tracking accountability of managers” (Cahill, Kane et al. 1996:22). Therefore, both ISO 14000 and EMAS are used to validate third a company's environmental performance for improving environmental policy. Moreover, it is important to remember that environmental

auditing should be an ongoing process of the assessment of environmental performance, not just a snapshot of the current situation (Welford and Gouldson 1993).

According to these two standards the procedure of a company's certification is very similar, as can be seen in Figure 1.1. and Figure 1.2 below. This certification includes four phases: environmental policy and programme, environmental management system, environmental audit, and corrective actions. EMAS has three extra steps: an initial environmental review, environmental statement, and validation and registration. The difference between ISO 14000 and EMAS is not only seen in three extra phases of the last environmental quality standard, but also in their geographical spread. ISO 14001 is widely used in different countries all around the world, while EMAS is mostly presented in the EU (Klemmensen, Pedersen et al. 2007).

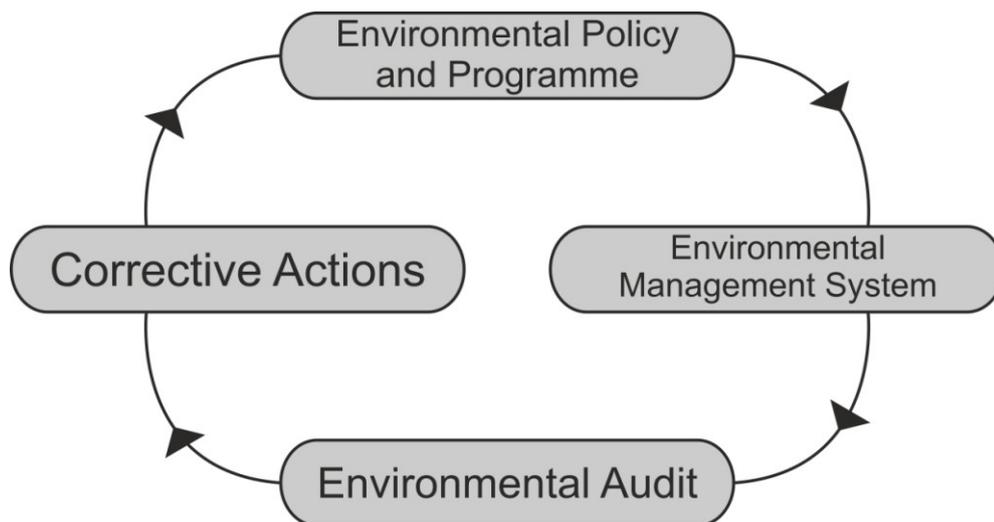


Fig.1.1. Phases of ISO 14001 (Klemmensen, Pedersen et al. 2007:58)

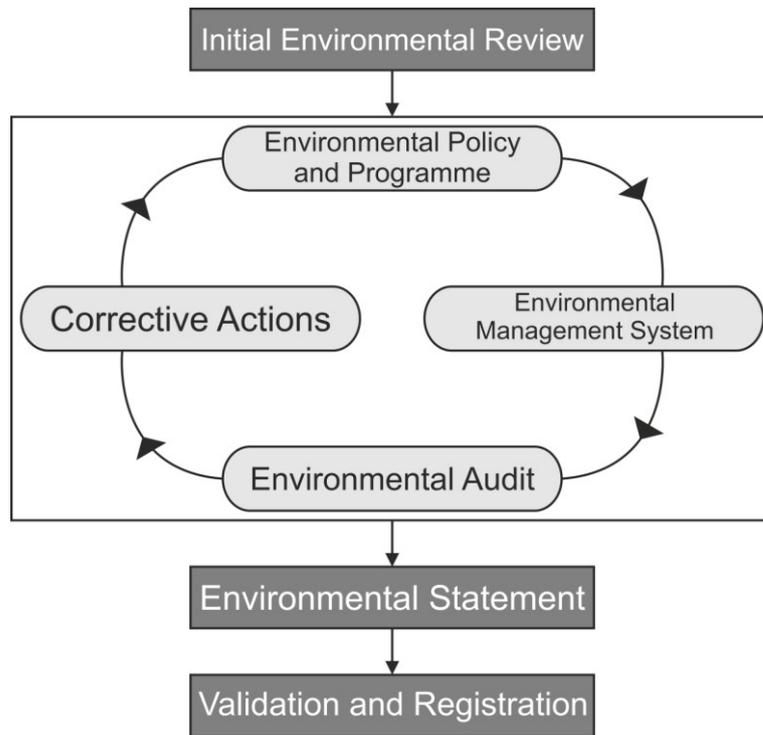


Fig.1.2. Phases of EMAS (Klemmensen, Pedersen et al. 2007:58)

Enterprises and companies see environmental auditing as both a possible benefit and a threat. Possible advantages of it are increased management effectiveness and competitiveness of the enterprise (Greeno. J. Ladd, Hedstrom. S. Gilbert et al. 1987). Firstly, environmental auditing helps to improve a production process and to monitor resources usage, which leads to more efficient management and the prevention of environmental problems (Corbett, Montes-Sancho, & Kirsch, 2005; Gilbert, 1999). This highlights economic benefits of environmental auditing as it helps to find ways to make production less costly. Secondly, the new ‘green’ image helps companies compete on local and global markets as it attracts more clients. In addition, it increases the whole workforce’s awareness of environmental policies and creates new workplaces (Welford and Gouldson 1993). Lastly, environmental auditing provides the evidence of environmental compliance of the enterprise to the existing norms and standards of environmental legislation, which is important for attracting potential investors (de Moor & de Beelde, 2005; Maltby, 1995; O’Dwyer 2001; Plaff & Sanchirico, 2000).

According to Watson and MacKay (2003), the disadvantages of environmental auditing are the following: the initial high cost of audit, the cost of compliance; a temporary disruption of plant operations, and the dedication of staff working time (Watson and MacKay 2003). In addition, problems appear when the audit identifies environmental violations or non-compliance and an organization is required to report to environmental state authorities and pay penalties (Emery & Watson 2003). Some managers are afraid that the results of an environmental audit may ruin the company's image in the customers' eyes. However, the audit can also warn of possible unexpected events or catastrophes. These visions of disadvantages are the barriers for the promotion and popularization of environmental auditing as a management tool among producers. However, the long-term strategies of the company's development should be based on a detailed assessment of the current impact of the enterprise on the environment and human health.

The search for former polluters in the privatization process also had an influence on the introduction of environmental auditing in the content of the shift to a neoliberal policy system in the 1980s. Every purchaser wants to know as much as possible about the business or land s/he are going to buy, in order to avoid possible surprises by hidden liabilities and violations of environmental legislation. Environmental auditing is a mechanism which can help identify possible incorrectness and non-compliance with environmental legislation and implement the 'polluter-pay principle' before buying a new business or land. This principle requires a polluter to take responsibility for its own activities and pay for the damage done to the environment and human health (Watson 2004). This kind of auditing is called an 'on-site due diligence environmental audit'.

Big financial institutions and commercial banks are also keen to understand the environmental performance of the enterprise or industry and to be aware of any possible future expenses necessary to fix problems before any investment agreement is signed. Moreover, these institutions care about their image among clients and do not want to ruin their reputation if the potential project might have negative impacts on the environment. For these reasons, an

environmental health and safety auditing report is required. Accordingly, the World Bank (WB), the European Bank for Reconstruction and Development (EBRD), and the International Finance Corporation (IFC) have developed their own requirements (safeguard system, environmental requirements, and performance standards) for conducting environmental audits, and only projects which meet these standards can expect financial support. The EBRD created ten performance requirements (EBRD 2015) and the IFC developed eight performance standards (International Finance Corporation 2012) for conducting environmental auditing. The common feature of these requirements is that they encompass not only environmental, but also social and health issues. In addition, public participation is obligatory, which is ensured by public hearings or other kinds of meetings with representatives of different stakeholder groups, as well as by publishing a report on the investor's website. Commercial banks are using requirements for environmental auditing developed by the IFC or the EBRD, or their own. All of these financial investment institutions care about their reputation, which is why they prefer to spend money on conducting environmental auditing rather than risk their image.

These institutions have been investing money for a long time, but the environmental requirements for their projects were created in response to the big environmental technological disasters, which had happen at the end of the previous century. For example, the catalyst for the development of environmental auditing systems by the World Bank was the Bhopal disaster in India in 1984 (Levenstein and Eisen 1987). To sum up, the need to assess environmental liability of the company for privatization or foreign investment became a precondition for the introduction of environmental auditing in different parts of the world.

1.1.2. Definitions of environmental auditing and its procedure

In order to clarify the practice of environmental auditing it is necessary to present its definitions, procedural steps, and to outline its various types. In his lecture on Environmental

Governance, Oran Young stated that: “Definitions are not explicitly correct and objective but we should formulate them clearly to explain to others what we think” (Oran 2011). A well-formulated definition does not only help explain our thoughts to others, but in an auditing practice it can also help prevent the failure of auditing procedure. Indeed, as Michael Power has stated, in the “absence of clear criteria of what audits can and cannot do, the question of failure is often highly contented” (Power 1997:25). To overcome this problem the US Environmental Protection Agency (EPA), the International Chamber of Commerce (ICC), the International Standard Organization (ISO), and INTOSAI WGEA⁴ organization formulated their own definitions of environmental audit, which suit their purposes. Interestingly, the developers of the EU EMAS standard used the definition formulated by the International Chamber of Commerce without any changes (Hunt and Jonson 1995). These three definitions explain what kinds of activities are encompassed in environmental audit, its goals, and main criteria (see Table 1.1).

Table 1.1. Various definitions of environmental audit

#	Organization/ Standard/ Law	Definition
1	The US Environmental Protection Agency (The EPA)	Environmental auditing is <i>a systematic, documented, periodic and objective review</i> by regulated entities of facility operations and practices related to meeting environmental requirements (Cahill, Kane et al. 1996:22).
2	The International Chamber of Commerce (The ICC) and the Eco-Management and Audit Scheme (EMAS)	Environmental audit shall mean <i>a management tool</i> comprising a systematic, documented, periodic and objective evaluation of the performance of the organization, management system and processes designed to protect the environment with the aim of: (i) facilitating management control of practices which may have impact on the environment; (ii) assessing compliance with company environmental policies (European Commission 1993).
3	The ISO 14050 Environmental Management Standard	“Environmental audit represents <i>the systemic and documented process of verifying audit evidences</i> obtained and assessed objectively in order to determine if activities, events, conditions, established environmental management system or information about them are in accordance with audit criteria, and communicating the results of this process

⁴ International Organization of Supreme Audit Institution Working Group on Environmental Auditing

		to the client” (Todea. N, Stanciu. I.C et al. 2011).
4	INTOSAI WGEA	Environmental audit is seen in “ <i>the context of the independent, external, public sector audit</i> to disclose environmental aspect and liabilities and complain with legislation on international and national levels. It should pay special attention to natural resources, environmental and sustainable development” (Rongbig 2011).

These definitions above show that for the EPA, the ICC, and the International Standard Organization an environmental audit is seen as a management tool used by the enterprise for assessing environmental performance. Interestingly, the developers of the EU-EMAS standard used the definition formulated by the International Chamber of Commerce without any changes (Hunt and Jonson 1995). This fact highlights that this definition of environmental auditing is the most recognized one.

By contrast, the INTOSAI WGEA describes environmental audit as an instrument to assess the compliance of the national environmental policy with higher legal requirements of environmental legislation, moreover, it is also a mechanism for assessing environmental policy realization and success at the national and international levels. In addition, this definition says that issues of the natural resource management, environmental and sustainable development should be also included in the environmental auditing procedure. Therefore, this distinction in definitions shows that environmental audit, as a tool, of environmental policy that can serve different purposes.

There are several ways to define environmental auditing, however, its procedure encompasses the same three steps: pre-audit, on-site, and post-audit (Ledgerwood, Street et al. 1992). The preliminary step includes the activities of preparation and planning before visiting the site. This is the time when the object of audit, timeline, and criteria are set and an audit protocol is developed. In addition, the environmental auditor obtains background information about the facility, which minimizes his or her time spend on the site. The pre-audit activities are illustrated as

Stage 1, Stage 2a and 2b in Figure 1.3. below. Following the pre-audit is the on-site stage, in which all the information and evidence about the facility's impact on the environment and human health is gathered during visit to the enterprise (see Stage 3, Figure 1.3). Later, this data will be used for writing a report during the post-audit stage, which also includes the presentation of the report to the client and finishing the project (see Stage 4 and 5, Figure. 1.3). For the enterprise environmental auditing should be an ongoing process: ideally it should implement an action plan based on recommendations and undertake a repeated environmental audit on a regular basis. These post-audit follow-up activities are presented in Stages 6 in Figure. 1.3.

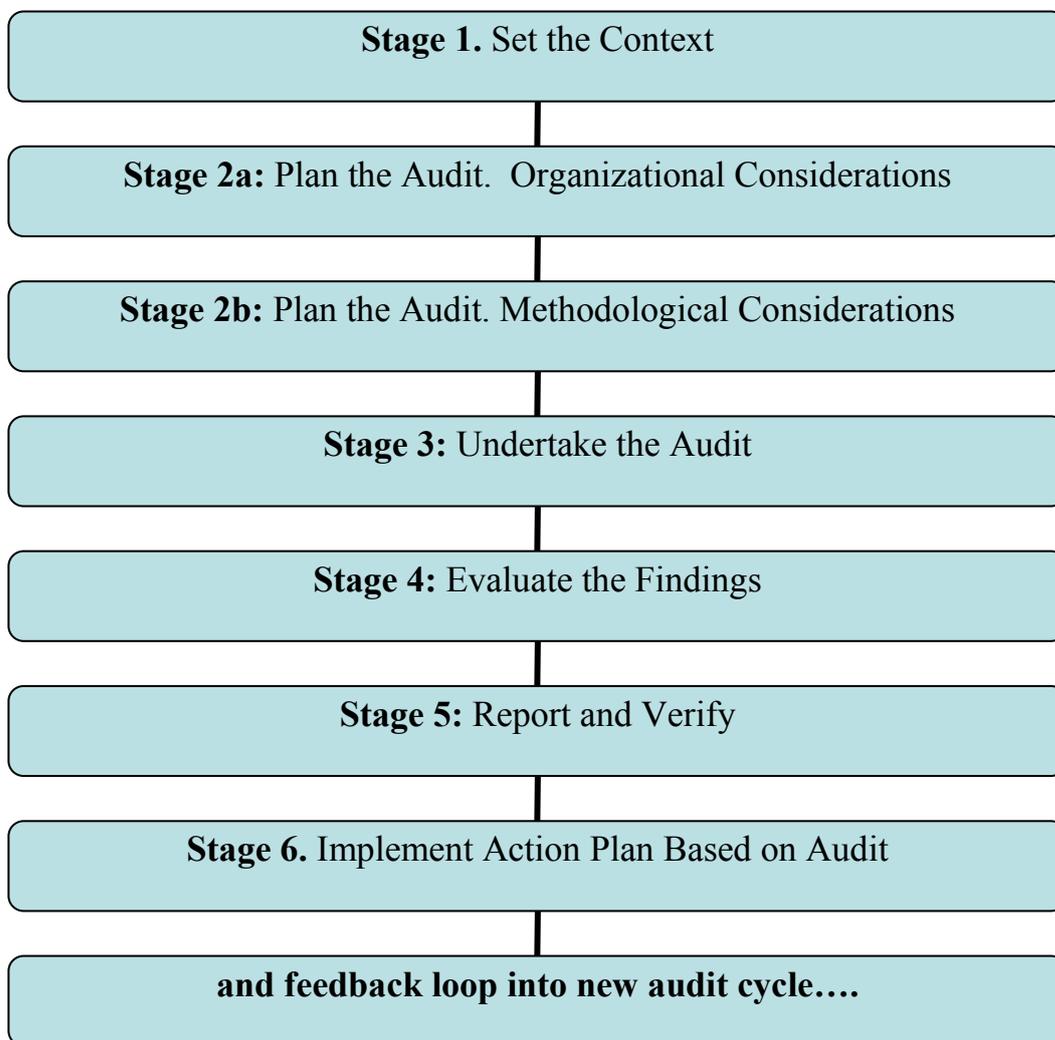


Fig. 1.3. A model procedure for environmental audit (Ledgerwood, Street et al. 1992:95)

Environmental audits can be classified according to its various purposes and specifics of the performance. For example, the first type of classification is according to who conducts the audit (Zutshi. A and A 2003). If it is undertaken solely by the company's staff members, it is called an *internal* audit. This type of audit is made only for a company's internal needs and necessities, for example identifying and evaluating impacts on environmental and human health. Thus, if an enterprise wants to get an environmental quality certificate or validate and verify their audit, they hire independent environmental auditors. This type of audit is called *external*. Often the environmental audit is obtained by an external auditing team together with the company's staff, as it helps obtain better results and provides independence as well as verification of the results. Internal and external environmental audits have different advantages and disadvantages, which are presented in Table 1.2. The high cost of external audit compensates by long term savings through implementation of more efficient new technologies and solutions.

Table 1.2. *Advantages and disadvantages of internal and external environmental audits*
(Smith 1994)

Environmental Audit Type	Advantages	Disadvantages
Internal	Low cost. Low organizational disruption. Operational familiarity. Good opportunities for cross transfer of information.	Least independent. Least audit expertise.
External	Most independent. Most audit expertise.	Highest cost. Most disruptive. Low opportunity for information transfer. Little operational familiarity.

The second classification of environmental auditing is according to its purpose. Ledgerwood and Street (1992) argue that there are three types of environmental audit, which are *compliance*, *acquisition/disposal* and *corporate development* audits (Ledgerwood, Street et al.

1992:73). Accordingly, a *compliance environmental audit* is done for legal conformity, anticipated conformity with liability for new regulations, and the review of mitigative and ameliorative programs (Ledgerwood, Street et al. 1992). An *acquisition or disposal environmental audit* is conducted for the sale or acquisition of the facility, and for the valuation or appraisal of property for insurance or loan security purposes (Ledgerwood, Street et al. 1992). The other name for this type of audit is *on-site due diligence*, which provides information about needed investments for solving a company's environmental problems. The last category, *environmental audit for corporate development*, is usually done for monitoring environmental policies, risk assessments, improving the industrial process, and creating a socially responsible image (Ledgerwood, Street et al. 1992).

However, I enriched Ledgerwood and Street's classification by adding few more types of environmental auditing based on the review of other literature sources. There is also an *environmental management system audit* which can be completed by a company's staff or by an external third party, for example an auditing company (Smith 1994). The environmental quality standards (ISO 14001 and EMAS) use this type of auditing for assessing environmental management systems.

To conclude, this section explains circumstance and reasons for emergence of environmental auditing as a voluntary market-based tool in the US and lately its dissemination to the other parts of the world in the context of globalization and creation of the single international market. Moreover, it presents various definitions formulated by different institutions according to the purposes of its use, its procedure, and different types. To explain the peculiarities of the country of my research, I will provide a comparative analysis of the introduction and development of environmental auditing in the four post-Soviet countries with transition economies in the following section.

1.2. Environmental Auditing in Four Post-Soviet Countries: Belarus, Kazakhstan, Russia, and Ukraine

In every country environmental governance system is regulated based on different tools and mechanisms. which can divided into two groups: “command-and-control” and “market-based” (Keohana, Revesz et al. 1998:314). Command-and-control tools are working on the prohibition principle and “requirements that call for specific actions on the part of those whose behavior is deemed likely to generate environmental side effects” (Young 2013:46). This all requires a growth of bureaucracy and a complication of administrative apparatus. Typical examples of command-and-control mechanism are environmental standards, licenses or permits, monitoring and sanctions. These tools are criticized due to their complexity and cumbersome nature, ineffectiveness, high expenses and rigidity (Jordan A 2003; Watson 2004).

The second group is market-based tools, which is also called - economic tools. They are evolved under the agenda of neoliberalism and free market ideas at the end of the 1970s and beginning of the 1980s (Jordan, Wurtzel et al. 2003). The basic approach of these tools is to evaluate natural resources and ecosystem services based on market principles. Taxes on pollution emissions, product charges, subsidies for pollution abatement, marketable permits for pollution emissions, creation of property rights, creation of economic incentives, environmental management system, environmental auditing and many others belong to new market-based group. These regulatory mechanisms are widely criticized because of the objectivity of the methodologies to value natural capital. These two types of regulatory tools complement each for building an efficient system of environmental governance.

This variety of forms of policy transformation emerged in the Central and Eastern European countries because of the absence of historical precedents and theoretical tools as no one had predicted a collapse of the Soviet Union at the beginning of the 1990s (Hoen 2001). Moreover,

there had not been similar incidents in the past, therefore, there was no theoretical or practical knowledge about the transition from centrally planned to market economies. The peculiarity of the post-Soviet countries is that the market-based tools and the best international practices of that time were modified according to the needs of these countries, and transformed into hybrid or heterogeneous versions. Therefore, “the attempt to introduce a Western-style capitalism into the country has resulted in the spreading of an ‘informal capitalism’ mixing economic liberalization and market oriented reforms with social networking and informal practice that are necessary to a high number of Ukrainians to survive this transition” (Polese 2012). The challenges of introducing market rules and mechanisms in all spheres, the environmental field being no exception, were caused by the lack of proper legal and institutional infrastructure, which were needed for changes (Frydman, Rapaczynski et al. 1993).

In the transition process, traditional command and control tools are not just replaced by market based but new hybrid or heterogeneous tools emerge which have characteristics of old and new tools at the same time. The existence of mandatory and voluntary types of environmental auditing is an example of this kind of hybrid modification, which is visualized in Figure 1.4. below. This diagram shows that in Belarus, Kazakhstan, Russia, and Ukraine environmental auditing can be two types, mandatory and voluntary, which accordingly belong to command-and-control and market-based tools of environmental policy. This typology of environmental auditing shows that in the first case of mandatory environmental auditing it plays a state environmental controlling function, when in the second voluntary case it is used for the improvement of environmental performance. However, these two types of environmental audits overlap, as the diagram shows, as a mandatory environmental audit is under the control of state institutions but private environmental consulting companies are carrying out these audits.

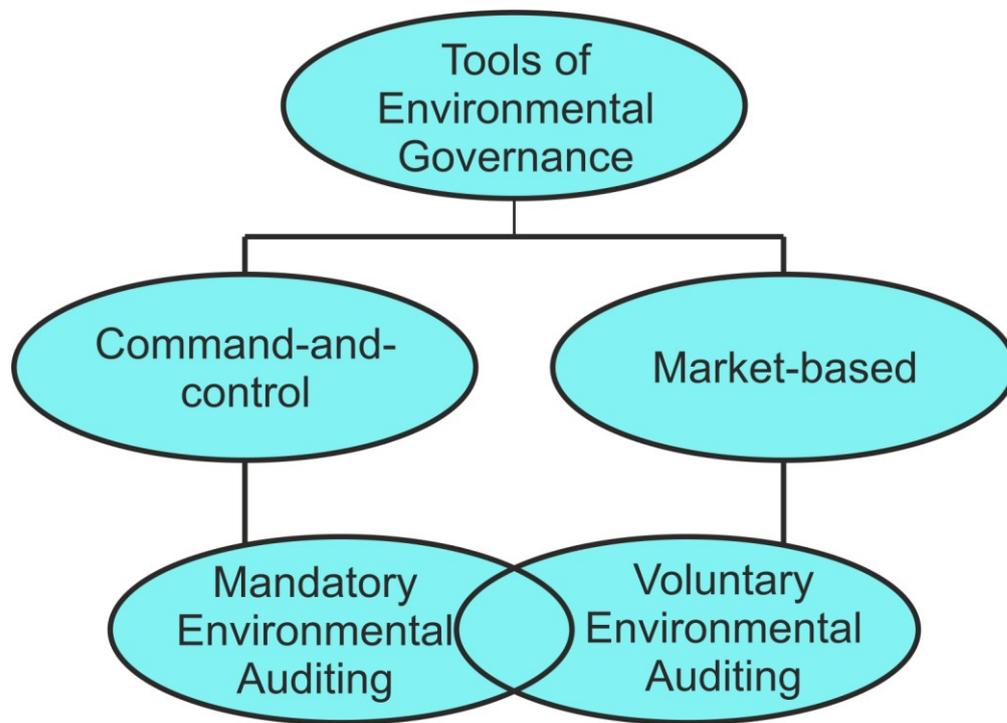


Fig 1.4. Peculiarity of environmental auditing in Belarus, Kazakhstan, Russia, and Ukraine

In the countries of research a voluntary environmental audit is used for certification of environmental management systems as part of the ISO 14001 family certification, as well as in the loan risk assessment of the international financial institutions. However, this section is dedicated to analyzing mandatory environmental auditing as it is presented only in post-soviet countries and has not been extensively explored by other researchers. The main factors that stimulated the launch of mandatory environmental auditing in these four countries were: the massive privatization process of the state property, foreign investments in the national economies, and the development of stricter environmental legislation in the 1990s and the early 2000s (Potravnyy, Petrova et al. 2013).

This section provides an explanation of the reasons and background for the introduction of environmental auditing, which is under governmental control. It will also provide a comparison of definitions and description of the types of environmental auditing and its role in the environmental governance system, according to both national environmental strategies and plans and sustainable

development concepts and strategies. A summary of this comparative analysis is presented in table format in ANNEX IV.

1.2.1. Reasons and background for an introduction of mandatory environmental auditing in Belarus, Kazakhstan, Russia, and Ukraine

Environmental auditing, as a tool of environmental state control, was introduced at different times in the four countries of my comparative research. It was first presented in Russia in 1993 (Roshal, Donchenko et al. 1994). Then, in 1997, in Kazakhstan, when *article # 81 “On Environmental Auditing”* was added to *the Law of the Republic of Kazakhstan ‘On Environmental Protection’* (The Republic of Kazakhstan 1997). A year later in 1998, this tool was introduced in Ukraine by the publishing of *the Resolution on “The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security”* by the Ukrainian Parliament (Resolution of Ukrainian Parliament 1998). In contrast, in Belarus a mandatory environmental audit was launched as a practice only in 2002, when *article # 97 “Environmental Auditing”* was added to a revised version of the *Law of the Republic of Belarus “On Environmental Protection”* (The Republic of Belarus 26 November 1992/2002). The reason for the later establishment of mandatory environmental auditing in Belarus is that privatization was not that massive, and hence did not create a need for it. Until now many of the big industries have stayed in state property there.

The difference between mandatory environmental auditing in these four countries is not just in the year of its introduction, but also in which way or by which policy documents it is regulated. The Ukrainian case differs from others as it is regulated by the law: *the Law of Ukraine “On Environmental Auditing”*, while in other countries it operates according to various resolutions or documents such as: *the Resolution of the Ministry of Environment ‘On Some Issue of Environmental Auditing Practice’* in Belarus, *the Environmental Code* in Kazakhstan, and *the Resolution ‘On*

Environmental Auditing in the System of National Environmental Committee’ in Russia. At the beginning of the 2000s, in Kazakhstan there was an attempt to launch a similar law to the Ukrainian one for the regulation of environmental auditing, but it was not passed by the Kazakh Parliament (Ilinskaya 2014). A common characteristic of mandatory environmental auditing regulation in all four countries is the absence of well-developed secondary supportive legislation is.

1.2.2. Similarities and differences of the definitions of environmental audit

There is no one standardized definition of environmental audit as it has different applications and meanings for different people (see section 1.1.2., Chapter 1). In the four research countries, the meanings of environmental audit vary according the definitions that are shown in Table 1.3. below. The following four common categories, present in each definition, were identified via coding and analyzing text data: the name of the practice, the object of environmental auditing, criteria for compliance, and the requirement of recommendations. The following paragraphs present an analysis of four official definitions according to these coding categories.

The practice of environmental auditing was defined as ‘an independent, comprehensive documented verification of compliance’ in the Republic of Belarus (The Republic of Belarus 26 November 1992/2002), while as an ‘independent assessment’ in the Republic of Kazakhstan (The Republic of Kazakhstan 1997). In the Russian definition, it is explained as ‘an independent, comprehensive, documented assessment of compliance’ (The Law of Russian Federation 2002) and in the Ukrainian definition “environmental audit” means a “systematic independent evaluation process” (The Law of Ukraine "On Environmental Auditing" 2004). As we can see from these definitions, an environmental audit is some kind of ‘verification’, ‘assessment’, or ‘evaluation’ of enterprises or company activities according to different criteria. This shows that the definitions present similar meaning but with slightly different focuses.

Table 1.3. Comparison of Ukrainian, Belarusian, Russian, and Kazakh definitions of environmental audit

Country	Definition
The Republic of Belarus	Environmental audit is <i>an independent, comprehensive, documented verification</i> of compliance of legal entities and individual enterprises that are engaged in economic and other activities, with different requirements, including standards and technical regulations in the field of environmental protection, requirements of international standards, and a preparation of recommendations for reducing (preventing) detrimental impact of such activities on the environment (The Republic of Belarus 26 November 1992/2002).
The Republic of Kazakhstan	Environmental audit is <i>an independent assessment of industrial or other activities of auditing</i> that aims to identify and assess environmental risks and develop recommendation for increasing levels of environmental security of its activities (The Republic of Kazakhstan 1997).
The Russian Federation	Environmental audit is <i>an independent, comprehensive, documented assessment of compliance of economic and other activity requirements</i> , including standards and regulations in the field of environmental protection, requirements of international standards, and preparation of recommendations to improve these activities (The Law of Russian Federation 2002).
Ukraine	Environmental audit <i>is a systematic independent evaluation process of the auditing object</i> that includes collection and objective assessment of the evidence for establishing a compliance of certain activities, events, conditions, environmental management system and information, to the requirements of Ukrainian environmental protection legislation and other criteria of environmental audit (The Law of Ukraine "On Environmental Auditing" 2004).

The object of environmental auditing was the second theme identified in the definitions. It is not clearly described in the Ukrainian (an auditing object), the Kazakh (industrial or other activities of auditing object) and Russian definitions (economic and other activity). This means that environmental auditing can be conducted for a broad list of industries and activities. However, the Belarusian one specifies that environmental audit can be carried out for “legal entities and individual enterprise that are engaged in economic and other activities” (The Republic of Belarus 26 November 1992/2002; The Law of Russian Federation 2002).

The third identified coding category is the criteria of environmental audit compliance, which have different themes in the definitions. In Belarus and Russia the enterprise’s activity should comply to the “...standards and technical regulations in the field of environmental protection, and requirements of international standards...” (The Republic of Belarus 26 November 1992/2002; The

Law of Russian Federation 2002), in Ukraine to "... the requirements of Ukrainian environmental protection legislation and other criteria of environmental audit..." (The Law of Ukraine "On Environmental Auditing" 2004), while in Kazakhstan an environmental audit has a focus on risk assessment practice (The Republic of Kazakhstan 1997).

The last theme of the definition coding analysis is recommendations as an obligatory part of environmental auditing process. The value of environmental audit is in the recommendations as they are guidelines for the improvement of the environmental performance of the enterprise or company. The definitions show that in Belarus, Kazakhstan, and Russia the preparation of recommendations is a mandatory requirement, while there is no mention of it in the Ukrainian definition. However, *article # 20 of the Law of Ukraine 'On Environmental Auditing'* clarifies that recommendations are optional, which discredit the value of the environmental auditing procedural efforts.

1.2.3. Types of environmental auditing

The analysis of the various policy documents, which regulate environmental auditing in Belarus, Kazakhstan, Russia, and Ukraine shows that its classifications are the same across these countries. These types of environmental auditing define cases and purposes how it is carried out, which specifies its role in the environmental governance system. Firstly, environmental auditing can be internal and external. Accordingly, if an owner of the enterprise initiates environmental audits, it is called an *internal*, while if the external actor, for example the State Property Fund or a local authority, initiates it is called an *external* (The Law of the Republic Of Belarus 1992; The Republic of Kazakhstan 1997; The Law of Russian Federation 2002; The Law of Ukraine "On Environmental Auditing" 2004). This classification is the same as in the market developed countries, which was presented in section 1.2. of this chapter.

The second classification relies on the obligation of its conduction for some cases, which can be voluntary or mandatory. A *voluntary environmental audit* is initiated by the owner of the enterprise on a voluntary basis. The *mandatory environmental audit* has to be carried out according to the request of the governmental authorized institution in the cases presented below in Belarus, Kazakhstan, Russia, and Ukraine (see Table 1.4). This classification highlights the difference between environmental auditing in market developed countries and in countries with transition economy.

In all the four countries, a bankruptcy of the enterprise is a common reason for obligatory environmental audit. Other commonalities, however only for Ukraine, Belarus, and Russia, are privatization and “in other cases provided stipulated by law” although it is unclear as to what these other cases are. A request for environmental insurance is also a case for mandatory environmental auditing, but only in Ukraine and Russia. Ukrainians have additional circumstances for conducting obligatory environmental auditing, such as: a transfer to long lease of state or municipal property, the creation of joint ventures on the basis of state and municipal property, and the establishment, operation, and certification of environmental management systems. In Russia there are also extra reasons for mandatory environmental auditing: a funding of legal entities and individuals engaged in entrepreneurial activities by state banks, an evaluation of the environmental consequences of accidents and natural disasters, decision-making by public authorities to extend the licenses issued to legal entities and individuals entrepreneurs engaged in an operation of environmental hazardous facilities, and the fulfillment of international obligations of the Russian Federation in the field of natural resources and environmental protection. One more requirement for mandatory environmental auditing which is used only in Kazakhstan is “reorganization of legal entity which activities can cause damage to the environment” (Environmental Codex of the Republic of Kazakhstan 2011). The analysis shows that there are more conditions for conducting mandatory environmental audit in Russia (8) than in Ukraine (7), Belarus (4), or Kazakhstan (3).

Table 1.4. Circumstances for conducting mandatory environmental auditing in the four post-Soviet countries

Circumstances for conducting EA	Ukraine	The Republic of Belarus	The Russian Federation	The Republic of Kazakhstan
Bankruptcy	+	+	+	+
Liquidation of the legal entity		+		
Privatization	+	+	+	
Transfer to long lease of state or municipal property	+			
Creation of joint ventures on the basis of state and municipal property	+			
Environmental insurance of the objects	+		+	
Funding of legal entities and individuals engaged in entrepreneurial activities by state owned banks			+	
Establishment, operation, and certification of environmental management systems	+			
Evaluation of environmental consequences of accidents and natural disasters			+	+
Decision-making by public authorities to extend the licenses issued to legal entities and individual entrepreneurs engaged in the operation of environmentally hazardous facilities			+	
The fulfillment of international obligations of the Russian federation in the field of natural resources and environmental protection			+	
Reorganization of the legal entity, which if it activates can cause damage to the environment				+
In other cases stipulated by law	+	+	+	

1.2.4. The roles of environmental auditing in environmental governance according to the policy documents

The role and place of environmental auditing among other regulatory tools of environmental governance is highlighted in the national environmental legislation, strategies, action plans, and

other similar documents, as well as in the sustainable development concepts and strategies in Belarus, Kazakhstan, Russia, and Ukraine. These documents define the official role of environmental auditing in the system of environmental governance from a theoretical perspective, which defines its potential applications. The perspective of practical landscape shows a variety of its applications that have emerged in response to the needs and necessities of stakeholders. These two perspectives are important for the in-depth analysis of environmental auditing in any country. However, this comparative analysis was only based on the review of the available literature and policy documents, because of the general time and resources limitations of this doctoral study. Therefore, the exploration of the practical use of environmental auditing is done only for Ukraine in the context of this PhD dissertation while exploration of its practice in Belarus, Kazakhstan and Russia is left for future research.

In these four countries, environmental auditing is recognized as a regulatory mechanism of environmental governance according to their environmental protection laws. In the 1990s, the *law on environmental protection* was published in Belarus, Kazakhstan, Russia, and Ukraine, all in different years. This is the highest law on environmental preservation in the hierarchy of the environmental governance, therefore, the presence of environmental auditing term shows its recognition and value in the studied countries. After environmental auditing was introduced in these countries, modifications were made in the previous versions of the laws on environmental protection. As it was mentioned before, in 2002, *article # 97 entitled 'Environmental Audit'* was added to *the Law of Belarus 'On Environmental Protection'*. In Kazakhstan, article # 81 on environmental auditing was added to the environmental protection Law in 2005, in Ukraine in 2004, and in Russia in 2002.

The national environmental strategy sets the goals and targets in the environmental sphere, while the environmental action plan presents ways of its realization. This analysis shows that only the Russian Federation and Ukraine have national environmental strategies and plans, where

environmental auditing is presented as one of the key market-based instruments of environmental governance. Interestingly, there is no national environmental strategy in Belarus, but there is the '*National Environmental Plan for the years of 2016-2020*'. However, the Plan does not list environmental auditing among other tools of environmental protection. In the Republic of Kazakhstan, the environmental protection sphere is regulated by *the Environmental Codex* rather than an environmental strategy. This codex identifies main priorities and purposes of environmental governance as well as describes environmental auditing practice, which is presented in Chapter 9 of the codex.

At the national level, environmental issues are regulated not only by the national environmental strategies and plans but also by the sustainable development concepts and strategies. Belarus, Kazakhstan, Russia, and Ukraine have been developing national sustainable development concepts and strategies. These documents encompass a regulation of the environmental field, however, environmental auditing was not always presented in the versions of these documents in the countries of research. For instance, in the Russian sustainable development concept as well as in the Ukrainian sustainable development strategy there is no mention about environmental auditing. The Ukrainian strategy was under development for a long time, but only after Ukraine signed political and economic agreements with the European Union, the Sustainable development strategy was finalized and published in January 2015. This strategy shows that in the current political and economic situation in Ukraine, environmental issues are not a priority. However, in the Russian sustainable development strategy and in the Ukrainian sustainable development concept this tool was defined as one of the market-based economic regulatory mechanisms.

In Belarus, environmental auditing is presented as a regulatory mechanism for dealing with social and economic problems according to the sustainable development concept and strategy. Interestingly, there is no sustainable development strategy in Kazakhstan, however, there is a

sustainable development concept developed for the years 2006-2024. In this document, environmental auditing is presented among other economic tools of environmental governance.

This chapter presented the difference between environmental auditing practices in market developed countries and post-Soviet countries, in transition from centrally planned to market economies. The major distinction lies in the uses of environmental auditing. In the first group of countries environmental auditing is a managerial tool, used voluntarily by owners of enterprises or other organizations. However, in post-Soviet countries it took on the additional function of state environmental control, primarily for the privatization process in the 1990s. Therefore, there are two types of environmental auditing, voluntary and mandatory in countries in transition, like Belarus, Kazakhstan, Russia, and Ukraine. The comparative analysis of mandatory environmental auditing in these four countries shows that this type of auditing is under government control, and is regulated by different legal documents. Only in Ukraine is mandatory environmental auditing regulated by law (the Law of Ukraine “On Environmental Auditing”), while in the other countries it functions according to decrees or resolutions. This made the exploration of environmental auditing in Ukraine an interesting case to investigate further, which became the research focus of my dissertation. To study which I combined three theories and several qualitative and some elements of quantitative methods, which is explained in the next two chapters.

Chapter 2. Theoretical Framework

The theoretical framework is the analytical lens of the research, as it localizes a study in a philosophical and theoretical landscape of scientific thought and schools. The theoretical perspective of analyzing research helps to present findings and formulate conclusions based on well-recognized fundamental backgrounds of thoughts and concepts. The shift of policy paradigms theory, the collective action theory together with the community of practice theory build a theoretical framework for analyzing the research focus of this project namely environmental auditing in Ukraine from both theoretical and practical perspectives. The combination of these three theories helps to identify the driving forces of the introduction and evolution of environmental auditing in Ukraine, as well as to determine the peculiarities of its practice and implementation there, what are the answers to my two sub-questions.

Preliminary, I reviewed the existing studies on environmental auditing, which showed that the commonly used theories are the legitimacy⁵, stakeholder⁶, and institutional⁷ theories (Taylor, Sulaiman et al. 2001; Darnall, Soel et al. 2009; Owusu and Frimpong 2012). However, these theories are not applicable for the purposes of this research, because the focus of these former studies was the motivation of the company's owner to conduct an environmental auditing. My

⁵ **The legitimacy theory** is one of the most discussed theories to explain the phenomenon of voluntary social and environmental disclosures in corporate communication. Consistent with the notion of legitimacy theory, companies seek to gain, maintain or repair their legitimacy by using social and environmental reporting (Mouse, A. G. and T. N. Hassan (2015). "Legitimacy Theory and Environmental Practices: Short Notes." International Journal of Business and Statistical Analysis 2(1): 41-52 *ibid.*..)

⁶ **The stakeholder theory** has been advanced and justified in the management literature on the basis of its descriptive accuracy, instrumental power, and normative validity. These three aspects of the theory, although interrelated, are quite distinct; they involve different types of evidence and argument and have different implications (http://www.jstor.org/stable/258887?seq=1#page_scan_tab_contents).

⁷ **The institutional theory** attends to the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemas, rules, norms, and routines, become established as authoritative guidelines for social behavior. It inquires into how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse (Scott, R. W. (2004). *Institutional Theory: Contributing to a Theoretical Research Program*. Great Minds in Management: The Progress of Theory Development. K. G. Smith and M. A. Hitt. Oxford UK, Oxford University Press.)

research, on the other hand, explores the introduction, evolution and the peculiarities of its practice and function in particular country undergoing economic and political transition, Ukraine.

The shift of policy paradigm theory is used as an overarching theory of my research, which helps to analyze the evolution of environmental auditing in Ukraine in the context of introducing neoliberal ideas of market economy and democracy from the beginning of the 1990s. The collective action theory and the community of practice theory help to explore reasons for such a development and identify the peculiarities of the operation of this tool in the country of research. These three theories complement each other and create the theoretical perspective for my investigation based on the following common concepts of social learning, personal interest, group, community, and behavior in groups. The chosen theories have never before been used for exploring any aspects of environmental auditing, separately or together. According to Hoen (2001), the collective action theory was used primarily to analyze countries with market economies, and only marginally with transition countries, like Ukraine. The third component of this theoretical framework, the community of practice theory is widely used for the analysis of the different communities in various fields and spheres, but has never been applied to the study communities of environmental auditors.

Furthermore, in this chapter, a general description of the shift of policy paradigm theory, the collective action theory and the community of practice theory will be presented, followed by their main concepts and ideas, their criticism as well as their combination in the theoretical framework for the purposes of this research.

2.1. The Shift of Policy Paradigms Theory

I use the shift of policy paradigm theory developed by Peter Hall⁸ in 1993 to analyze the introduction and evolution of environmental auditing in Ukraine. This theory is based on Thomas

⁸ **Peter A. Hall** is Krupp Foundation Professor of European Studies in the Department of Government and at the Minda de Gunzburg Center for European Studies, as well as Co-Director of the Program on Successful Societies for the

Kuhn's⁹ theory of the paradigm change, which he created for the exploration of the evolution of science. The main idea of Kuhn's theory is that science does not evolve linearly and gradually, through a constant slow development and accumulation of knowledge, but through revolutions or some tipping points of drastic changes (Kuhn 1962). Peter Hall (1993) argues that this idea of revolutionary changes as steps of the evolution can be used as an analogy for exploring the shifts of policy paradigms as they replace each other through revolutions of ideas and thoughts. This scientist used the turn from command-and-control system (Keynesian) to neoliberalism at the end of the 1970s and the beginning of the 1980s¹⁰ as an example to prove his own thoughts formulated in the theory.

One of the key topics of Peter Hall's study was the autonomy of state, which meant the independence of policy making in the policy making procedure via the process of social learning (Hall 1993). In the shift of paradigm theory, he defined social learning as follows: "... a deliberate attempt to adjust the goals or techniques of policy in response to past experience and new

Canadian Institute for Advanced Research. Hall is editor of *Successful Societies: How Institutions and Culture Affect Health* (with Michèle Lamont), *Changing France: The Politics that Markets Make* (with P. Culpepper and B. Palier), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (with David Soskice), *The Political Power of Economic Ideas: Keynesianism across Nations*, *Developments in French Politics I and II* (with A. Guyomarch and H. Machin), *European Labor in the 1980s* and the author of *Governing the Economy: The Politics of State Intervention in Britain and France* and more than seventy articles on European politics, policy-making, and comparative political economy (<http://www.people.fas.harvard.edu/~phall/>).

⁹ **Thomas S. Kuhn** (1922–1996) is one of the most influential philosophers of science of the twentieth century, perhaps the most influential. His 1962 book *The Structure of Scientific Revolutions* is one of the most cited academic books of all time. Kuhn's contribution to the philosophy of science marked not only a break with several key positivist doctrines, but also inaugurated a new style of philosophy of science that brought it closer to the history of science. His account of the development of science held that science enjoys periods of stable growth punctuated by revisionary revolutions. To this thesis, Kuhn added the controversial 'incommensurability thesis', that theories from differing periods suffer from certain deep kinds of failure of comparability (<http://plato.stanford.edu/entries/thomas-kuhn/>).

¹⁰ **The command-and-control political** system was introduced by British economist and scientist John Maynard Keynes and slowly entered decision-makers arena with a help of mass media. As such the period from the Second World War until 1970s was called "Keynesian" era under his name (Harvey, D. (2005). [A Brief History of Neoliberalism](#). The United States, Oxford University Press. As was mentioned before at the end of 60s beginning of 70s the efficiency of the functioning of command-control system was decreasing. This led to the economic crisis and was seen as a failure of the "Keynesian" era, which created a need for new understandings of economic and policy development and provoked transformations of regulatory tools.

information” (Hall 1993:276). Consequently, “one of the key factors affecting policy at time 1 is policy at time 0” (Hall 1993:277). This means that decisions of policy makers are driven by their own past experiences as well as by regulatory techniques of the previous policy traditions and practices. This confirms the dependency and connection of the current policy development on the former decisions and practices.

Therefore, Peter Hall argues that the shift of policy paradigms happens through first-, second- and third-order changes (Hall 1993). However, the first and second order changes do not always lead to the third policy order transformation, as often it stops in the form of tweaking quantitative parameters of the current policies (Hall 1993). Moreover, during these two stages, various hybrid institutions, practices and tools, which encompass features of old and new policy paradigms, usually emerge. Every year the first-order change happens as policy makers have to adjust a budget and make decisions based on past policy and new developments trends. The second-order change involves the introduction of new instruments and mechanisms, “...whereas the hierarchy of policy goals remains largely the same” (Hall 1993:280). The former ideas and paradigms became very complex, which created a need to find new explanations of the same ideas. Consequently, these first- and second-order changes are a preparation for the revolution transformation of policy paradigm.

The third-order change is a radical shift in policy that involves changes to the interpretative framework “...of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing” (Hall 1993:280). The previous paradigm becomes extremely complicated and complex, while a new one provides new and simpler explanations for the same issues. The third-order change is a revolution, which allows a proliferation of a wide big variety of new ideas, concepts, tools, institutions, and groups of interests simultaneously.

Peter Hall's theory of policy paradigm shift, which was presented in a form of working papers and published in 1993, provoked a discussion and criticism in the scientific society. For instance, Michael Oliver and Hugh Pemberon (2004:416) argued that "... paradigm failure does not necessarily lead to wholesale paradigm replacement". Therefore, they added the few more stages to Hall's first-third order changes of policy paradigms (see Fig 2.1). In case of failure of first- and second-order change at the Stage 3, the process of paradigm evolution goes in the following way: (4) fragmentation of the authority together with a search for new ideas and development of new ideas outside government; (5) approbation and adoption of new ideas; (6) battle to institutionalize the new policy framework; and (7) the institutionalization of the new paradigm, which is a 3rd order change (Oliver and Pemberton 2004). I use this scheme of the evolution of policy paradigm to analyze development stages of environmental auditing in Ukraine, which is one of the instruments of environmental governance. The introduction and development of this tool happened under the influence of transition from centrally planned to market economy of Ukraine, therefore, environmental auditing took on extra feature of the state environmental control in the context of country's transition (see Chapter 4). In contrast, in the developed countries environmental auditing is a voluntary tool used for the improvement of environmental performance of the enterprise.

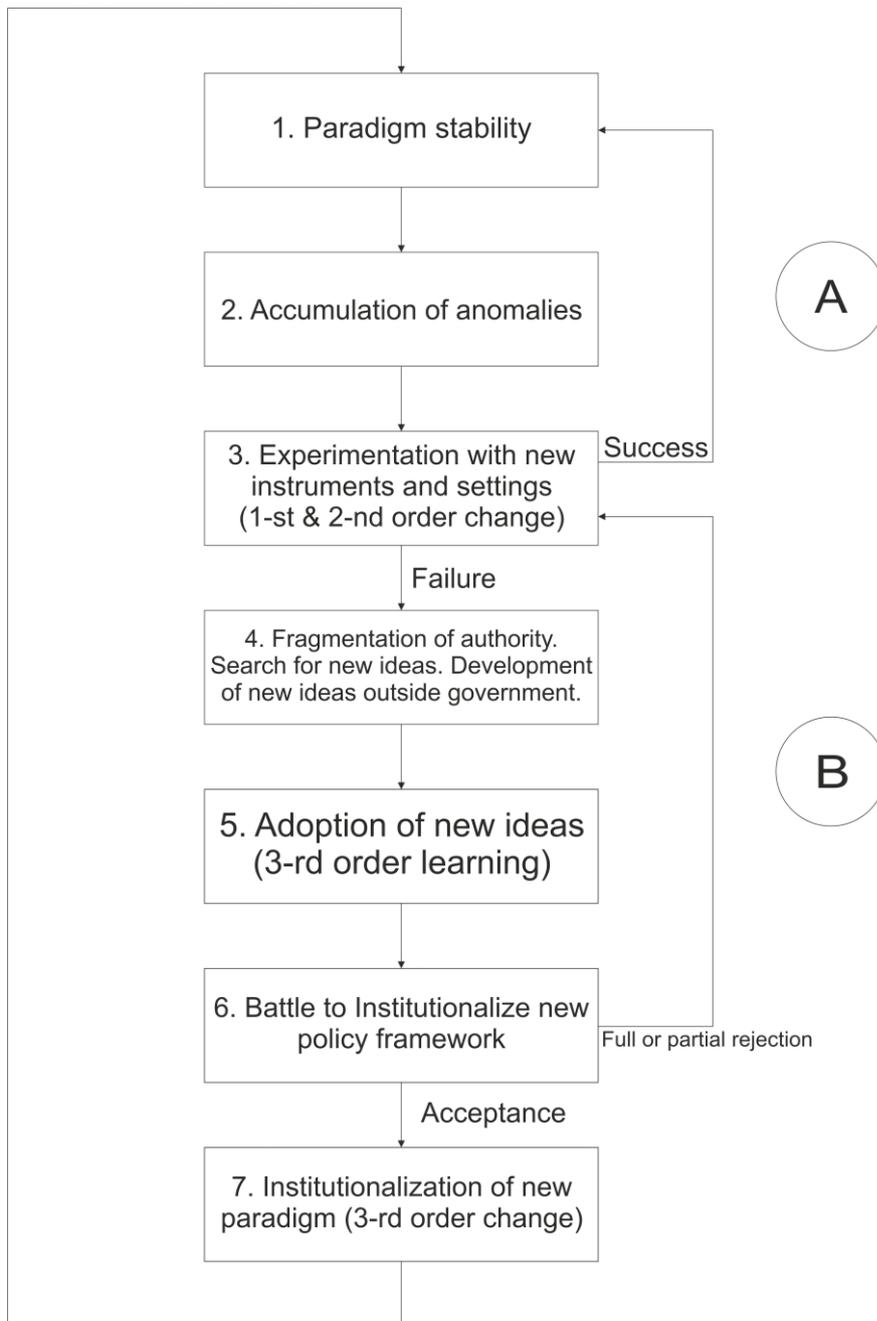


Fig. 2.1. Model of paradigm evolution (Oliver and Pemberton 2004:420)

2.2. The Collective Action Theory

The theory of collective action is used for analyzing the circumstances for the introduction, evolution and function of environmental auditing in Ukraine, by identifying the role played by the personal interest of a particular group of people in this process. Originally, this theory was

introduced in 1965 by Mancur Olson¹¹, an American economist and social scientist. He developed a theory that attempts to explain the difficulty of collective action based on humans' limitations to overcome their own narrow self-interest, which is also known as a phenomenon of the tragedy of commons¹². Interestingly, in his theory, Mancur Olson brought economic ideas to the field of political economy and tried to explain tendencies in global post-World War II politics.

The collective action theory has existed for fifty years, several scholars have considered the possibility that Olson's theory does not fully reflect all the issues of this complex and changeable world any more (Hoen 2001; Trumbull 2012). There are two major drawbacks of this theory. The first weakness is that not all aspects of human behavior in groups can be explained by economic calculations, as there are also other social or ideological motives. Many organizations hold broader interests and are not purely economically motivated, for example civil society organizations, which are fighting for social or environmental rights. However, every member of the environmental or social rights movements has personal financial needs and cannot actively participate on a voluntary basis for a long time, therefore, economic motivation becomes relevant at some point. The second drawback is that this theory does not "acknowledge the role of leadership in the accomplishment of collective goals" (Hoen 2001:6). However, after group interests are satisfied initial leaders get a higher political position, and in this way satisfy their personal interests. Thus, individual commitments are very large at the beginning but personal financial benefits come in the long run.

¹¹ **Mancur L. Olson** (January 22, 1932 – February 19, 1998) was an American economist and social scientist who taught economics at the University of Maryland, College Park. His most influential contributions were in institutional economics, and in the role which private property, taxation, public goods, collective action, and contract rights play in economic development (http://www.babylon-software.com/definition/Mancur_Olson/Urdu).

¹² Since Garrett Hardin's challenging article in *Science* (1968), the expression "**the tragedy of the commons**" has come to symbolize the degradation of the environment to be expected whenever many individuals use a scarce resource in common. To illustrate the logic structure of his model, Hardin asked the reader to envision a pasture "open to all". He then examines the structure of this situation from the perspective of a rational herder. Each herder receives a direct benefit from his own animals and suffers delayed costs from the deterioration of the commons when his and others' cattle overgraze. Each herder is motivated to add more and more animals because he receives the direct benefit of his own animals and bears only a share of the costs resulting from overgrazing (P2) (Ostrom, E. (1990). Governing the Commons. The Evolution of Institutions for Collective Action. UK, Cambridge University Press.)

The central theme of the collective action theory is that there is no group without interest, which means that people create groups based on something they have in common. Mancur Olson borrowed this idea from the group theory, which was created by Arthur Bentley¹³, another American political scientist and philosopher, at the beginning of the 20th century (Hoen 2001). The theory of collective action added new ideas and perspectives to the already mentioned group theory. According to the humans' motivation to create groups, this theory has two variants: the causal and the formal versions (Olson 1965). The *casual theory* argues that the human natural instinct to form and join *herds* (associations) is steering the formation of groups, while the *formal theory* says that to some extent family is a prototype of the labor unit, which has evolved in the industrial society (Olson 1965). However, these two versions of the group theory do not incorporate the idea of the importance of group size, for its creation and operation. Therefore, Mancur Olson empirically explored human behavior in small and big groups and made this theme one of the central ideas of his collective action theory.

This theory explains the motivations behind individuals' behavior in different sized groups in line with the personal benefits of the members and common group interests. Accordingly, this theory argues that "some groups are perfectly able to look after their interests, while other groups are not. It implies that eventually an unbalanced structure will emerge" in the society (Hoen 2001:5). These kind of unbalanced structures of interests and power emerge during the years of the transition process in the post-Soviet countries, which were presented with the ability by some political leaders to lobby passing laws and norms in favor of their own personal benefits and enrichment.

¹³ **Arthur Fisher Bentley** (October 16, 1870, U.S.—May 21, 1957), American political scientist and philosopher known for his work in epistemology, logic, and linguistics and for his contributions to the development of a behavioral methodology of political science (<http://www.britannica.com/biography/Arthur-F-Bentley>).

The empirical study of the behavior of individuals in small and large (latent) groups¹⁴ showed that the success of an organization depends on the size of a group. In a small group, the voluntary contribution of each individual to a common interest is more visible and significant, while in a large group, the effort of one person does not make a big input to the common interest (Olson 1965). Therefore, a free-riding issue of the common interest often appears in big groups and only the sufficient motivation of all group members can make a big group work towards shared interests (Hoen 2001). For my study, I used this distinction of individuals' behavior in small and big groups to explain the role of a particular group of people in introducing, developing, and functioning environmental auditing in Ukraine.

Moreover, in the framework of my research, I explore the practical aspects of environmental auditing by identifying and analyzing communities of environmental auditors, which are established on the basis of the common interest that every member shares with others. A decision to join a group is based on the personal benefits or interests of a potential member, which means that in each group there is a difference between the common and personal interests, which do not contradict (Dougherty 2003). For example, "all of the members of a labor union have a common interest in higher wages, but at the same time each worker has a unique interest in his personal income, which depends not only on the rate of wages but also on the length of time that he works" (Olson 1965:8). Any kind of organization provides public goods and services for its members, and a high supply of them successfully helps achieve common goals (Olson 1965).

The collective action theory is one of the theories of political economy that perfectly suit the purposes of studies on the transition from the centrally planned to market economy as they focus "upon the problem of how to accomplish a new economic order from a given situation" (Hoen 2001:5). However, according to the same scholar, the collective action theory was not used much

¹⁴ **Group** means a number of individuals with a common interest (Olson, 1965:8).

for exploring transitions in the post-Socialist bloc countries in Central and Eastern Europe. At the beginning of the 1990s, the European Union democracies were chosen as benchmarks for the development of newly established post-Socialism countries. The process of successful transition from totalitarian regime to democracies should be organized and governed by individuals (Hoen 2001). Therefore, the collective action theory is relevant for exploring the research focus of my study as a particular group of people played a prominent role in the development of environmental auditing in Ukraine during transition.

2.3. The Community of Practice Learning Theory

*“As communities of practice generate knowledge,
they renew themselves.
They give you both the golden eggs
and the goose that lays them” (Wenger and Snyder 2000:143).*

The community-of-practice learning theory is the third component of my theoretical framework. This theory was developed by two cognitive anthropologists Etienne Wenger¹⁵ and Jean Lave¹⁶ in 1991 (Illeris, Jarvis et al. 2009). This theory is different from classical learning

¹⁵ **Etienne Wegner** is a globally recognized thought leader in the field of social learning and communities of practice. He has authored and co-authored seminal articles and books on the topic, including *Situated Learning*, where the term “community of practice” was coined; *Communities of Practice: learning, meaning, and identity*, where he lays out a theory of learning based on the concept; *Cultivating Communities of Practice*, addressed to practitioners in organizations who want to base their knowledge strategy on communities of practice, and *Digital Habitats*, which tackles issues of technology (<http://wenger-trayner.com/about-2/>).

¹⁶ **Jean Lave** is a faculty member at the University of California, Berkeley. She completed her doctorate in Social Anthropology at Harvard University in 1968. She is a social anthropologist with a strong interest in social theory. She has worked extensively on the re-conceiving of learning, learners, and educational institutions in terms of social practice, and has published four books in this field (<http://www.lifecircles-inc.com/Learningtheories/constructivism/Lave.html>).

theories, which see ‘learning’ as an individual process that is the outcome of teaching. From the perspective of neurophysiologic and psychologic - behaviorist, cognitive, constructivist and social learning - theories ‘learning’ is a physical process. The activity, socialization and organization theories explore ‘learning’ from a psychological point of view, which differs from Wenger and Lave’s ideas (Illeris, Jarvis et al. 2009). However, these learning theories are not mutually exclusive, they rather provide different angles to understand the learning process (Illeris, Jarvis et al. 2009). The community-of-practice theory sees learning as a 'practical process', which brings it outside of educational institutions and into everyday life. Learning is seen as a part of human nature like sleeping, eating, walking and other activities, which are part of everyday life. Therefore, this theory of social learning is relevant to everyone and every life situation.

Consequently Wenger and Lave argue that learning is a social phenomenon which humans experience every day (Wenger 2008). People are learning by “doing” or “practicing” something, which is more an experiential (empirical) form of learning. Thus, it is a constant process that has no beginning and no end, it accompanies human beings through life. In addition, Wenger and Lave say that a learning process encompasses the participation of individuals in various communities. This is called “*situated learning*”, which means learning takes place in special situations of co-participation. According to this theory, the learning process is characterized by four components: “*meaning*”, “*practice*”, “*community*”, and “*identity*”, which is visualized in Figure 2.2. and explained in detailed below:

meaning (a way of talking about our (changing) ability – individually and collectively – to experience our life and the world as meaningful), *practice* (a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action), *community* (a way of talking about the social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as competence) and *identity* (a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities) (Illeris, Jarvis et al. 2009:211).



Fig.2.2. *Components of a social theory of learning an initial inventory (Illeris, Jarvis et al. 2009:211).*

In my research this idea of participation shapes not only what people are “doing”, but also their “identities” (Wenger 2008). Belonging to a community of practice determines members’ identity or position in the field of my research. For instance, in Chapter 5 I have identified several groups of environmental auditors according to their “attitude” (being a member; willing to become a member; or being in opposition) towards the Union of Environmental Auditors (Spilka), which is a non-governmental organization with some features of community of practice. A membership in this organization highlights the identity of environmental auditors to some extent in Ukraine.

Wenger and Lave define 'communities of practice' (CoP) as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Illeris, Jarvis *et al.* 2009:212). On one hand, these communities can evolve naturally because members have common interests or wish to gain more knowledge in a particular sphere. Consequently, there are no specific stimulations or regulations for the creation of the CoP, and they last until people maintain such a common interest. The main feature of CoP’s is that they provide constant activities of different kinds, which shows that they also develop through time. On the other

hand, a community of practice can be created with an aim of getting knowledge in a particular field or finding a solution to a particular problem.

There are various forms and types of communities of practice according to different criteria. Firstly, they can exist in real life (for example, a lunchroom, a factory floor or a laboratory) or in the world of virtual reality (discussion forums, board or newsgroups). Secondly, CoP's can have different forms from a small group, which has face-to-face meetings, to a big group with online members all around the world. These communities can fulfill members' needs of practice through different activities, for example "problem solving, requests for information, seeking experience, reusing assets, coordination and synergy, discussing developments, documentation projects, visits, mapping knowledge and identifying gaps" (Wenger 2006:2). It is usually open for new members, who bring new ideas, reshape the structure and the way of working of the community of practice. According to this theory, every individual is participating in different CoP's at the same time. In some of them, s/he is a peripheral member, while in others s/he is the active group or core member, depending on the level of engagement (Figure 2.2). I have used the above outlined classifications and characteristics for analyzing relation of environmental auditors towards the Union of Environmental Auditors (see Chapter 5).

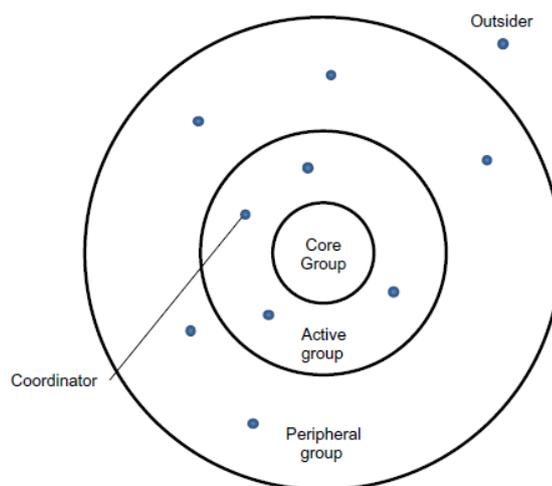


Fig. 2.3. Degree of community participation (Wegner, McDermott et al. 2002)

Each community of practice is built around three elements such as: “domain”, “community” and “practice” (Wenger 2008), visualized in Figure 2.3. *The domain* is a shared interest, which members of this community imply a commitment to. It is a passion that every member has, which is needed for the further creation, development and sustainability of the CoP (Wenger and Snyder 2000). The second component: *the community* means that members are engaged in different discussions and activities that help them to share knowledge and experiences. The last element: *the practice* means that all members are practitioners in this field. These three features differentiate CoP’s from social networks, clubs of interest, project teams or informal networks. I use these three components of the CoP for identifying and analyzing the environmental auditing field in Ukraine, and present the results of my analysis in Chapter 5.



Fig. 2.4. *Components of community of practice*

Individuals have different motives and purposes to join a particular community of practice. According to Wenger (2006), reasons for becoming a member of CoP may vary from problem solving to mapping out and identifying gaps in knowledge, varieties of which are presented in Table 2.1 below. I use this form of classification for analyzing motives of environmental auditors to create or refrain from creating communities of practice in Ukraine.

Table 2.1. Descriptions of reasons for creation of community of practice (Wenger 2006:2)

Reason for Creation of CoP	Explanations of Reasons
Problem solving	“Can we work on this design and brainstorm ideas; I’m stuck”
Requests for information	“Where can I find the code to connect to the server?”
Seeking experience	“Has anyone dealt with a customer in this situation?”
Reusing assets	“I have a proposal for a local area network I wrote for a client last year. I can send it to you and you can easily tweak if for this new client”.
Coordination and synergy	“Can we combine our purchases of solvent to achieve bulk discounts?”
Discussing developments	“What do you think of the new CAD system? Does it really help?”
Documentation projects	“We have faced this problem five times now. Let us write it down once and for all”
Visits	“Can we come and see your after-school program? We need to establish one in our city”
Mapping knowledge and identifying gaps	“Who knows what, and what are we missing? What other groups should be connected with?”

Results of the scientific literature review and interviews with various stakeholder groups in Ukraine involved in the environmental auditing process underlined that there are many problems in the field caused by: 1. poorly written regulatory legislation, 2. the absence of secondary legislation and methodology, and 3. the current political and economic crisis. According to the community of practice theory, these unfavorable circumstances provide environmental auditors with a unique chance for fruitful cooperation to solve these problems by sharing practical knowledge and experiences, as a community of practice “... can provide a platform for collaboration work place learning, leading to practice development and the creation, management and dissemination of new knowledge” (Andrew, Tolson *et al.* 2008:247). Therefore, knowing that the creation of communities of practices can be a way to deal with various problems, in the present study it was possible to assume that environmental auditors are willing to cooperate and create such

communities, enabling them to deal with various challenges in their practice. This assumption I have explored in detail, and findings of the analysis are presented in Chapter 5.

To sum up, my theoretical framework encompasses the shift of policy paradigms theory, the collective action theory and the community of the practice theory, which I use for exploring aspects of the establishment, evolution and current operation of environmental auditing in Ukraine. The shift of policy paradigms theory provides a lens for exploring these stages of development of environmental auditing in the country of my research. The collective action theory explains how personal interest of particular group of individuals influenced a launch of environmental auditing in Ukraine, while the community-of-practice learning theory demonstrates various opportunities to overcome problems of environmental auditing field by practitioners.

Chapter 3. Methodology

This chapter is dedicated to my research methodology and reasons for choosing a qualitative case study with elements of quantitative one as most appropriate for finding the answers to the main research question and accomplishing the set objectives. The research methodology encompasses methods for data collection and analysis. Firstly, I gathered data through literature review, open-ended semi-structured interviews and participant/non-participant observations. Later I analyzed the collected information via a coding method. I searched for the relations and interlinks between meanings in the collected data and systemized them into categories with theoretical explanations. Further, in this chapter I give a description of qualitative research, present the peculiarities of the case study research together with a detailed explanation of the used approaches for data collection and analysis, and highlight the constraints of my study at the end.

According to the definition “qualitative research is the one that is not based on statistics or any other ways of quantification, and the core of this study is an interpretation of raw data” (Strauss and Corbin 1998:11). Furthermore, the aim of this type of research is to “understand, describe and sometimes explain social phenomena from the inside in a number of different ways” (Steiner 2007:x). The goal of qualitative research is to “...understand what stories convey and how” (Marvasti 2004:94). These features of qualitative research convinced me to choose it for exploring environmental auditing in a country with a transition economy, like Ukraine, by uncovering stories in the texts of legal documents and scientific articles in comparison to transcribed interviews and field notes.

3.1. Data Collection Techniques

Literature review, open-ended semi-structured interviews with representatives of various stakeholder groups, and participant/non-participant observations during public hearings and other

meetings were selected methods for my data collection process. The use of different methods together for data gathering provides a cross-validation of information and proves a relevance of the evidence (Yin 2003). Another advantage of collecting data from multiple sources is that it helps to minimize a researcher's personal bias and prejudices (Greenfield, Greene et al. 2007). In addition, the findings and conclusions based on multiple sources are more convincing and accurate for target audiences (Yin 2003). Therefore, I combined these three methods for gathering data for the purposes of my study.

A researcher should be aware of the advantages and disadvantages of using any method as it helps to justify the research methodology and find solutions to overcome the weaknesses by applying other methods. All these help to build a coherent methodology strategy that is relevant for the needs of research. The overview of literature gives a broad understanding of the research field and helps to find a gap in the existing scientific knowledge for further investigation. However, information gathered from already existing literature can be outdated, therefore, to overcome this obstacle I interviewed various stakeholder groups that are involved in the environmental auditing procedure. I explored their experiences and knowledge of environmental auditing practice in Ukraine. In addition to these two methods, I did participant and non-participant observation during public hearings organized by the Ministry of Ecology and Natural Resources with representatives of the environmental civil society (March and May 2014) as well as the annual meeting of the NGO Union of Environmental Auditors (October 2014). These three methods complement each other and validate the gathered information. The visualization of my data collection methods is presented in Figure 3.1 below.

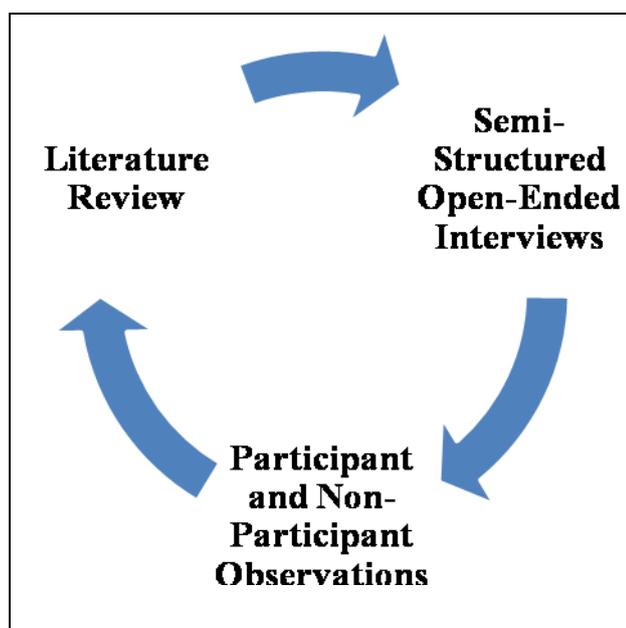


Fig. 3.1. Combination of data collection methods

3.1.1. Literature review: overview of secondary data

An overview of the key literature was a starting point of my research that helped me to understand better the specifics of my research field, identify and distinguish a gap for study, create a research approach, build a theoretical framework and develop a methodology strategy. The advantage of using secondary data is that it is an efficient use of time and money, which at the same time provides high quality of information (Stewart and Kamins 1993). In addition, it has several more strengths such as: “stability, as it can be reviewed any time again; unobtrusiveness, as results are not from the case study; exactness, as it contains concrete names, events and references; and a broad coverage, as it includes many events, settings and long span of time” (Yin 2009:102). These facts show the importance and value of literature review as a first step in my investigation.

Literature review has primary and secondary stages in my research journey. During my preparation for the field work, I had overviewed international and online available Ukrainian academic books and articles on environmental governance, environmental policy and environmental auditing, various applicable theories and possible research methods; governmental reports and

policy documents; environmental auditing reports; and environmental legislation. Unfortunately, at that time I did not have remote access to Ukrainian databases and library collections, that is why an additional literature review was a necessary component of my nine-month field work in Ukraine in 2014.

An additional review of Ukrainian literature revealed a peculiarity of publishing academic articles there. Academic articles do not go through a detailed and strict peer review and as the result of such negligence Ukrainian science journals are not in high ranking positions among other international journals. In Ukraine, if an author pays a fee to publish an article, it is an assurance that article will be published. This kind of publishing procedure calls into question the value, objectivity and scientific novelty of Ukrainian scientific periodicals. Despite this, I noticed that authors of published articles on environmental auditing rarely have practical experiences working in this field. Their articles rely only on secondary data, therefore, their books and articles are theoretical as they do not cover real world implication of environmental auditing in the country of my research. I am the only researcher who interviewed various stakeholders' groups involved in environmental auditing to explore their experiences and opinions about its practical implications. In addition, the other drawback of Ukrainian literature on environmental auditing is plagiarism as I found the same sentences and paragraphs in several articles written by different authors. Correspondingly, all above mentioned shows the existence of a gap in the scientific knowledge of environmental auditing in Ukraine that validates a need for my research and its relevance.

Even with all the benefits of using secondary information, a review of existing literature as a method also has weaknesses such as: “retrievability, as it can be difficult to find; biased selectivity, if collection is incomplete; reporting bias – reflects (unknown) bias of author; and access – may be deliberately withheld” (Yin 2009:102). To overcome the access, retrievability and biased selectivity problems, I used multiple databases and libraries in Ukraine, Hungary and Sweden. Moreover, I asked my interviewees to help me with literature. The weaknesses of relying only on secondary data

prompted me to collect primary data via semi-structure open-ended interviews and participant/non-participant observations.

3.1.2. Semi-structured open-ended interviews with various stakeholder groups

Interviewing is one of the methods, which are commonly used in different spheres, not only for scientific purposes. The reason for interviewing people is to reveal the respondent's opinion and attitude regarding a particular topic or issue. It is not just a dialogue between interviewer and respondent but also a guided conversation, which is facilitated by a researcher for scientific purposes. The interviewer determines the purpose and structure of the interview and leads it to meet the set goals (Steiner 2007). As a research method, interviews can provide fresh knowledge on the changes, which are happening in the field now, while secondary data resources might be outdated for the new situation and circumstances. In my research I am aiming to explore environmental auditing not only from a theoretical but also from a practical point of view, therefore, interviewing is a relevant method for this purpose. The knowledge of different stakeholder groups who are involved in the environmental auditing process gives fresh knowledge to my research area as they have never been interviewed before by researchers in Ukraine.

I chose open-ended semi-structured interviews for my study because they provide tools to answer my main research question and two sub-questions. Thus, this kind of interview helps to collect not only the information about facts but also respondents' opinions about these facts (Yin 2009). Moreover, this type of interviews gives an opportunity for interviewees to express all their thoughts and talk about experiences as well as practices which are the most important and meaningful for them (Greenfield, Greene et al. 2007). "At the root of in-depth interviewing is an interest in understanding the experience of other people and the meaning they make of that experience" (Seidman 1998:3). For collecting this specific information open-ended semi-structured

interviews are organized somewhere between everyday conversation and a closed questionnaire, as this gives a lot of flexibility around the set topic.

As with every method, open-ended semi-structured interviews have strengths and weaknesses. On the one hand, “this type of interviews is targeted as they focus directly on the case study, and insightful as they provide perceived causal inferences and explanations” (Yin 2009:102). On the other hand, these interviews also have drawbacks such as “bias of the research as a result of poorly articulated questions; response bias; inaccuracies due to poor recall and reflectivity as interviewee gives what interviewer wants to hear” (Yin 2009:102). Regardless of these weaknesses, I chose this type of interviews and I used different strategies to overcome these issues. Firstly, as an interviewer, I had developed several interview guides with questions for each stakeholder group beforehand and revised them after the first interviews to reflect the current situation (see ANNEX I, II, III). Secondly, I asked similar questions from different angles to validate information I got from interviewees and minimize my personal and interviewees’ bias as it was suggested by Roulston (2010). These strategies helped me to organize meaningful interviews and collect relevant information.

Before my field work I had identified six stakeholder groups: potential interviewees, who are involved in the environmental auditing procedure in different ways. The first group is made up of clients who are interested in ordering an environmental auditing service. They are the Ukrainian State Property Fund, financial investing institutions (The EBRD, the IFC and commercial banks), industrial enterprises and companies. The second group is formed of certified environmental auditors: practitioners who can carry out different types of environmental auditing. The third group is policy makers: members of the committee on environmental impact assessment and environmental auditing at the Ministry of Ecology and Natural Resources, which is responsible for certifying environmental auditors. The fourth group is scientific experts that are doing research on environmental auditing and/or teaching an environmental auditing course at different universities.

Lastly, the fifth potential group is representatives of the environmental civil society that may be involved in the environmental auditing process (for example, in the public hearings on its results). Further down in the text I elaborate more on these stakeholder groups and explain different strategies for contacting and interviewing them I used.

As for the first group, clients, I attempted to schedule an interview with representatives of the State Property Fund, the EBRD, the IFC and commercial bank, who are dealing with environmental auditing. However, my attempts were not successful. The State Property Fund does not publish any information about open tenders for mandatory environmental auditing or after work reports on its website. Therefore, it is hard to tell whether that this institution is a client of the mandatory environmental auditing service in Ukraine. The EBRD and the IFC request an auditing of environmental and social issues of existing enterprises for projects of Category A and B. I contacted the offices of these two institutions in Kyiv, but only got a response from the EBRD. However, after a long e-mail correspondence, it turned out that the department responsible for environmental auditing issues is located in London and was not interested in being interviewed by Skype. Out of 36 commercial banks in Ukraine only five are using environmental auditing for assessing impact of the investment object on the environmental and human health (see Chapter 4), that added this requirement after I had finished my field work.

The second group of interviewees includes environmental auditors, who have a certificate issued by the Ministry of Ecology and Natural Resources. This institution regularly updates the list of certified environmental auditors on its website. In February 2014, when I started my field work, there were 92 environmental auditors and 32 legal entities that can conduct environmental auditing on these lists. My primary intention was to contact all of them and interview as many as possible. However, due to various reasons I was only able to interview just over half of the list: 46 environmental auditors, which is 51.1% of the representative sample. Firstly, many environmental auditors did not provide their contact information (phone number and e-mail address), thereby, I did

not have a chance to get in touch and schedule an interview. Secondly, the political and military situation hindered my research as in March 2014 the Crimea peninsula was occupied by the Russian army; therefore, the certificates of Ukrainian national environmental auditors were not valid there anymore in the temporarily occupied territory. In addition, in the two Eastern regions: Donetsk and Lugansk an antiterrorist operation started in May, 2014 and has yet to finish. To my knowledge, some environmental auditors moved from these regions to other parts of Ukraine or Russia, because of which it is hard to track their location and find their contact details. The others who stayed in the conflict area are not involved in environmental auditing practices according to the interviewee from Donetsk, whom I contacted by phone. Fourthly, some environmental auditors did not have an interest in my research and were not willing to be interviewed. Fifthly, some informants showed unprofessionalism and unreliability as they ignored scheduled appointments and agreements. Lastly, the number of certified environmental auditors decreased following the Revolution of Dignity, as the certificates' term of validity ended and environmental auditors were not able to renew them because of the constant rotation of the certification committee at the Ministry of Ecology and Natural Resource and high corruption obstacles according to the interviewees.

The distribution of national environmental auditors in Ukraine is unequal all across the country, which is shown in Figure 3.2. below. The highest number of environmental auditors is present in the capital: Kyiv with 36 representatives, and in industrial regions like: Donetsk (10), Lugansk (6), Dnipropetrovsk (6) and Kharkiv (13). This uneven distribution might demonstrate that environmental auditors are located in the areas where there is a demand for this kind of activity from industries or international financial institutions. However, the Table of Rough Statistics of Mandatory Environmental Audits (see ANNEX XI) shows that an environmental auditor can have projects in different regions of Ukraine. In Figure 3.1. I also marked differently the Crimea peninsula, Donetsk and Lugansk regions as I was not able to travel to these regions and to interview environmental auditors because of the reasons, which were mentioned earlier.

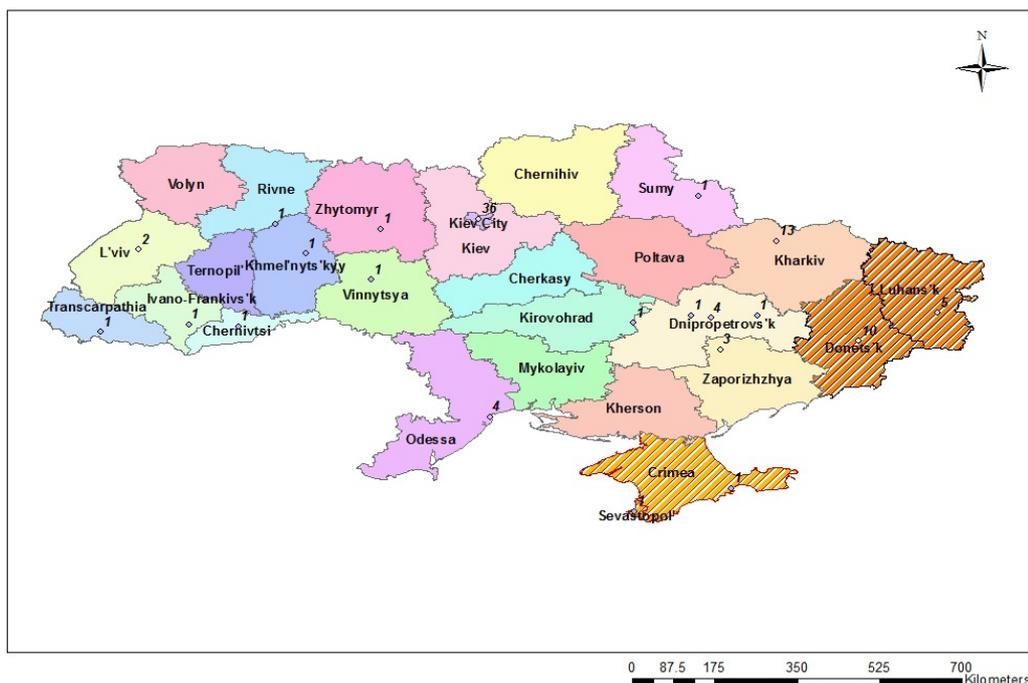


Fig.3.2. *Distribution of environmental auditors in Ukraine (February, 2014)*

The third group consists of representatives of the certification committee at the Ministry of the Ecology and Natural Resources. I managed to interview three representatives of this group. The first one participated in the development of the Law of Ukraine “On Environmental Auditing” and was a former member of this committee. The second one was the member of the certified committee at that time and the third one was also a former member of it and a director of the “Center of Environmental Initiatives”. These interviews gave me an overview of their opinion about the role of environmental auditing in environmental policy as well as the key reasons for the creation of the above mentioned law. I intended to interview more representatives from the Ministry, but the Revolution of Dignity in February 2014 caused a high rotation of officials.

The fourth group of key informants includes scientific experts. Based on the overview of Ukrainian scientific literature on this topic, I identified key scholars who are exploring environmental auditing and/or teaching courses on environmental auditing at different universities.

Moreover, I used the strategy of snowball sampling for identifying potential interviewees. According to Taylor-Power (1998), snowball or chain sampling relies on people identifying other people or cases to investigate next. Interviewees identify new names and the snowball gets bigger. Key names may be mentioned repeatedly indicating their special importance. I used my personal contacts at three universities: the National University of ‘Kyiv Mohyla Academy’, the Taras Shevchenko National University of Kyiv and the National Technical University of Ukraine “Kyiv Polytechnic Institute” to start interviewing scientific experts.

I interviewed seven scientific experts and categorized them according to three criteria: a PhD degree, a certificate of environmental auditing and an experience of teaching an environmental auditing course at the university. Table 3.1. shows that all respondents are teaching a course, but not all of them have a PhD degree or a certificate of environmental auditing. I interviewed two environmental auditors who are lecturing environmental auditing courses at universities, but do not have time to finish PhD and write articles or monographs for sharing their practical knowledge. They plan to publish articles in the future as currently they are occupied with conducting environmental auditing. I also interviewed three scientists who are teaching an environmental course at the university, but they are not certified environmental auditors. Furthermore, the literature review showed that in Ukraine there was only one PhD research project on a related topic to my current study and I had an intention to interview this researcher: Tetiana Kirsanova. However, it did not happen as this woman moved to the Crimea peninsula after it was occupied by the Russian Federation due to her political views, according to her scientific adviser.

Table 3.1. Characteristics of the interviewed scientific experts

#	PhD Degree	Teaching Environmental Auditing Course	Certified Environmental Auditor
1	-	*	*
2	*	*	*

3	*	*	-
4	*	*	-
5	*	*	-
6	-	*	*
7	*	*	*

The fifth potential group includes representatives of the environmental civil society. In Ukraine they are rarely involved in the environmental auditing process as reports of mandatory environmental auditing are not disclosed to the public. However, as the main client is the State Property Fund that pays for an environmental auditing service from the state budget, which means the Ukrainian citizen's tax money as well as the fact that Ukraine has signed *the Aarhus Convention "On Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters"*, logically, these reports must be open to the public. The results of voluntary environmental auditing is confidential information and only the client can decide to reveal or not the information, therefore, civil society is not involved in the process. In contrast, the international finance organizations (the EBRD and the IFC) are required public hearings with all stakeholder groups on the results of environmental auditing before making a decision on the investment. I planned to attend public hearings organized in the framework of *the EBRD project 'On the environmental and social impact assessment for the Facility 'Installation of second 750 kV autotransformer at SS 750 kV 'Kyivska' with diversions of OHL 330 kV' – Parts C and D of the 750 kV Rivne-Kyiv High Voltage Line Construction Project'*. This project would have focused on the improvement of the already existed electric grid, However, it was frozen and I did not have a chance to interview the representatives of the environmental civil society that are potentially involved in the environmental auditing process.

An important step in the preparation for interviews is the development of interview guides. I prepared separate questionnaires for environmental auditors, scientific experts and the

representatives of the Ministry of Ecology and Natural Resources (see ANNEX I, ANNEX II and ANNEX III). Moreover, I developed Ukrainian and Russian questionnaires to conduct the interviews in either language depending on the informants' preferences, as this strategy helped to create a peaceful atmosphere and establish friendly relationships with all interviewees. I asked informants about their beliefs, perspectives, opinions, and attitudes concerning the evolution of environmental auditing in Ukraine, its role in environmental policy and their experiences concerning it. All questions were open-ended and formulated in a way to get reliable and valid information. Some of the key informants were interviewed several times based on the richness and relevance of the data they provided. The average length of the interview was one hour and thirty minutes (1.5) up to two (2) hours; however, some interviews were continued up to 5 hours. Many of the interviews were scheduled through my personal contacts in the environmental field. Almost all of the interviews were recorded, transcribed, and coded later. Further, in the text I present quotations from the interviews, which I translated into English for illustrating opinions of my respondents.

3.1.3. Participant and non-participant observations

Participant and non-participant observations is the third method, which I used for data collection during my field work. According to the definition, the 'observing' means "collecting information-in-society first hand by maintaining alert attention, with maximum use of the observer's complement of perceptual abilities and sensitivities, to all the accessible and relevant interpersonal and intrapersonal events going on in the immediate field situation through a period of time" (Junker 1960:15). This method relies on capacity to collect information through researcher's own senses (O'Leary 2004). Therefore, a researcher has to spend necessary amount of time in the field site and accordingly to the purpose of the inquiry integrate into local environment to some degree.

Using observation as a method for data collection has advantages and disadvantages. On the one hand, an investigator benefits as it “covers events in real time (reality); also covers context of 'case' (contextual); and insightful into interpersonal behavior and motives” (Yin 2009:102). These all brings fresh information and practical insights of the research site which is a contribution to the existing knowledge. On the other hand, this method has disadvantages such as follows: “time-consuming, broad coverage difficult without a team of observers (selectivity), event may proceed differently because it is being observed (flexibility) and hours needed by human observers (cost)” (Yin 2009:102). However, a researcher can minimize these drawbacks by good preparation and leave only small degree of uncertainly.

The difference between participant and non-participant observations is the level of engagement of the investigator with a research site. During participant observation, a researcher becomes a part of the local community or teams s/he studies. This method is often used in anthropology and ethnography studies and requires emotional and time commitments. While non-participant observation is not aiming to transform a researcher into an integral part of the community and involves watching interactions from the distance, for example observing meetings from the corner of the room. Observations is often done over a fixed of time and with a structured format (O'Leary 2004).

For the purposes of my research, I did participant and non-participant observations during three events that were maximum three hours long. To be able to cover almost everything at these meetings I was allowed to record these events and later transcribed records. Firstly, I did participant observation during two public hearings that were organized as a dialogue between the Ministry of Ecology and Natural Resources with representatives of environmental civil society in March and May, 2014. These meetings were initiated by environmental activists, and were dedicated to the operational mechanisms of the Ministry of Ecology and Natural Resources and increasing ways of

engaging public participation in decision making process in dealing with environmental challenges that Ukrainian society is facing nowadays.

Secondly, on 8 October 2014, I did a non-participant observation during the annual meeting of the Ukrainian NGO *'The Union of Environmental Auditors'* [in Ukrainian "Spilka Ekologichnyh Audytoriv"]. This organization presents itself as a professional association of environmental auditors and experts in this field, which protects rights of its members and promotes environmental auditing as one of the options of environmental consultancy. This meeting was dedicated to discuss main activities of the previous year; organization's structural changes, and plans. The agenda and style of this meeting helped me to understand the organization's features and management style, which was necessary for analyzing Spilka through the lens of the community of practice learning theory later.

Participant and non-participant observation includes not only observing the particular situation, but also taking field notes. They should include the following: time (spent with the group), place, social circumstances, language (familiarity with language), intimacy (personal involvement with the group) and social consensus (how meanings within the culture are employed and shared) (Mason 2002). I used Mason's advice for taking my field notes and supplemented them with reflective memos. Lately my field notes and memos were used as data for analysis, which methods are described in the next sections.

3.2. Data Analysis Techniques

Analyzing data is not a separate process from collecting information by literature review, interviews and observations, as it is a permanently ongoing and dynamic process during the whole investigation study. The continuous reflection on the gathered data helped me to adjust further steps of the research journey. O'Leary (2004:185) confirms this strategy by saying that "keeping a sense of the overall project refers to the need to conduct your analysis in a critical, reflexive, interactive

fashion that cycles between your data and your overarching frameworks”. I chose coding as a method for analyzing interview transcripts, policy documents, e-mail correspondence, field notes and memos. Thus, this method helped me to distinguish the differences between the practical and theoretical landscape of environmental auditing by analyzing the stories that were told to me by environmental auditors, scientific experts, and representatives from the Ministry of Ecology and Natural Recourses along with stories covered in legal documents and scientific articles.

3.2.1. Coding

*Not everything that can be counted counts,
and not everything that counts can be counted.*

Albert Einstein

Coding is a method to identify and analyze concepts by doing close examination of raw data and building reflections on that (Emerson, Fretz et al. 1995). A researcher can develop, modify and extend theoretical proposition by making frequent comparison across data so that they fit the data. This method involves line-by-line categorization of specific notes and this procedure is known as by-hand coding. A special computer program can be used to help organize coding process, but it will not code by itself. According to Steiner (2007), these softwares “replace the time-demanding ‘cut-and-paste’ approach to hundreds of pages of transcripts with ‘electronic scissors’” (Steiner 2007:99) but they do not replace the analytical work behind it. For systemizing my coding process, I used ATLAS.ti¹⁷ software, which is a user-friendly and multifunctional program at the same time.

Coding does not have strict instructions or guidelines to follow, however each coding process includes three steps: open, axial and selective coding. A coding process starts with the transcription of recorded tapes and field notes, which means to “...type the text into words processing documents...” word by word (Strauss and Corbin 1998:59). It is followed by *open*

¹⁷ **ATLAS.ti** is one of the most powerful tools for qualitative research. Managed documents, multi-document view, high-performance multimedia engine, intuitive margin-area coding for all data types, and much more (<http://atlasti.com/product/features/>).

coding that is defined as “the analytic process through which concepts are identified and their properties and dimensions are discovered in data” (Strauss and Corbin 1998:60). It means that the transcribed texts are read very carefully line-by-line with an in-depth examination of all ideas and concepts, and a comparison of the differences and similarities. After that, the data is divided into meaningful segments, which are coded later. These segments are main concepts, which a researcher labels as the result of in-depth detailed analysis. In other words, this entails assigning a code to a meaningful segment to sign. Each time a researcher codes a new segment; she should add new codes to the master list or revise the already existing ones. Thus, open coding is the first part of the process of analyzing raw data.

After open coding is completed, a more specific process of analysis starts. It is *axial coding*, which is “the process of relating categories to their subcategories, termed “axial” because coding occurs around the axis of a category, linking categories at the level of properties and dimensions (Strauss and Corbin 1998). It is the step of summarizing all results and searching for interlinks and connections among codes, as well as enumeration. The last process involves counting the number of times a word or phrase appears in the text. Enumeration is very useful for clarifying words such as “many”, “some” “a few”, “almost all” and so on. The result of axial coding is a visual conceptual map or diagram of relationship clarification between different parts of a whole. Moreover, these explanatory maps provide some kind of control and possibility to predict future events or actions. These are the results of the second cycle of coding.

The final step is *selective coding*, a process of integrating and refining the categories and subcategories. The main theme of the research is to formulate a central category and then a story line. “A theoretical scheme should flow in a logical manner and should not have inconsistencies” (Strauss and Corbin 1998:70). I did coding analysis by using open, axial and selective steps. The final step helped me to build a comprehensive story line of the introduction, evolution and operation of environmental auditing in Ukraine in line with reflection on the chosen theoretical framework.

3.3. Research Constraints

The constraints of my research originate from the following reasons: drastic turbulence in the political situation in Ukraine during my field work (February-November, 2014), limitations of my methodology and the challenge in terms of terminology translation. I have encountered several logistical obstacles due to political instability caused by the revolution and ongoing military conflict in Eastern Ukraine. Previously, I planned to start my field work in February, however, I had to delay my research by two months because of the Revolution of Dignity in Kyiv and the events that followed. At the beginning of my field work, I contacted several environmental auditors in order to schedule interviews, but as a result of the events mentioned above, they were not willing to meet. This is understandable, as the events made my research seem irrelevant in the comparison to such large issues. Specifically, the Revolution was becoming increasingly violent and, at the same time, people were expecting a full-scale war with the Russian Federation. Therefore, I was considering returning to Budapest and changing my research topic or the case study country. Eventually, I decided to stay and used the delay for an additional literature review and an active participation in the environmental activist movement as part of the Revolution of Dignity. I conducted participant observation during meetings with representatives of the Ministry of Ecology and Natural Resources that were initiated by environmental and civil society groups. Moreover, I had to abandon my original plan of contacting all environmental auditors in various parts of Ukraine due to the annexation of Crimea and the onset of the military conflict in the Donetsk and Lugansk regions, as it was too dangerous to travel there.

Each method for data collection or analysis has its own weaknesses and strengths, which I have presented in every section of this chapter. Consequently, I combined methods in a way that the benefits of one supplemented the drawbacks of another. Therefore, I used multiple methods for data collection as well as various sources of information for validation and verification of data.

A translation of environmental terminology into Ukrainian language is a challenge because some terms lack analogues that fully describe meaning. For example, there are more than five ways to translate ‘sustainable development’ into Ukrainian. In Ukrainian peer-reviewed journals, all articles have abstracts in three languages: Ukrainian, Russian and English. I noticed that auditors translate environmental auditing in four different ways: “ecological auditing”, “ecological audit”, “environmental audit” and “environmental auditing”, while they all refer to the same issue. I faced a similar problem translating the title of the main law that regulates environmental auditing in Ukraine. It was named: the Law of Ukraine “On Ecological Audit” in the Twinning Project documents, while in some other documents it was referred to as the Law “On/About Environmental Audit” or the Law “On Environmental Auditing”. This variety of translations was misleading at the beginning of my research, but I eventually grew more as I became familiar with my research topic and understood that all these terms refer to “environmental auditing”. In addition, in Belarus, Kazakhstan, Russia, and Ukraine there are no official translated into English versions of policy documents, which regulate environmental auditing, therefore, I did a translation of the descriptions of definitions and parts of the necessary documents.

Chapter 4. Use and Misuse of Environmental Auditing in Environmental Governance in Ukraine

In this chapter I will describe how environmental auditing and its different forms were established in Ukraine between 1991 and December 2015, the point at which I stopped collecting secondary data and interviewing different stakeholder groups. I have used the shift of policy paradigms theory and the collective action theory to analyse this development process, that helps explain the circumstances of its emergence and how the personal interests of a particular group of individuals played an important role in introducing a regulatory environmental policy tool in Ukraine as the country passed through a transition period. Moreover, after looking at other environmental auditing practices and their roles in contemporary Ukrainian environmental policy, I will suggest possible modifications that can make the tool better adapted for Ukraine's EU approximation of environmental legislation.

Published articles and books from Ukrainian researchers cited in this chapter reveal quite clearly a prior lack of research on environmental auditing. Some of these authors have pointed out an in-depth research on the subject is necessary, for example: "... there is no fundamental research on environmental auditing [in Ukraine]" (Kulyk 2010:160). Others have criticised the Law of Ukraine "On Environmental Auditing" (or, Law "On Environmental Auditing) and related methodology: "The law has many drawbacks, therefore further research on its implementation is needed" (Gurska 2009:133); and "...theoretical and methodological issues of environmental auditing should be explored more" (Goncharenko 2011:168). My research, therefore, attempts to fill an existing gap in the scientific knowledge on environmental auditing in Ukraine. Also, as no prior studies on environmental auditing in Ukraine have been published in peer-reviewed journals, my research can contribute to the store of international knowledge on this topic. The findings of this

chapter answer the first and second research questions by explaining how environmental auditing was introduced and developed in Ukraine, while also noting its peculiarities.

On 24 August 1991, Ukraine proclaimed independence and started a process of transition from a centrally planned, authoritarian regime to a market economy with democracy. The conditions of societal transition, combined with four unique factors, provoked the introduction of this environmental policy instrument. The four factors in question were: (1) the deterioration of the environmental situation caused by the Chernobyl catastrophe (26 April, 1986) and the polluting activities of other industries; (2) the massive privatisation of state property in the 1990s and 2000s, which necessitated the evaluation of former environmental violations (Frydman, Rapaczynski et al. 1993); (3) an opportunity to enter the European and international markets; and (4) the opening of Ukraine's borders to international investors and other financial entities who needed to assess the environmental risks associated with potential investments.

This blend of circumstances provoked the emergence of two types of environmental auditing in Ukraine: i.e. "mandatory" and "voluntary". Mandatory auditing was established primarily under the influence of the privatisation of former state property and is regulated today by the aforementioned Law "On Environmental Auditing". With one exception (see below), there are just two instances of voluntary auditing in Ukraine: (1) as a part of the environmental management system for the ISO 14001 environmental quality standard; and (2) for credit risk assessment by the European Bank for Reconstruction and Development (EBRD), the International Finance Corporation (IFC) and a few commercial banks. Another organisation in Ukraine, INTOSAI WGEA (the Accounting Chamber), also uses environmental auditing, but there is little documented information related to its application.

At the beginning of the 1990s, Ukraine lacked a suitable legal and institutional infrastructure for formulating and implementing various reforms within the transition process (Frydman,

Rapaczynski et al. 1993), and the environmental sphere was no exception. This resulted at the time in the drafting of new Ukrainian environmental legislation and the foundation of many new institutions. The new environmental legislation was drawn up mostly from old Soviet legislation and best international practices. For instance, the emission standards of the former USSR were translated from Russian into Ukrainian in the 1990s, and many of them are still used today in Ukraine, having never been revised. Consequently, these emission standards are neither aligned with current international norms nor compatible with newer technology (OECD 2003). Moreover, the old Soviet limits for soil contamination still have not been updated in line with European standards, and Ukraine has yet to establish limits for underground water contamination, according to the environmental auditor and current director of the Center for Environmental Consulting and Auditing in Kyiv. Thus a mix of old and new environmental legislation still applies in Ukraine, and this set of rules and mechanisms forms the basis for current environmental auditing practices.

In the course of my research I explored in detail the evolution and development of environmental auditing by focusing on both the shift of policy paradigms theory and the collective action theory. Taking an approach that has never been done before in Ukraine, my investigation is built on an overview of the existing literature and an analysis of policy documents and information gathered via semi-structured, open-ended interviews with different stakeholder groups involved in the environmental auditing process. I have divided the evolution of environmental auditing in Ukraine into three stages: ‘preliminary’ (August 1991–May 2004), ‘foundation’ (June 2004–December 2010) and ‘stagnation’ (January 2011–December 2015). All the related activities of these three stages are presented in Figure 4.1 and Table 4.1 below. Accordingly, the timeline (from 1991 to 2015) is divided into three periods and marked in different colours: purple, blue and green. For added clarity, significant projects and events are identified above the timeline, while relevant regulatory documents (i.e. laws and resolutions) are shown below this line.

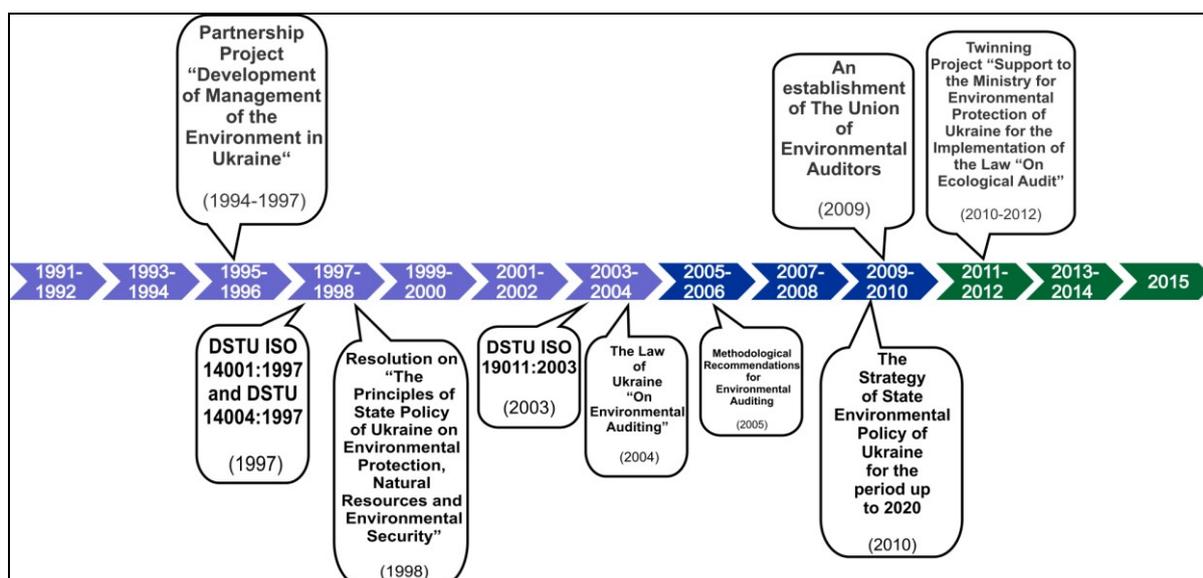


Fig. 4.1. Timeline of Ukraine's environmental auditing evolution

Table 4.1 provides more information about each stage of the evolution of environmental auditing in Ukraine.

Table 4.1. Timeline of Ukraine's environmental auditing evolution

Periods	Main events
August 1991 – May 2004 Preliminary stage	<ul style="list-style-type: none"> • P: The Partnership Project “Development of Management of the Environment in Ukraine”, (Dnieper River regions), (1994–1997). • L: The Verhovna Rada¹⁸ published a Resolution on “The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security” (1998). • L: Establishment of DSTU ISO 14001:1997 and DSTU 14004:1997 (1997). • L: DSTU ISO 19011:2003 “Guidelines for Quality and/or Environmental Management Systems Auditing” (2003).
June, 2004 – December 2010 Foundation stage	<ul style="list-style-type: none"> • L: Law of Ukraine “On Environmental Auditing” (2004). • L: Law of Ukraine “On Environmental Protection”, Article 49. Environmental Insurance and Environmental Audit (2004). • L: Law of Ukraine “On Privatising State Enterprises” (1992), Article 7, State Privatising Institutions (2004). • L: Law of Ukraine “On Privatising Small-Size State Enterprises” (1992), Article 8, Preparation of Small Privatisation Object for Sale,

¹⁸ The Ukrainian Parliament.

	<p>(2004).</p> <ul style="list-style-type: none"> • Methodological Recommendations for Environmental Auditing (2005). • E: Registration of the Union of Environmental Auditors (Spilka) (2009).
<p>January 2011 – December 2015</p> <p>Stagnation stage</p>	<ul style="list-style-type: none"> • L: Law of Ukraine “On the Fundamental Principles (Strategy) of Ukraine’s State Environmental Policy for the Period up to 2020”, Chapter 4. Instruments for implementation of national environmental policy, 4.5. Environmental audit and system of environmental management (2010). • P: Twinning project “Support to the Ministry for Environmental Protection of Ukraine for the Implementation of the Law “On Ecological Audit” (2010–2012). • L: Sustainable Development Concept for Ukraine (+) (2010). • L: Sustainable Development Strategy (-) (January 2015).

The preliminary stage is characterised by the introduction of the concept of environmental auditing and the creation of a theoretical, legislative and practical background for its further development: Ukrainian experts were first taught the basic ideas of environmental auditing methodology and techniques during this period. The foundation stage marks the tool’s final legislative basis for regulation, and also sets the conditions needed to establish a community of environmental auditors: during this period environmental auditing was seen as a prospective environmental consulting service, resulting in several individuals obtaining environmental auditor certification from the Ministry of Ecology and Natural Resources. Finally, the stagnation stage is characterised by a drop in the number of certified auditors and unsuccessful attempts to improve the Law “On Environmental Auditing”. This decrease continues: as of 2014, there were 90 certified environmental auditors, and now (at the time of writing this dissertation) there are only 59.

4.1. First Stage: Preliminary (1991-2004)

The preliminary stage refers to the period from August 1991 to June 2004, when the need for mandatory and voluntary environmental auditing emerged in Ukraine. The idea of establishing a split between mandatory and voluntary environmental auditing was already apparent at this stage to

serve two separate purposes: (1) to function as an element of state environmental controlling in the context of privatisation; and (2) to improve environmental performance for ISO 14001 certification. This section introduces chronologically those developments and events which were most influential in bringing this tool into practice, such as: privatisation, foreign investment interests in Ukraine, and the desire of Ukrainian industries to enter the global market. The Ukrainian/Canadian partnership project (1994-1997), the DSTU ISO 14001 family of standards 14001:1997; 14004:1997; and 19011:2003, and the Resolution on “The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security” (1998) were all instrumental in introducing the idea of environmental auditing in Ukraine, and also served as the theoretical, legal and practical bases for the subsequent foundation stage of its evolution.

The transition process from a planned economy to a market economy in the “Eastern Bloc” countries was led through the privatisation of state-owned companies and the “opening up” of borders to the international market in the 1990s. Politicians in these countries viewed privatisation as a means of boosting productivity and efficiency while also creating a fecund environment for entrepreneurship, modernisation and innovation (Klarer and Moldan 1997). Moreover, privatisation was presented as a way to “increase economic efficiency by reducing subsidization, defining and transferring property rights, and removing soft budget constraints” (Panayotou, Bluffstone et al. 1994:158). The original intent of privatisation in post-Soviet countries, however, is questionable — and so are the end results. At the beginning of the 1990s, there was nothing to distinguish the rhetoric of representatives of the Ukrainian government under President Leonid Kravchyk and Prime Minister Vitold Fokin from other mainstream politicians at the time, as they “recognized privatization as a major feature of this transition process” (Frydman, Rapaczynski et al. 1993:111).

In each post-socialist country, the privatisation process had its own special characteristics and was organised in a different way, based on different social needs and policy priorities (Panayotou, Bluffstone et al. 1994). For example, in Czech Republic, Hungary and Poland,

environmental auditing was adopted as the main instrument of response to the requirements of privatisation (Panayotou, Bluffstone et al. 1994:166). The case was different in Ukraine in that privatisation was carried out from the beginning without requiring environmental auditing for previous environmental liabilities.

Privatisation was officially launched in Ukraine in 1992 with the publication of the Law of Ukraine “On the Privatisation of State Enterprises”, the Law “On Privatisation Certificates”, the Law “On Privatisation of Small State Enterprises” and the State Programme for Privatisation (Frydman, Rapaczynski et al. 1993). Moreover, the State Property Fund was established as a governmental institution for “...planning, implementation and analysis of the process of privations...” (Frydman, Rapaczynski et al. 1993). The essential feature of the “spontaneous” privatisation of that time was that the state-owned enterprises and companies were mostly privatised by their employees, whose share volumes depended primarily on their positions. In addition, the ability of these same employees to “acquire ownership rights through various quasi-legal and extra-legal means over the assets of their enterprises, [was] completely unregulated in Ukraine” (Frydman, Rapaczynski et al. 1993:118). This meant that the director of an enterprise with a proportionally larger percentage of shares was able to privatise a bigger part of the enterprise. Also, contrary to ideal practice, enterprises and companies that had never been on the market in Ukraine were privatised during this wave without any requirements in place for value assessment. There was thus no requirement to establish a monetary value (price) for the enterprise; nor was it required to assess a given industry’s impact human health and the environment.

Regarding the latter point, long-term employees with an intimate knowledge of their firms’ activities over the years had a vested interest in covering up any environmental and health liabilities during privatisation. On the other hand, it was also often the case that the Soviet state concealed industrial accidents from its own workers; it was therefore only in the 1990s that the citizens of Central and Eastern Europe became aware that such accidents had taken place

(Panayotou, Bluffstone et al. 1994:159). It is understandable, then, that there was no knowledge of environmental auditing practices in the post-Soviet establishment of an independent Ukraine. Lastly, due to the political and economic crisis at the beginning of the 1990s, environmental issues were deprioritised in Ukraine. All of these circumstances combine to explain the absence of environmental auditing at the beginning of the privatisation process in Ukraine.

Generally, the privatisation of state ownership was done in three stages in Ukraine. The first stage (1992–1994) was called “initial privatisation” (Pashaver, Verhovodova et al. 2003). The second stage (1995–1998) was called “massive privatisation” because of the high number of privatised enterprises (Pashaver, Verhovodova et al. 2003); the mechanism of privatisation during this stage, however, was similar to that of the previous stage and did not include the identification of the market prices of the enterprises being privatised. Only the third stage of privatisation (1999–2003), called “individual monetary privatisation” (Pashaver, Verhovodova et al. 2003); this type of privatisation required environmental auditing for the identification of real price and environmental liabilities, which was one of the reasons why the Law “On Environmental Auditing” was published in 2004. This law officially introduced mandatory environmental auditing as a tool of environmental governance in Ukraine.

Foreign investors were unwilling to invest in Ukrainian industries right away at the beginning of the 1990s. They viewed the newly independent country, which was experiencing institutional, administrative and legal uncertainties at the time, as a “black box” on the global map (Panayotou, Bluffstone et al. 1994). Furthermore, the Western media was portraying Central and Eastern European countries as guilty of hiding large numbers of environmental violations (Dunn 2004). Ascertaining purchase and sale prices proved another obstacle in the privatisation process, as Ukrainian industries had never been on the free market (Dunn 2004). Given the risks of investing in Ukrainian industries at the time, foreign investors proceeded with caution and sought first to learn more about the country and its possibilities. Investors did not want to be held responsible for former

environmental liabilities, nor did they wish to supply the “deep pockets” of cash to “pay for the clean-up of past contaminations...” (Panayotou, Bluffstone et al. 1994:159). What they generally required instead for investment was an environmental auditing process that brought the countries of Central and Eastern Europe in line with prevailing international standards.

One of the ways that Western countries sought to reduce their investment risks was to support Ukraine in developing national legislation and capacity building. One such example was cooperation between the Canadian and Ukrainian governments between 1994 and 1997 in carrying out a technical support programme called “Development of the Management of the Environment in Ukraine”, which focused on the Dnieper River regions. The Ukrainian scientific literature on environmental auditing portrays this project partnership as a starting point of its development (Bondar, Bilyavskiy et al. 2011).

This project had legal, practical and theoretical results. The legal outcome of the project was the Resolution “On the National Programme of Environmental Rehabilitation of the Dnieper Basin and Improvement of Drinking Water Quality”, which was issued in 1997 (Verhovna Rada Ukrainy 1997). In this document, environmental auditing was presented in two contexts: first, as a mechanism for assessing new technologies for wastewater treatment plants; and, second, as one of several, new market-based tools. A practical result of this partnership project was the establishment of a community of experts in environmental auditing in Ukraine. Part of the project involved Canadian environmental auditors providing training to Ukrainian experts on the main principles and methodology of environmental auditing. Together with their Canadian colleagues, the Ukrainian experts were able put their new skills and knowledge to use soon afterward in conducting environmental auditing of various industries along the Dnieper River, such as a number of agricultural complexes and a large wastewater treatment plant (Mishchenko and Grycuk 2008). The theoretical outcome of the project was the textbook *Environmental Audit*, published in 1997 and

written by Vasyl Shevchuk, Yuriy Sataikin and Vasyl Navrockyy, in 1997. This was the first book about environmental auditing to appear in Ukraine (Bondar, Bilyavskyi et al. 2011).

At that time, Ukrainian enterprises and companies did not meet various international quality standards of the European and global markets, which prevented them from being competitive on the international market. While this situation made clear the need to introduce the ISO 14001 series in Ukraine at the end of the 1990s, there was also another stimulus. Ukraine's environmental legislation was then being drafted, and lawmakers were borrowing the best international practices for environmental protection and adapting them to Ukrainian circumstances and needs (Koyfman Y and Komotska T 1997). The ISO 14001 series of standards was therefore introduced to help Ukrainian businesses to minimise their negative impacts on the environment and human health, to improve their environmental performance, and to boost their competitive advantage on the global market.

In 1997, two environmental management system standards of the ISO 14001 family became national standards in Ukraine. This is a voluntary certification for which environmental auditing is used to assess and improve an enterprise's environmental performance. The verbatim translations of the respective ISO standards are the following: DSTU ISO 14001:1997 "Environmental Management Systems: Requirements with guidance for use", and DSTU 14004:1997 "Environmental Management Systems: General guidelines on principals, systems and supporting technique" (Bondar, Bilyavskyi et al. 2011). Later, in 2003, one more standard, DSTU ISO 19011:2003 "Guidelines for Quality and/or Environmental Management Systems Auditing", was launched in Ukraine (DSTU ISO 19011:2003 2003). The obtainment of ISO 14001 and ISO 19011 certification standards thus gave Ukrainian enterprises a good opportunity to increase their productive competitiveness, both on European and international markets.

In 1998, the Ukrainian Parliament adopted the Resolution on “The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security”, which was the next step towards creating a legal basis for the regulation of mandatory environmental auditing (Resolution of Ukrainian Parliament 1998). It not only listed highly polluting industries that required a mandatory environmental auditing, but also introduced environmental auditing as a state tool for environmental control. The resolution, however, lacked instructional information about the environmental auditing procedure and its particular characteristics. Because there was no unified, adopted methodology or guidelines for mandatory environmental auditing, my interview subjects tended to characterise the time period before the launch of the Law “On Environmental Auditing” as “chaotic”.

In 2003, the OECD published its research on developing effective packages¹⁹ of environmental policy instruments in Eastern Europe, Caucasus and Central Asia as the environmental policy reform had not been fully implemented the countries of these regions. The OECD experts classified instruments according to their role in an environmental management program (see Table 4.2.) as it should be an essential part of new way of environmental governing in the region of Eastern Europe, Caucasus and Central Asia. This classification includes two groups of tools: command-and-control (requirements for polluters) and market-based (an additional stimulation to meet the requirements). According to OECD classification, environmental auditing should belongs to market based group of tools that are used to help producers to comply with environmental legislation.

¹⁹ **Policy packages** – coherent mixes of policy tools that exploit synergies for achieving environmental policy objectives in a cost-effective manner and avoid policy conflicts (OECD, 2003:8).

Table 4.2. Major blocks of interrelated instruments, based on their role in an environmental management program (OECD 2003:8)

Instruments that establish regulatory requirements for polluters:	Instruments that are used to either compel or stimulate polluters to comply with environmental requirements:
<ol style="list-style-type: none"> 1. Standards, 2. Permits. 	<ol style="list-style-type: none"> 1. Monitoring and reporting, 2. Strategic enforcement, 3. Economic instruments (pollution charges), 4. Environmental liability rules, 5. Compliance promotion.

In contrast research on the mechanisms of environmental governance in Ukraine of the Ukrainian scholar showed that environmental auditing belongs to the command and control group, which also included environmental management institutions; environmental impact assessment and certification; environmental monitoring; information, regulatory and statistical base; quality control and environmental safety of the final product; economic marketing; environmental and economic analysis of economic activity (audit); planning and forecasting at all levels of environmental management; environmental infrastructure; non-economic promotion of environmental protection activities; and environmental education. Although *market-based* tools consisted of environmental and ecological tax payments; financing and loans; investments and innovation; economic responsibility for economic security (sanctions); promotion of environmental management; environmental risk insurance; financial promotion of environmental good housekeeping; and pricing) and visualized in Figure 4.2. These two studies showed that there was a contradiction of understanding role and purpose of environmental auditing by the researchers outside and inside of the country of my research, which led to the emergence of two types of environmental auditing in Ukraine.

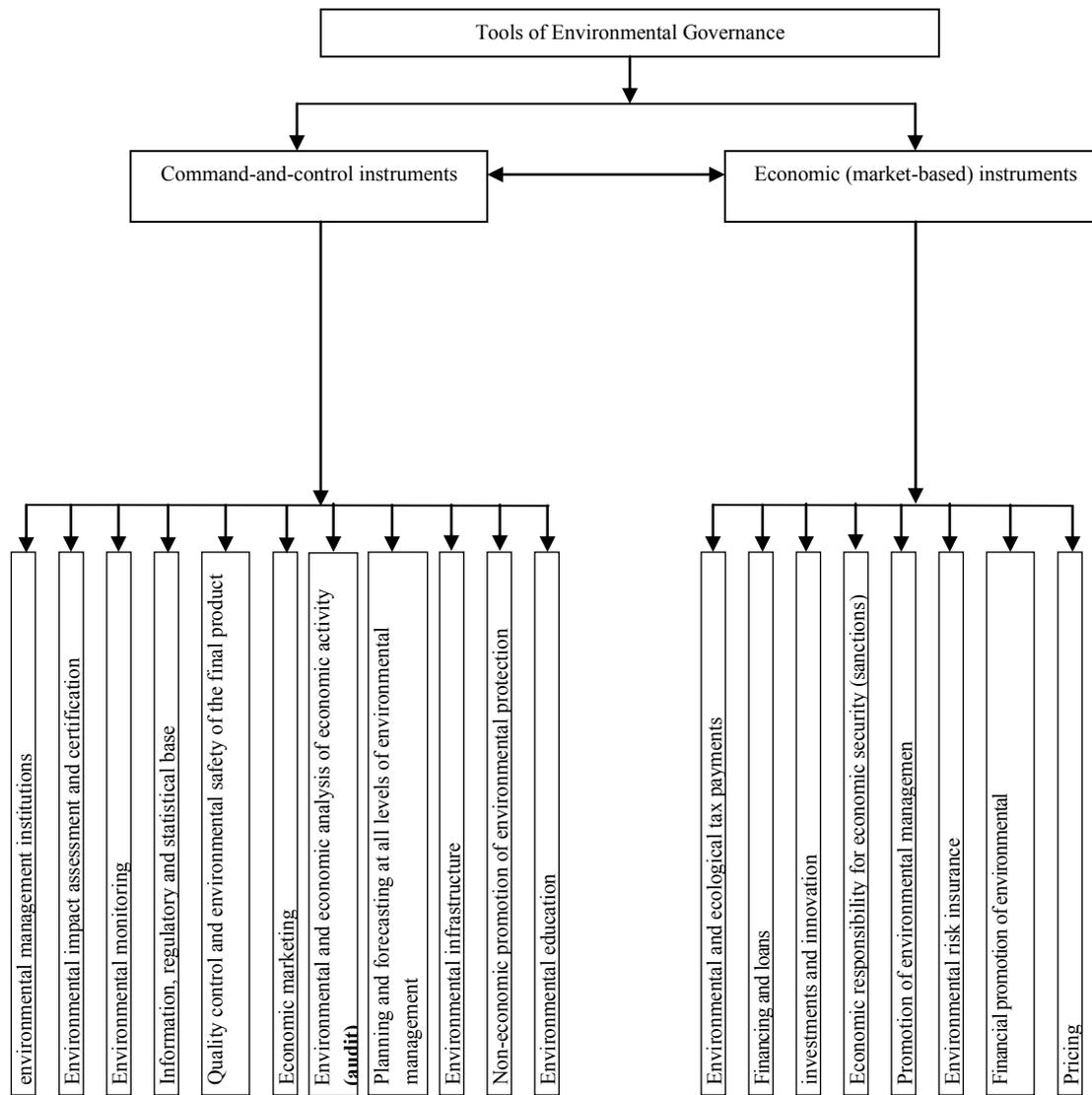


Fig. 4.2. The model of regulatory instruments for environmental protection and resource management (Veklych 2003:11)

4.2. Second Stage: Foundation (2004 -2010)

On 24 June 2004, the Law “On Environmental Auditing” was passed to regulate the mandatory type of environmental auditing. This opened a new stage in the history of environmental auditing that lasted until 2010 — i.e. the “foundation” period. This section provides an overview of this law: its establishment through interest-group theory; a comparison of the official definition of “environmental auditing” and other meanings for different stakeholder groups involved in this process; a review of the methodologies used in environmental auditing; and a criticism of the law, followed by the analysis of its proposed amendments. This sequence helps to reconstruct

chronologically the development of a legal basis for the regulation of environmental auditing, and also highlights corruption issues connected to a particular group of individuals reaping personal benefits. A review of the Ukrainian literature shows that this kind of analysis has never been done, and can therefore bring fresh insights to this research topic. This period brought to a close the formation of the legal background of environmental auditing that supported future development of the community of environmental auditors.

4.2.1. The process of developing and adopting of the Law “On Environmental Auditing”

I have reconstructed the development and adoption process of the Law “On Environmental Auditing” based both on information provided by interviewees and a review of the available literature. Initially, three groups of experts were preparing a draft law at the same time: a group of independent scientists, a group of experts at the Ministry of Ecology and Natural Resources and a group of experts from the Administration of the President. According to my interviewees, the ability of the experts from the Administration of the President to lobby on behalf of their personal interests was instrumental in their version being selected. The responses presented below confirm this claim from a practical point of view, while interest-group theory supports the same conclusion from a theoretical perspective.

I asked my interviewees why the Law “On Environmental Auditing” was created, and I grouped their answers into the following five categories: (1) for personal gain, coupled with corruption; (2) because of developments in the EU; (3) because of massive privatisation; (4) in response to low levels of environmental awareness and pro-activity of Ukrainian citizens; and (5) to establish a new profession. According to my respondents, the overarching goal of the law is to protect the environment, as environmental auditing provides recommendations to help enterprises improve environmental performance and reduce harmful environmental impacts.

Interestingly, many environmental auditors highlighted that the main reason for the introduction of this law was the personal interest of the former deputy minister, who is the current president of the Union of Environmental Auditors. Collective-action theory explains this situation through the assertion that some groups of people can protect their own interests more easily than those of others. My interviewees claimed that the former deputy minister lobbied for this law with the intention of creating a new environmental consultancy sector for personal financial gain. One of my interviewees, who works at the State Environmental Academy of Postgraduate Education and Management, described the situation as follows:

Everything started when [he] was deputy minister. He initiated this law while he was working at the Ministry of Ecology and Natural Resources. This law and all further regulations were created and adopted at that time. To be honest, it was an attempt to create a new niche for environmental services ... as well as to create a training programme for potential environmental auditor candidates, which is already a scheme that brings money. Nowadays, there are many certified auditors, but not enough work for everyone because enterprises and companies are not interested in these services.

The second reason for issuing this law, according to my respondents, was the widespread intent of new transition countries to adopt best practices from the West after the collapse of the USSR in the 1990s. The legal adoption of environmental auditing in Ukraine carried a symbolic meaning, as well. However, my research found that this law regulates mandatory environmental auditing that occurs only in post-Soviet countries like Belarus, Kazakhstan, Russia and Ukraine, and for which there are no analogues in European practice (see Chapter 1). What this shows is that the needs of societies in these countries provoked some modification of environmental auditing accordingly. Environmental auditors that I interviewed expressed opinions about why the law was created in the following ways:

... [I]t was popular. It was an attempt to show that we have something similar to Europe.

I think the law was created to demonstrate an aim to join the EU and to show that our legislation complies with European norms.

The third reason for adopting the Law “On Environmental Auditing” was the need to deal with potential environmental liabilities in the privatisation process; and this was the key reason why the international practice of voluntary environmental auditing transformed into a mandatory process in Ukraine. Almost all of Ukraine’s big industries had already been privatised by 2004, but a tool was still needed to assess the environmental liability of enterprises and to help balance the exchange of information between owners and potential buyers (Dunn 2004). As the director of the Center for Environmental Initiatives explained:

I will tell you the truth. The US Embassy funded this law. In Ukraine the privatisation issue was uncertain, as it was not clear who was to pay for previous environmental degradation. The new owner could end up with many problems. Businesses asking: Who should pay for the past damage? As all enterprises had been state property, the state had to assume responsibility. The environmental auditor had to identify the environmental condition at the current moment — in terms of waste, possible damage etc. — before privatisation. But at the time it was impossible to evaluate the damage in financial terms because in the document it was described either in tonnes or in cubic metres.

The fourth reason expressed by the interviewees was that Ukrainian society needed the law because of low levels of environmental awareness and a lack of citizen pro-activity — legacies of the recent Soviet past. Some, citing these weaknesses, characterised Ukraine as a “police state” in which only a top-down approach of enforcement and control was capable of provoking changes. Moreover, according to an environmental auditor employed at the Intel-Project Company, environmental auditing has to be regulated by special legislation because Ukrainians are always looking for ways to ignore or circumvent the law. The quotes below show that many of my interviewees share the same opinion.

We haven’t reached a [high enough] level of conscience to have voluntary environmental auditing, so enterprises should be forced to conduct environmental auditing. Moreover, it is necessary to teach environmental issues from kindergarten. Environmental knowledge should be in the human consciousness.

We [Ukrainians] live in a ‘police-controlling country’... We have to be forced to do something. Unfortunately, we need oversight or a supervisor who can punish those who aren’t following the rules. Unfortunately, this remains from the Soviet times.

The law is needed. Generally in Ukraine, the laws are not followed. What we can say about mechanisms or tools that are not regulated by the law?

In addition to these four reasons, interviewed environmental auditors noted that the introduction of this law brought a new type of service — namely, environmental auditing — to the environmental consultancy field, and the number of certified environmental auditors increased immediately after it came into effect. This shows that some of the practitioners saw environmental audit as practice that leads to the improvement of environmental performance of the enterprise, but not as a state environmental control tool. The demand for environmental auditing, however, has never been high, and the number of auditors has dropped drastically since then.

4.2.2. Defining environmental auditing

There are two types of environmental auditing in Ukraine, and it is difficult to formulate a single definition that unifies them. The Law “On Environmental Auditing” provides an official definition of this tool from a theoretical perspective, while environmental auditors work with definitions that reflect their own practical experience. I have used coding analysis to help me identify the real role and meaning of environmental auditing in the environmental governance system in Ukraine.

The official definition of an “environmental audit” is as follows:

An environmental audit is a systematic, independent evaluation process of the auditing object that includes collection and objective assessment of the evidence for establishing a compliance of certain activities, events, conditions, environmental management system and information, with the requirements of Ukrainian environmental protection legislation and other criteria of environmental audit (The Law of Ukraine "On Environmental Auditing" 2004).

This definition specifies what kind of environmental auditing practice is “a systematic, independent evaluation process of the auditing object”, the function of which is based on the gathered information and compliance analysis to the environmental protection legislation or other set criteria. It explains, in other words, what environmental auditing should be from a theoretical perspective. One respondent shared an interesting opinion with me: He described the process as an enterprise owner’s “confession” of environmental violations and liabilities. The other answers I have classified into three groups, based on the similarity of opinion. This variety of meanings attached to ‘environmental audit’ shows that there is no single understanding of the term, but it also points to the practice’s multi-functionality and wide range of applications. Representatives of the first group of environmental auditors, as well as scientific experts, offered definitions similar to the official definition (*emphasis is added in the following examples*):

Environmental audit is an *assessment of the company’s compliance* with national environmental legislation or the client’s corporate standards — for example, the EBRD or the IFC.

Environmental audit is always *a compliance audit* based on previously set criteria.

The second group described the environmental audit’s role in environmental protection and achieving sustainable goals:

Environmental audit is an *instrument of environmental control* that leads to the implementation of sustainable development principles and improved quality of life.

Environmental audit is *an activity that aims to minimise negative impacts* on the environment and improve an enterprise’s productivity.

The third group described the environmental audit process from the perspective of personal involvement:

Environmental auditing is a way *to fight against corruption*, which is why the government does not want to improve and popularise this instrument.

Environmental auditing *provides work for me and helps our clients*.

To sum up, the similarities and differences between the official definition and other interpretations of environmental audit practitioners show how this technical tool has been transformed over time and point to some of its final characteristics. The official definition of environmental auditing has had the most impact on practitioners, as they were the first to be affected by the definition. The second group of environmental auditors highlighted that environmental auditing plays an important role in environmental protection, as it decreases negative industrial impacts and can help point the way towards sustainable development; interestingly, this is the opinion that is most in line with the Ukrainian government's expressed purposes for using the tool. The final group of interviewees sees environmental auditing as an instrument with which to fight corruption.

4.2.3. Methodology for regulating environmental auditing

Following the adoption of the Law “On Environmental Auditing” was the publication in 2005 of “Methodological Recommendations for the Preparation, Implementation and Execution of Environmental Audit Reports” (or, Methodology) written by Oksana Volosko-Demkiv²⁰. This document includes three sections and several appendices, which describe the procedure of mandatory environmental auditing, (Volosko-Demkiv 2005). Article 16 of the Law “On Environmental Auditing” stipulates that an “environmental auditor can choose the form and way for conducting environmental auditing on his/her own”, which means that it is not obligatory to apply this Methodology. The Methodology is, therefore, just a guideline.

Many environmental auditors find this lack of methodological clarity challenging. One interviewee, who works at UkrLandFarming, said:

The Methodology is still not ratified. We [environmental auditors] are doing what we want on-site. On one hand, this is good because

²⁰ **Oksana Volosko-Demkiv**: certified environmental auditor, founder of the Center for Environmental Consulting and Auditing.

everyone can do what they want. On the other hand, it is sometimes hard to find a solution.

However, the need for one ratified methodology is questionable, as environmental auditing can be done for various industries according to different criteria. As an environmental auditor should adapt to each project, a non-standardised methodology affords Ukrainian practitioners more flexibility in procedural organisation. Some environmental auditors have created their own methodologies based on their own experience and practice. For example, Grygoriy Shmatkov²¹ and his team have developed their own methodology, which includes various tables and forms to fill in that are useful for collecting environmental auditing-related information that is available to anyone. The minor drawback of this approach is the time it takes to calculate each activity for on-site visits. Practice shows that environmental auditors are generally limited to between two and five days to collect data during on-site visits, while Shmatkov's methodology assumes that an environmental auditor can spend up to 30 days on-site.

Iryna Danylikna²² and her environmental consulting company, Ecosystem, have developed a methodology "not that different from the 'Methodological Recommendations', she says. (But because she has not shared the document, Danylikna's claim is impossible for me to verify.) Other environmental auditors, such as the Scientific Research and Production Enterprise, use the ISO 14001 standard methodology as an additional help in the auditing process.

To sum up, many of the interviewees share the opinion that it is necessary to update the Methodological Recommendations to reflect new circumstances and legislation, as well as to modify it for different types of industries. They also believe that the methodology should be unified

²¹ **Grygoriy Shmatkov:** PhD, Professor at the State Environmental Academy of Postgraduate Education and Management, certified environmental auditor, director of Center for Environmental Audit and Clean Technology.

²² **Iryna Danylkina:** First Vice-President of the Union of Auditors of Ukraine environmental, CEO of Ecosystem, certified environmental auditor.

and officially adopted by the Ministry of Ecology and Natural Resources. However, international experience shows that each environmental auditing project is unique; therefore, a flexible methodology — whether roadmap or set of guidelines — is better than a standardised methodology. To conclude: While it is necessary to upgrade the existing methodology, the benefits of locking into place a standardised methodology are questionable.

4.2.4. Two amendments to improve the Law of Ukraine “On Environmental Auditing”

The Law “On Environmental Auditing” has come under strong critical attack both from scholars (Bilyavskiy 2009; Gurska 2009; Basancov and Panteleychuk 2010; Meh and Kulyk 2010; Goncharenko 2011) and practitioners (interviewed environmental auditors). They argue that the law is poorly written and has various semantic and procedural drawbacks. My respondents highlighted that “it does not include social and health issues”, while the current international tendency is to combine health, social and environmental issues into a single audit. My interviewees also pointed out that “secondary legislation has not been developed yet”, which creates problems in their practice. In addition, the interviewed note that the law has a declarative nature: “Neither the Civil Code nor the Economic Code of Ukraine stipulate legal penalties for not carrying out mandatory environmental auditing.”

Interestingly, few scientific experts and environmental auditors expressed the opinion that there is no need for this law at all, as in international practice the instrument is applied most widely on a voluntary basis. However, the law as it is applied in Ukraine regulates mandatory environmental auditing related mostly to privatisation activities. The main overall conclusion to be drawn from this criticism is that the law has a number of drawbacks and imperfections — which leaves considerable room for improvement. There have been two official attempts to improve the law since 2004 (i.e. 2008 and 2012), which confirms the criticism from practitioners and theorists of the law’s weaknesses.

In 2008, the Ministry of Ecology and Natural Resources initiated research on updating the Law, which was the first revision attempt. A team of environmental auditors, coordinated by Natalya Malysheva²³, carried out the study. The second attempt was a two-year twinning project called “Support to the Ministry for Environmental Protection of Ukraine for the Implementation of the Law on Ecological Auditing”, which ended in 2012. The goal of this project was to improve the Ukrainian legislation on environmental auditing in line with European standards.

My analysis shows that there are a few similarities and many differences between these two attempts to improve the law. With regard to procedure, they both focused on clarifying definitions and terms used in nearly every article of the law. Neither of the attempts were adopted; nor did they result in significant improvements of the Law “On Environmental Auditing”. Moreover, for reasons unclear, it was difficult for the public to access the final documentation of the two proposals to revise the law. The Ministry of Ecology and Natural Resources was working on two amendments, and the results of its work should have been in the document archive. I sent an information request to the ministry asking for these materials. After one month, I received a just one-page general overview of the projects and their outcomes (see Annex V). This indicated to me that the ministry is unwilling to make available to the public the final materials related to these legal amendments. Fortunately, my interviewees shared these materials, so I have been able to analyse them.

These two proposed amendments also have many differences, which I have grouped into the following four categories: (1) source of project funding; (2) purpose of improvements; (3) presentation of final results; and (4) public access. As for the first category, work on the proposed legal revisions was financed from different sources. Malysheva’s team carried out its work on behalf of the Ministry of Ecology and Natural Resources, a government institution funded from the

²³ **Natalya Malysheva**: Doctor of Law, Professor, Head of the State and Law Institute, Ukraine.

Ukrainian budget. The aforementioned twinning project, on the other hand, was funded by the European Commission.

Each of the two proposed versions was prepared to achieve a different particular improvement, and the suggested changes and corrections to the documents differ accordingly. The main idea behind Malysheva's version was to present environmental auditing as a new service of environmental entrepreneurship (Malysheva 2008). The twinning project focused on the compliance of Ukrainian environmental legislation on environmental auditing with European standards (The Twinning Project 2012). This difference of intent also influenced how the final results were presented. For instance, in the first revision (2008), changes were present in almost every article to highlight environmental auditing as a new form of environmental entrepreneurship. The second version (2012), on the other hand, included three separate documents to help clarify issues related to privatisation, and also provided additional explanatory details concerning mandatory and voluntary audits.

The main peculiarity of the Law "On Environmental Auditing" is its regulatory selectivity, which is driven mainly by the needs of political actors. The re-privatisation process of the *Kryvorizhstal*²⁴ *Steel Production Complex* is an illustrative example of this selectivity. In a case that made news headlines in 2004 and 2005, right after the Orange Revolution, the newly elected government accused the Kryvorizhstal oligarchs, Renat Ahmetov and Viktor Pinchuk, of illegally privatising the enterprise. Prime Minister Yuliya Tymoshenko charged that Kryvorizhstal had been privatised without following various Ukrainian legal norms and rules, and that the selling price had been set too low and in favour of the oligarchs. In particular, the failure to have conducted an environmental audit prior to the sale was a breach of the Law "On Environmental Auditing". As a

²⁴ **Kryvorizhstal** (officially ArcelorMittal Kryvyi Rih), Ukraine's largest integrated steel company, is located in the Ukrainian city of Kryvyi Rih.

result, an environmental audit was carried out in 2005 to assess Kryvorizhstal's environmental liability.

The results of financial and environmental audits revealed that the initial sale price for the steel firm was, indeed, set very low. After reassessment, Ahmetov and Pinchuk were asked to pay the price difference, but they refused, so the Kryvorizhstal complex was reclaimed as state property and later privatised once again. It was sold at auction and became a part of Mittal Steel Germany GmbH. What this example of re-privatisation shows is that the Law of Ukraine "On Environmental Audit" could function properly, if necessary, for powerful political actors. The environmental auditors I interviewed claimed that environmental auditing is often conducted only after an enterprise has already been privatised.

4.2.5. Upgrading ISO 14001 standards during the 'foundation' stage

The main features of ISO standards are their continual development and improvement. In 2006, the adopted standards, DSTU ISO 14001:1997 and DSTU ISO 14004:1997, were replaced by DSTU ISO 14001:2006 ("Environmental management systems: Requirements with guidance for use") and DSTU ISO 14004:2006 "Environmental management systems: General guidelines on principles, systems and support technique". This tendency to adopt the latest versions shows that Ukraine is actively attempting to keep up with ISO environmental quality standards and improvements. This in turn helps Ukrainian industries to adapt to the changing environmental rules of the global market. At present, there are 12 more ISO 14001 standards²⁵ that have become national in Ukraine.

In May 2008, Ukraine became a member of the World Trade Organization (World Trade Organization 2016), which uses the ISO 14001 standard as a part of its trade agreements (Watson

²⁵ DSTU ISO 14015:2005; DSTU ISO 14020:2003; DSTU ISO 14021:2002; DSTU ISO 14024:2002; DSTU ISO/TR 14025:2002; DSTU ISO 14031:2004; DSTU ISO/TR 14032:2004; DSTU ISO 14040:2004; DSTU ISO 14041:2004; DSTU ISO/TR 14049:2004; DSTU ISO 14050:2004; DSTU ISO 19011:2003.

and Emery 2004). This is an indirect market force for improving the environmental performance of companies and enterprises, as explained in Chapter 1. At the same time, however, it creates barriers for industries in developing countries attempting to enter the global market, because getting ISO 14001 certification is an expensive process — sometimes prohibitively so. In addition, the WTO has a reputation for prioritising trade concerns over environmental concerns: “[W]hen issues essentially of free trade, on one hand, and environmental regulation, on the other, have come into conflict, the GATT/WTO dispute system has always found in favour of trade and against environmental regulation” (Hartwick and Peet 2003:2002). Nevertheless, Ukraine’s WTO membership has helped to promote voluntary environmental auditing by compelling firms in the country to obtain ISO 14001 certification.

4.3. Third Stage: Stagnation (2010-2015)

The Law “On Environmental Auditing” is poorly written, which creates many possibilities for misunderstanding and misinterpretation of its terms and definitions. As mentioned in the previous section, several attempts have been made to improve the law. In this section, however, I describe the purposes, procedure and outcomes of a EUR 1.05 million twinning project titled “Support to the Ministry for Environmental Protection of Ukraine for the Implementation of the Law on Ecological Audit”. This analysis helps to explain why, after two years of project implementation, the law has not been improved; it also explains why it remains impossible to obtain results from the ministry. Moreover, I show how environmental auditing is used currently: as part of an environmental management certification system in line with ISO 14001 and EMAS standards; by financial institutions to determine credit risk; and for the representative organisation of the INTOSAI WGEA to assess environmental policy compliance.

4.3.1. The twinning project “Support to the Ministry for Environmental Protection of Ukraine for the Implementation of the Law on Ecological Audit”

This twinning project, which started in 2010 and ended in 2012, was a collaborative effort involving Ukraine (Ministry of Ecology and Natural Resources; State Ecological Academy) as a neighbouring partnership country, with Austria (Environment Agency Austria) and the Czech Republic (Ministry of the Environment) providing expert support (Environmental Agency Austria 2012). The project was intended as a support to revise and upgrade Ukraine’s legislation on environmental auditing (Environmental Agency Austria 2012). The main project goal was to “improve and increase the effectiveness of the functioning of the Ministry of Environmental Protection, especially in the scope of ecological audit and the expectant provision of and access to information” (Environmental Agency Austria 2012). The expected results included three components: “the improved legal and methodological basis for carrying out ecological audits, improved system of certification and accreditation of ecological auditors, and enhanced professionalism and increased awareness of all parties involved in ecological auditing, including NGOs” (Environmental Agency Austria 2012). But the objectives of the twinning project were overly ambitious, and the absence of significant results proves this.

Interviewee responses have helped me to construct a complete story of how the project developed, which is not available in any previous literature. The project initiator was the former Deputy Minister Vasyl Natreba²⁶, who lobbied for the establishment of the Law of Ukraine “On Environmental Auditing” in 2004. In other words, six years after the law was published and mandatory environmental auditing was introduced, the same person initiated a twinning project to improve the existing tool. Natreba coordinated project negotiations with representatives of the European Union, but his draft proposal failed to meet the criteria of the European Commission.

²⁶ I use pseudonyms for all participants of this twinning project.

Another environmental auditor, Tetyana Bondar, was then asked to rewrite the project proposal, and her version met the criteria.

A third person, Semen Koval, was in charge of implementing the twinning project from the Ukrainian side. The fact that three different people initiated, authored and implemented the twinning project raises questions over project continuity and ownership rights. The uncertainty over ownership — and, to some extent, the involvement of numerous people at different stages of the project — might be one reason for the project's insignificant results and outcomes, according to an interviewee affiliated with the State Enterprise Center for Ecological Initiatives. On top of this, the project coordinator from the EU side was Tsvetalina Zhechkov, who, according to environmental auditors teaching at the State Environmental Academy of Postgraduate Education and Management in Ukraine, was not an expert in the environmental auditing field and therefore incapable of making the project successful. For instance, not a single meeting or training for Ukrainian environmental auditors was organised over the two-year course of the project.

Interviewing practitioners gave me a chance to identify the actual outcomes of the project, in contrast to the information that can be found in the media (Five Channel Live 2012) and on the project website (Delegation of the European Union in Ukraine 2012), which shows its success. Many of the people I interviewed had never heard about the project; in addition, they had not noticed any changes in their professional sphere in recent years. Those who were aware of the project saw it as a money-laundering exercise that produced no meaningful results. What this revealed is that environmental auditors in Ukraine remain generally unaware of the twinning project mechanism, which is an international expert consultancy to help solve particular problems. The budget of the twinning project is used to hire knowledgeable experts on a given topic, which generally makes it more difficult to steal. Nevertheless, my interviewees made the following claims:

It would be hard to create something worse than this project.” “There are no results, as it is a money-laundering project.” “The idea behind the project was to develop changes to the law, but nothing was done.” “This project didn’t bring anything ... just money was stolen.

Their responses point to the presence of corruption in this particular twinning project. Such speculation is supported by the facts that the results of the twinning project are not published and that it is difficult to gain access to them from the Ministry of Ecology and Natural Resources. One of the environmental auditors described the project as follows:

We were not informed about the results of this project. We tried to get access to the results from the ministry by official request. However, it was not successful. Of course, we have the results but we want to get an official reply from the ministry. If we want to have changes, we should have support from the ministry. They do not even want to tell the names of people who travelled to learn European experience.

This response encouraged me to send an information request to the ministry asking for the twinning project results. After one month, I received the following answer (see Annex V):

The result of the implementation of this project was the development of a number of proposals for creating the secondary legislation for mandatory and voluntary environmental auditing, and an assessment of previous pollution levels (historical pollution) emitted before privatisation. All these will help to approximate Ukrainian legislation to European legislation.

This answer contradicts the opinions of practitioners who noted that the Law “On Environmental Auditing” has not been improved and that the secondary legislation has not been created. The only tangible outcome of this twinning project was the publication of three booklets (see Figure 4.3 below). These booklets were produced in a small print run for limited circulation and are available at the library of the State Environmental Academy of Postgraduate Education and Management. My interviewees said that these booklets are full of mistakes and contain some information that is irrelevant for their practice. For instance, some of the terms in the

“Terminological Directory on the Environment” are not used at all in the environmental auditing practice. Some environmental auditors claimed that they have never carried out — let alone heard about — the environmental auditing of honey production, so terms like “beekeeping”, “queen bee”, “bee family” and “beeswax” look strikingly odd among other terms and definitions (Terminological Directory on the Environment 2012:13).



Fig. 4.3. Tangible results of the twinning project

Several things led me to wonder what was hidden behind this twinning project: the implementation procedure; practitioners’ opinions of the project, and their justifying rationale; and the impossibility of obtaining final results. One person I interviewed, who currently works at Shell Ukraine Exploration and Production I LLC, supported my assumptions as to why the ministry is not willing to disclose the project outcomes. He claims that, at the stage of environmental auditing regulated by the Law “On Environmental Auditing” that involved compliance with European practices, it became clear that there is no analogue of Ukrainian application in the EU. His response raises questions as to why the Law “On Environmental Auditing” was developed and adopted, as it appears that either its authors were not aware of European practices in 2004, or they were aware but

introduced mandatory environmental auditing to serve Ukrainian purposes. The interviewee recalled the following (*emphasis added*):

I was working at the ministry and took part in the project to bring the Law “On Environmental Auditing” into compliance with European norms. *At the stage of technical analysis, we came to the conclusion that there is no need for this law, as in the EU it is regulated by general recommendation but not by a separate law.*

To conclude, the meaning and results of this twinning project are quite questionable, and the shared opinions of environmental auditors about it have helped me to identify a few main themes. First, there is little available information about this project, and many environmental auditors have either never heard about it or have not noticed any improvements in the field in recent years — improvements being one of the project’s stated aims. Second, others suspect that the project was established as a money-laundering scheme; expenses attributed to the paying out of consultancy fees for the twinning project is out of the question, as budget funds were to be spent only on experts’ salaries.

4.3.2. Certification according to ISO 14001 and EMAS standards

At present in Ukraine, there are national and international bodies that can certify a company or an enterprise according to the DSTU ISO 14001 series. Certified environmental auditors help their clients to assess environmental performance and to develop and implement an environmental management system according to ISO 14001 family standards. On one hand, these standards are voluntary for industries; on the other, producers cannot compete on the global market without them. This provides motivation for industries to implement an environmental management system, and to certify it according to the ISO 14001 series standard.

While the number of ISO 14001-certified enterprises and companies is a useful indicator of its popularity, the statistics are not publicly available in Ukraine. Leonid Gorshkov, a scientific expert and certified environmental auditor, shared with me his assumption that around 150 industries in

Ukraine are certified according to the ISO 14001 family. He calculates as follows: in Ukraine, there are around 3,000 enterprises with ISO 90001 certificates; of these, 5–10% likely have ISO 14001 certification (i.e. 150 at the low end of the estimate). In the current context of EU-Ukraine integration and a single market for products, Ukrainian industries that want their products to be on par with European standards are most interested in obtaining ISO 14001 certification for environmental quality standards. The next step for Ukraine is to adopt the new ISO 14001:2015 “Environmental Management System: Requirements with Guidance for Use”²⁷ as a national standard at the nearest possible date.

The European Eco-Management and Audit Scheme (EMAS), another standard for environmental management, was developed for EU member countries only (see Chapter 1). There is, however a third version called EMAS III, or EMAS Global, that allows countries outside the EU to apply the EMAS quality standard. Even though Ukraine signed the Association Agreement with the EU in June 2014, it is still a non-EU member country and can only implement EMAS Global for the time being.

The goal of my internship project at the Centre for Environmental Initiatives in Kyiv was to explore the possibility of launching EMAS III Ukraine. Carrying out field work in 2014, I looked into the mechanisms described in the directive that regulate EMAS III, and discovered that eight EU member countries (Austria, Belgium, Denmark, Finland, Germany, Italy, Portugal and Spain) had special offices to provide help to companies seeking EMAS certification from outside the EU. My e-mail correspondence with these eight EMAS accreditation and licensing bodies (see Annex

²⁷ **ISO 14001:2015** specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. ISO 14001:2015 is intended for use by an organization seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability. ISO 14001:2015 helps an organization achieve the intended outcomes of its environmental management system, which provide value for the environment, the organization itself and interested parties. Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include: enhancement of environmental performance; fulfillment of compliance obligations; and achievement of environmental objectives (http://www.iso.org/iso/catalogue_detail?csnumber=60857).

VI) suggested that the mechanisms for launching EMAS in non-EU member countries are not well developed, except in Germany.

Table 4.3. Possibility of accreditation bodies to work outside of the EU

#	Country	No reply	Yes	No
1	Italy	*		
2	Portugal	*		
3	Belgium	*		
4	Finland			*
5	Austria			*
6	Denmark			*
7	Italy			*
8	Germany		*	

Table 4.3. summaries my communication with eight licensing bodies. The Belgian, Italian and Portuguese accreditation offices did not respond to my emails and phone calls. In addition, the responsible organisations in Austria, Denmark, Finland and Spain do not work with countries outside the EU for lack of financial resources and the absence of cooperation mechanisms. Only the German accreditation body was willing to provide a detailed description of further steps. While it is theoretically possible to launch EMAS in Ukraine as a non-EU member, it is both costly and labour-intensive. To conclude, the results of my internship project show that the methodology for launching EMAS Global outside the EU is not well developed, and that there is little chance of introducing it in Ukraine.

4.3.3 Environmental auditing for credit risk assessment

International financial institutions and some commercial banks use environmental auditing to assess credit risk. This is an obligatory part of a project assessment before investing money into an existing enterprise or facility (Shevchuk, Satalkin et al. 2000). This procedure helps to identify

any irregularities or non-compliance with environmental legislation, and is also a component of the “polluter-pays principle”, which requires a polluter to pay for any previous damage done to the environment and human health (Watson 2004).

Organisations such as the World Bank (WB), the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC) have been involved in investment for many years, but environmental requirements for their projects were introduced in response to big environmental technological disasters at the end of previous century. For example, the catalyst for the World Bank developing its environmental auditing system was the Bhopal disaster in India in 1984 (Levenstein and Eisen 1987). The need for assurance in any kind of purchase or investment — from privatisation to foreign investment — has become a precondition for the introduction of environmental auditing in many different parts of the world. In order to protect against environmental risk and secure their reputation among clients, the WB, EBRD and IFC have developed their own tools (safeguard systems, environmental requirements, and performance standards) for conducting environmental auditing, and only projects that meet these standards can expect financial support.

The EBRD was created originally to support Central and Eastern European countries in transitioning from a planned economy to a market economy. Ukraine joined the EBRD in 1992, and since then the priority areas of cooperation (The EBRD 2011) have been: energy, enterprises, infrastructure, the financial sector, and capital markets. The EBRD functions according to its own “Environmental and Social Policy” regulation (The EBRD 2008). In this document, the term “special assessment” is used instead of “environmental auditing” for any social or environmental appraisal of an existing facility pertaining to projects within categories ‘A’ and ‘B’. The goal of this activity is to “identify potential risks, liabilities and opportunities associated with the existing facilities and operations, to confirm the current status of regulatory compliance and to assess the client’s existing management system and overall performance against the performance

requirements” (EBRD 2014). The description confirms that the EBRD is using the environmental auditing procedure for loan-risk assessment, but names it differently.

The International Finance Corporation (IFC) is the second financial institution that supports Ukraine with financing and advice. Ukraine became associated with this institution in 1993. At the beginning of the 1990s, the IFC helped to draft the first land code and introduce privatisation in Ukraine. At present, the main cooperation areas are agribusiness, infrastructure, energy efficiency and financial markets (The IFC 2016). The IFC operates according to the “IFC Performance Standards on Environmental and Social Sustainability”, a policy document that says that environmental auditing should be carried out “when the project involves existing assets, environmental and/or social audits or risk/hazard assessments can be appropriate and sufficient to identify risks and impacts” (The IFC 2012:8).

The EBRD created ten performance requirements (EBRD 2015), and the IFC developed eight performance standards (International Finance Corporation 2012) for conducting environmental auditing. The common features for these requirements are that they encompass not only environmental issues, but also social and health issues. Table 4.4. shows that the first eight criteria for environmental auditing are nearly identical for both the EBRD and IFC. The EBRD, however, has two additional requirements: financial intermediaries and information disclosure; and stakeholder engagement in the form of presenting results of environmental auditing reports in the local and national media, and by organising public hearings. It is clear that both the EBRD and IFC use environmental auditing to protect shareholder interests.

Table 4.4. *Comparison of EBRD performance requirements and IFC performance standards for environmental auditing*

#	EBRD performance requirements	IFC performance standards
1	PR 1 – Assessment and Management of Environmental and Social Impacts and Issues	PS 1 – Assessment and Management of Environmental and Social Risks and Impacts

2	PR 2 – Labour and Working Conditions	PS 2 – Labour and Working Conditions
3	PR 3 – Resource Efficiency, Pollution Prevention and Control	PS 3 – Resource Efficiency and Pollution Prevention
4	PR 4 – Health and Safety	PS 4 – Community Health, Safety, and Security
5	PR 5 – Land Acquisition, Involuntary Resettlement and Economic Displacement	PS 5 – Land Acquisition and Involuntary Resettlement
6	PR 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources	PS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources
7	PR 7 – Indigenous Peoples	PS 7 – Indigenous Peoples
8	PR 8 – Cultural Heritage	PS 8 – Cultural Heritage
9	PR 9 – Financial Intermediaries	-
10	PR 10 – Information Disclosure and Stakeholder Engagement	-

In the context of EU-Ukraine integration, the number of foreign investment projects is expected to increase, as Ukraine’s infrastructure and industrial complexes do not meet the European criteria. The number of the EBRD investment projects, as well as financial flows into Ukraine, increased in 2014 compared to 2013 (see Figure 4.4) The major areas of EBRD investments are: the energy sector, financial institutions, industry, commerce, and agribusiness and infrastructure.

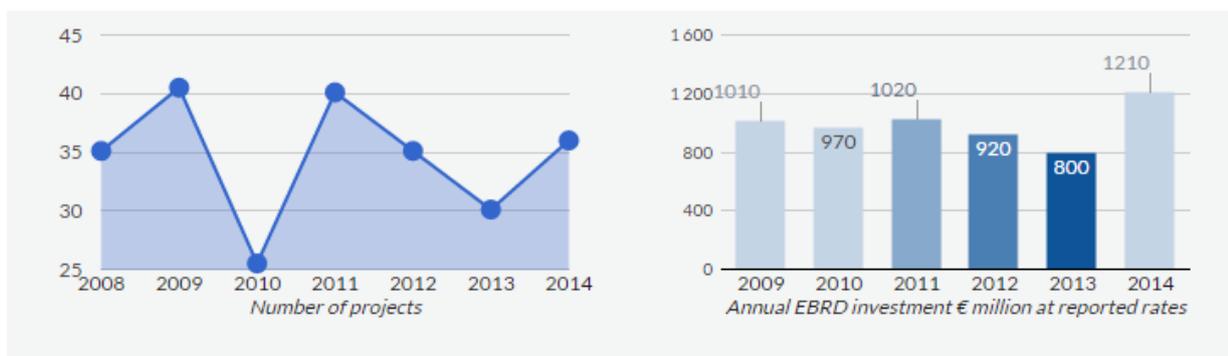


Fig.4.4. Annual EBRD investments and number of projects (The EBRD 2016)

The IFC financed fewer projects in 2014 (two) and 2015 (two) compared to 2013 (six) and 2012 (ten) (The IFC 2016). This decrease can be explained by the current political and economic instability in Ukraine, meaning that the IFC’s future investment tendency in Ukraine remains

uncertain. As for Ukrainian commercial banks, there is a room for incorporating environmental issues into a loan approval process, as only two out of thirty-six banks are using it now.

Commercial banks are also using environmental auditing to assess the level of risk of credit projects. In international practice, Deutsche Bank AG is a pioneer in requiring environmental auditing reports (Novak and Martynuk 2012). In Ukraine, several banks that have obtained EBRD loans over the years use environmental auditing as a part of their credit policy (see Annex VIII). According to the list of EBRD investment projects in Ukraine, the first domestic bank that received a loan and was obligated to carry out an environmental performance audit was Kiev International Bank in 1991. Kredo Bank and Forum Bank got EBRD loans in 2006, but Forum Bank is currently in the process of liquidation.

In 2009, three more banks received EBRD money EBRD: MegaBank, ProCredit Bank, and Ukreximbank. ProCredit Bank has developed an environmental policy that includes three components: an internal environmental management system, environmental risk-in-lending management, and promotion of “green finance” (The EBRD: ProCredit Ukraine 2008; ProCredit Bank 2016). The second component means that ProCredit Bank Ukraine has incorporated environmental issues into the loan approval process, which includes an assessment of environmental risks, and risk assessment has given clients a higher level of environmental awareness. Ukreximbank received a loan for energy-efficiency projects in Ukrainian municipalities and industries from the International Bank for Reconstruction and Development (IBRD) in 2011 (The EBRD: Ukreximbank SME EE Loan 2011; Ukreximbank 2011). Finally, in 2015, OTP Bank Ukraine and Raifaisen Bank Aval obtained credit from the EBRD. According to the credit agreements, the Ukrainian banks have to incorporate an evaluation of environmental issues into the lending process and follow either the IBRD or EBRD methodology (i.e. eight performance standards).

4.3.4. Environmental auditing promoted by the INTOSAI WGEA

Environmental auditing as a practice is also used for environmental policy compliance at different levels. The International Organization of Supreme Audit Institutions Working Group on Environmental Auditing (INTOSAI WGEA) promotes this type of auditing at the global level. The Accounting Chamber of Ukraine represents the INTOSAI WGEA in Ukraine. This type of application of environmental auditing differs from the previous three, as it is used for national or local compliance.

The INTOSAI WGEA was created in 1992 with the aim “to improve the use of audit mandate and audit instruments in the field of environmental protection policies” (INTOSAI WGEA 2016). At the same time, it is an essential part of the umbrella organisation: INTOSAI, was founded in 1953 as a special consultancy for the Economic and Social Council of the United Nations (INTOSAI 2006). Ukraine’s representative organisation, the Accounting Chamber of Ukraine, is a permanent acting body of external state financial control that functioned in the country since 1997; it joined INTOSAI in 1998 and was admitted to the European Organization of Supreme Accrediting Institutions (INTOSAI WGEA 2016) in 1999. There is, however, not much information about the environmental auditing projects that the Accounting Chamber has carried out. My review of the INTOSAI WGEA newsletter *Greenlines* (dating from 2006 to end-2014) showed that major projects in Ukraine have been focused on two topics: construction of a new shelter for the Chernobyl power reactor (INTOSAI WGEA 2006; INTOSAI WGEA 2007; INTOSAI WGEA 2014) and cooperation for protecting the Black Sea (INTOSAI WGEA 2009; INTOSAI WGEA 2013). Interestingly, none of my interviewees had ever heard about the INTOSAI WGEA and its activities; moreover, they claimed that no cooperation exists between the Accounting Chamber of Ukraine and certified environmental auditors. This statement requires further research and elaboration, but time limitations and unfavourable circumstances of my field work necessitate my leaving this an open question to be explored further after I complete my PhD.

The INTOSAI WGEA uses environmental auditing to achieve compliance with national legislation and policy at regional and international levels (Watson and MacKay 2003). This kind of compliance audit was carried out for environmental legislation in Bulgaria and the Czech Republic before these countries joined the EU. This has allowed both countries to improve compliance with environmental governance and meet EU standards (INTOSAI WGEA 2015). Since Ukraine has signed the Association Agreement with the European Union in June 2014, I assumed that similar compliance audits of environmental legislation would have been conducted or facilitated by the representatives of INTOSAI WGEA in Ukraine.

The Ministry of Ecology and Natural Resources is the main institution that prepares approximation of Ukrainian legislation to meet the European norms. It seems as if the Accounting Chamber of Ukraine is not involved in this process while experiences of the Czech Republic and Bulgaria show that help and knowledge of INTOSAI WGEA can provide help in the approximation of environmental legislation to the EU standards. Therefore, an establishment of cooperation between the Ministry of Ecology and Natural Resources and the Accounting Chamber of Ukraine is desired as experiences of the EU-integration process in the other Eastern and Central European can be used as examples for Ukraine.

Conclusion

This chapter illustrates the connections of environmental auditing to the wider governance and socio-political priorities of Ukraine. Moreover, it demonstrates the manner in which policies are often reflective of and limited by the societal priorities and contexts within which they operate. In the case of Ukraine, a prolonged transition from the centrally planned authoritarian regime to the market based democracy has influenced the way environmental auditing was introduced and developed there. In contrast to developed market economies, in Ukraine there are two types of environmental auditing: mandatory and voluntary. The first one was developed for fulfilling a

particular purpose of supporting and encouraging privatization within the wider societal shift towards a market economy, while the second one was introduced for environmental management systems, which are used to different degrees in Ukraine as well as for assessing environmental and social liabilities for international financial institutions for issuing loans.

This chapter provided the answer to my first sub-question and partly to the second sub-question. It displayed three stages of environmental auditing evolution (preliminary, foundation, and stagnation) in Ukraine, which correlate with the stages of the model of paradigm evolution (see Section 2.1. Chapter 2). The preliminary stage (1991-2004) corresponded with stage 3: experimentation with new instruments and setting (1st and 2nd order change of the shift of policy paradigm theory), and stage 4, fragmentation of authority and search for new ideas, of this model. Thus, at the beginning of the transition process in the 1990s two types of environmental auditing: mandatory and voluntary were introduced in Ukraine. The adoption of ‘On Environmental Auditing’ in 2004 opened the second stage, foundation, in environmental auditing history in Ukraine. This stage corresponded with stage five of the model of paradigm evolution: the adoption of new ideas (3rd order change), and was characterized by the proliferation of certified environmental auditors, which did not corresponded with demand for their services on the market. The circumstances were not fruitful for the development of environmental auditing and led to the stagnation stage (2010-2015), which is presented as stage 6 in the model, a battle to institutionalize the new policy framework, which is characterized by the partial decline of mandatory environmental auditing as a need for it decreased in Ukraine.

Now, Ukraine is in the process of approximating its environmental legislation to EU standards and as such, a future of the application of environmental auditing is an open question. The most vulnerable type of environmental auditing is the mandatory one, which is regulated by the Law “On Environmental Audit”, as there is no equivalent analogue of it in the European Union. Consequently, there are two possible scenarios: a modification of the existing version and

reorganization of the whole branch of mandatory environmental auditing or its disappearance over time as the need for it will drop to zero.

In contrast, the predictions for the future of the voluntary type of environmental auditing are more positive. Firstly, it is expected that in Ukraine the popularity of environmental auditing for improving the environmental management system among owners of enterprises might increase in the context of the single European market as Ukrainian producers are forced to meet European criteria. One way to satisfy these criteria is to certify enterprises according to one of the environmental quality standards: ISO 14001 family or EMAS. However, EMAS is partially represented in Ukraine as only companies that registered in the EU get it, moreover, the opportunity to introduce EMAS III/Global is low as the above presented results of my internship projects showed. Therefore, the certification of products according to the ISO 14001 family standards might be the only option for Ukrainian producers to compete on the EU market nowadays. Secondly, it seems that the use of environmental auditing in the context of issuing loans will increase. In 2015 international financial institutions (EBRD) have increased investment flowing into Ukraine, moreover two commercial banks, OTP Bank Ukraine and Raifaisen Bank Aval, received loans with an obligatory requirement of environmental health and social audits for potential investment projects. This will spur the popularization of the environmental auditing practice.

It is a fact that there is not much information about environmental auditing activities carried out by the Accounting Chamber of Ukraine, which is the representative organization of INTOSAI WGEA. Therefore, it is hard to foresee its future development precisely. However, experiences of the Czech Republic and Bulgaria showed that country representatives of INTOSAI WGEA can contribute to the approximation of the national environmental legislation to the European standards. The experience of these two countries shows that the Accounting Chamber of Ukraine might assist in the ongoing approximation of Ukrainian environmental legislation

The findings of this chapter regarding the evolution of the hybrid form of environmental auditing in Ukraine, a country in economic and political transition, will be supplemented by knowledge on the peculiarities of its implementation and practice, which is presented in the following chapter.

Chapter 5. Peculiarities of Environmental Auditing Practice in Ukraine

My non-participant observation, during the annual meeting of the Union of Environmental Auditors (Spilka) in Kyiv on October 8, 2014, ended with my unsuccessful attempts to schedule interviews with several environmental auditors there. It turned out four potential interviewees with whom I had a chance to talk had never carried out an environmental audit and refused to be interviewed, as according to them, they did not have any information or experience to share with me. This paradox made me wonder about its origins since these individuals had certificates which allowed them to conduct environmental audits, moreover, they were members of Spilka and attended that annual meeting. Further research showed that less than 10% of the certified environmental auditors carry out environmental auditing on a regular basis. The difference in the number of certified environmental auditors and actual practitioners is a curious feature of environmental auditing in Ukraine, one which answers my second sub-question.

To explore this paradox, I decided to split my analysis into two thematic sections. Firstly, I will investigate the ‘persona’ of the environmental auditor from different angles. I will compare the definition of “environmental auditor” presented in the Law “On Environmental Auditing” with environmental auditors’ perceptions of themselves, collected during my interviews. Then I will explore the motivations and reasons that stimulated individuals to become environmental auditors, and lastly I will describe the procedure of becoming an environmental auditor, a process which includes the following stages: a training course, a certification exam, and a renewing of the certificate every three years. Thus, section 5.1 shows the driving forces to become an environmental auditor in Ukraine, and the steps they have to go through to get a certificate. However, after all these efforts, certified environmental auditors do not carry out audits because of the low demand for their services , various problems in the field caused by the drawbacks of the Law “On Environmental Auditing” and the Methodological Recommendations (see Chapter 4), and corruption issues. Secondly, I will analyze the possibility of overcoming the above mentioned

problems through cooperation between environmental auditors and a possibility of the creation communities of practice. Therefore, I attempt to identify the networks of environmental auditors in order to analyze them through the community of practice theory (see Section 5.2.). This angle helps to describe and to explain the cooperation between environmental auditors and their involvement in the development of their field.

5.1. Persona of an Environmental Auditor

During my field work, I managed to interview 46 certified environmental auditors, whom I divided into three groups according to their practical experience in the field. The first group includes environmental auditors who are conducting voluntary and mandatory environmental auditing on a regular basis. They have often established their own environmental consulting firms and have national and different international certificates of environmental auditing such as: ISO 14001, TÜV Rheinland²⁸, IEMA²⁹, and IRCA³⁰. The second group is environmental auditors who work at the state research institutions and from time to time they are involved in mandatory environmental auditing projects. The third group consists of certified environmental auditors who have never conducted any kind of environmental audit. Pathetically, this group has the biggest number of members in Ukraine. I explore this phenomenon by defining a persona of environmental

²⁸ **TÜV (Technischer Überwachungsverein)** Rheinland Ukraine is 100% owned by TÜV Rheinland Group and provides the services in the same way when possible. Our company provides services of certification, inspection, supervision, testing and training in Ukraine. In other words we audit and check products, technologies, projects, management systems and personnel. Based on experience of TÜV Rheinland Group, Ukrainian customers receive comprehensive international offers on wide assortment of services purposed for sustainable business development and international acceptance (http://www.tuv.com/en/ukraine/about_us_ua/tuv_rheinland_ukraine/tuv_rheinland_ukraine.html).

²⁹ **IEMA (Institute of Environmental Management & Assessment)** is the worldwide membership body for environment and sustainability professionals, driving global standards for sustainable practice. Mission: Supporting individuals and organisations to set, recognise and achieve global sustainability standards, leadership and transformational sustainability practice (<http://training.iema.net/>).

³⁰ **IRCA (The International Register of Certificated Auditors)** is the leading professional body for management system auditors (<http://www.irca.org/>).

auditor through a comparative analysis of the official definition of environmental auditor presented in the law with my interviewees' perceptions of themselves.

In particular the Law of Ukraine 'On Environmental Audit' defined 'environmental auditor' in the following way: "a person who holds a university degree, has a four-year experience in environmental protection or related areas, and has a certificate for such activities" (Verhovna Rada 2004). This definition is general and broad, therefore the Ministry of Ecology and Natural Resources published *the Resolution #27* in 2007 to clarify the requirements for candidates to become environmental auditors. This document says that an environmental auditor should have a university degree in one of the thirty nine fields, which varies from international relations to computer science and from forest management to environmental engineering (see ANNEX IX). It seems that almost everyone who has studied at the university can become environmental auditor in Ukraine. However, the general tendency is that older generation of environmental auditors has a degree in engineering, chemistry, physics or any other natural science field, while younger auditors have a degree in law, sociology, or economics and hire technical experts if their expertise is needed. It is a fact that environmental auditors background, education and experience affect their views and understanding of environmental auditing as well as objectivity of the results (Power 1991).

Interestingly, my interviewees have never talked about their education or preparatory course, when they defined 'environmental auditor', rather they described their profession through its role and purpose. The most common idea, I heard, was that an environmental auditor is an independent diagnostician, who can identify problems at the enterprise and provide recommendations for solving them. This idea was shared with me by environmental auditors, who took a preparatory course for getting a certificate. One of the key lecturers, Grigoriy Shmatkov, taught them vision of environmental auditor. During the interview, this auditor described his profession in the following way:

An environmental auditor is a *diagnostician*, who determines the illness and writes recommendations afterwards. During the first visit to the enterprise, I always face the problem of negative attitudes of the staff towards me as they see me as an inspector. Therefore, I have to explain my tasks and purpose of environmental auditing by telling them that. If you have problems with your liver caused by drinking alcohol, or your lungs are suffering from smoking, you go to doctor to diagnose. Even if you know the reasons, you still go to the doctor to diagnose and for the prescriptions (recommendations). This helps to break the ice and to start a productive cooperation with them.

In Ukraine, an environmental auditor is seen as an environmental inspector, who is a threat for enterprises. Therefore, the first reaction of workers is to hide all documents as they are afraid that he will find violations and they will lose their jobs or salaries will be decreased after environmental audit. According to my interviewee who is teaching at the State Environmental Academy of Postgraduate Education and Management, the common prejudice about environmental auditor is seen s/he as a ‘policeman’, an ‘inspector’ or a ‘prosecutor’. These prejudices create barriers for cooperation based on misunderstanding of environmental auditor’s role. As such, the first meeting with the company’s staff is crucial as it helps to explain that environmental auditor is a ‘helper’, who aims to improve the environmental performance of the enterprise.

Environmental auditors described themselves as knowledgeable and conscious experts in the environmental field. This knowledge helps them to be a third independent party, as “they can speak the truth and make changes” and “fight against corruption”, according to an environmental auditor who is working at the Interdepartmental Center for Certification. Many of my interviewees shared with me their opinion that the Ministry of Ecology and Natural Resources is not interested in promoting and popularizing environmental auditing because it leads to the improvement of environmental performance of enterprises and as a result a decrease in fines and penalties, which environmental inspection is collecting for the state budget.

The process of becoming an environmental auditor is time consuming and expensive, therefore I asked each of my interviewees what *motivation* they had at the beginning. I categorized

their answers into three themes of motivation. The first group related their answer to the previously mentioned idea of fighting against corruption since “the main benefit of becoming an environmental auditor is the ability to say the truth”, according to my respondent who is affiliated with the Private Scientific Enterprise ‘Socium’. The second group said that they saw environmental auditing as a new business sphere – something promising – right after the Law “On Environmental Auditing” was passed in 2004. Consequently, a few of my respondents in Kharkiv even pursued master degrees in environmental science in order to qualify for becoming an environmental auditor. The third group of environmental auditors highlighted that for them the driving force for is an opportunity to gain new knowledge, personal development, and practical experience

Every environmental auditor whom I interviewed went through the same path of taking a preparatory course, carrying out an actual environmental audit as a part of their internship, and passing the exam at the *Ministry of Ecology and Natural Resources*. Originally, the course program was developed for 21 full working days, however, since then the program was reduced to two weeks (140 hour) with same amount of information, with the course fee increasing concomitantly. One of the lectures of this course complained that “it is impossible to teach anything during this short time”. However, environmental auditors, who had university degrees in environmental field, said that this course was very useful as it helped to systemize their knowledge. In Ukraine, there are two institutions, *the State Environmental Academy of Postgraduate Education and Management* and *the State Institute of Management and Economics of Water Resources*, which teach such courses and organize internship programs under supervision of senior environmental auditors. They created a monopoly on preparatory course and increase its fee regularly. Interestingly, the last institution is a private university which developed a preparatory course for environmental auditors together with the environmental consultancy firm ‘Ecosystem’, the President of which is the same former deputy minister who lobbied for the Law “On Environmental Auditing”, initiated the twinning project (see Chapter 4) and is the President of the Union of Environmental Auditors (see

section 5.2). This shows that the same of group of individuals are involved in different activities related to environmental auditing.

The next step, after successful completion of the preparatory course and internship, is a certification *exam* at the Ministry of Ecology and Natural Resources. The examination committee includes at least seven members, who might be representatives of this Ministry, the State Property Fund, environmental non-governmental organizations and certified environmental auditors (The Ministry of Ecology and Natural Resources 2007). Structurally this exam has three sections: two theoretical (test and open questions) tasks and one practical assignment, which check candidates' knowledge about Ukrainian environmental legislation and the procedure of conducting an environmental audit. After successful passing of the exam, the environmental auditor gets a certificate and a seal for signing environmental auditing reports.

The certificate of environmental auditing is valid only for three years, and then a *renewal* is necessary. According to the Law "On Environmental Auditing", the environmental auditor has to take a shorter version of the preparatory course again, which requires that the fee must again be paid. One of my respondents, working at UKRANAFTA, said "why should I pay 5000 or 6000 (accordingly 500 and 600 euro, in 2014) hryvnas if there is no market?" In addition, one of my interviewees highlighted corruption issues involved in certification issuing and gave me an unofficial price list of the process of getting a certificate in environmental auditing at the Ministry of Ecology and Natural Resources. In 2014, the cost of getting a certificate for the first time was 25,000 hryvnas (2500 euro) and to renew it varied from 8000 to 12,000 (800 to 1200 euro) hryvnas. These factors all affect people's motivation to become an environmental auditor, especially those who argued that for them environmental auditing is a way to fight corruption in Ukraine. Thus, the number of certified environmental auditor has dropped from 92 in 2014 to 59 in 2016.

Consequently, in Ukraine a person who is willing to become get a certificate in environmental auditing issues by Ministry of Ecology and Natural Recourses has to go through three main steps: a preparatory course, an internship, and a certification exam. The findings of my interview showed that a candidate has to fulfill all the requirements as well as to bribe members of the examiner committee at the mentioned Ministry. These circumstances have a negative impact on the motivation to become a certified environmental auditor.

5.2. Interrogating the Existence of Communities of Practice in Environmental Auditing Field

The evolution of environmental auditing is characterized by the creation of legislative and theoretical backgrounds as well as by the formation of a community of practitioners referred to as certified environmental auditors. The exploration of this community provides knowledge of the linkages between environmental auditors and the possibilities for their cooperation in the development of the environmental auditing field in Ukraine. In order to investigate this, this research project was conducted in two steps: 1. the identification of communities of practice (CoP) and 2. their analysis through the community of practice theory.

For the identification of social networks that could potentially be CoPs of environmental auditors, I used *social network analysis*³¹. A survey was created for environmental auditors to identify their connections between each other (see ANNEX X) under the supervision of a network science expert, Carl Nordlund³². The aim of this survey was to identify the relationship between environmental auditors based on four categories (0 – I have never heard of this person; 1 – I have heard of this person, but never met in person; 2 – we trained together; and 3 – we are colleagues).

³¹ **Social Network Analysis** focuses on patterns of relationships between actors and examines the availability of resources and the exchange of resources between these actors” (Scott, J. (1991). Social Network Analysis: A handbook. London, Sage.)

³² **Carl Nordlund**: PhD, Postdoctoral Research Fellow with a joint position at the Center for Network Science, and the Department of Political Science, Central European University, Hungary.

However, the analysis stage showed that almost all environmental auditors identified their relationship only with Grygoriy Shmatkov, who is one of the lecturers at the certification course for environmental auditors at the State Environmental Academy of Postgraduate Education and Management, and a supervisor of the obligatory post-course internship. This describes him as a prominent actor who “... is extensively involved in relationships with other actors” in the environmental auditors’ network (Wasserman and Faust 1994:173). In the network science analysis language, this outcome is called a rudimentary star network or hub-and-spoke distribution³³. Such findings show that the level of cooperation of Ukrainian environmental auditors is low, as they have not identified connections between one another. The possible reasons for this occurrence might be the high competition on the environmental consultancy market, caused by a low demand for environmental auditing services in Ukraine.

In contrast to the outcomes of this survey, there is a non-governmental organization, *the Union of Environmental Auditors* [in Ukrainian *Spilka Ekologichnyh Audytoriv (Spilka)*], which annual meeting I attended in October, 2014. This NGO presents itself as a professional association of environmental auditors and environmental experts. The organization promotes environmental auditing as one of the services of environmental consultancy, and protects the rights of its members. Currently, this organization has more than 102 members, who are either certified environmental auditors (47) at the Ministry of Ecology and Natural Resources or experts in the environmental field (55) (The Union of Environmental Auditors 2015). Spilka was established in 2009 by the same former deputy minister who actively lobbied for the publishing of the Law of Ukraine ‘On Environmental Auditing’ (2004). He also initiated the Twinning Project ‘Support to the Ministry for Environmental Protection of Ukraine for the Implementation of the Law on Ecological Audit’ (2010-2012) (see Chapter 4) as well as his organization is involved in teaching preparatory course

³³ **The spoke-hub distribution paradigm** (or model or network) is a system of connections arranged like a wire wheel, in which all traffic moves along spokes connected to the hub at the center (http://www.theinfolist.com/php/SummaryGet.php?FindGo=spoke-hub_distribution_paradigm).

for environmental auditors. This NGO has its headquarters in Kyiv and representative offices in the thirteen following regions and cities: Dnipropetrovsk, Donetsk, Zaporizhia, Lugansk, Odesa, Kharkiv, Cherkasy, Chernivci, Sumy regions, the Crimea peninsula, Kyiv, and Sevastopol.

The Union of Environmental Auditors was analyzed through a lens of the community of practice theory. In particular, the following requirements for integral components of the community of practice were used: a domain, community, and practice (Wenger 2008). Spilka has some features of community of practice according to the organization's guidance and information on its website. However, the information, which was gathered from my interviewees and through non-participant observation at the annual meeting of the Union on October 8, 2014, indicates that this organization does not fully fulfill the requirements of a community of practice (see Chapter 2), as described by Wenger and Lane (2004). The summary of my analysis of Spilka is visualized in Figure 5.1 below.



Fig.5.1. Analysis of the Union of Environmental Auditors (Spilka) according to community of practice's components

An environmental auditing practice is a *common interest* or *domain* for all members of the Union of Environmental Auditors. The evidence of this is the mission of this organization which

says that it operates to provide organizational, jurisdictional, informative, methodological, and financial support in the process of training and certifying environmental auditors, the accreditation of environmental-auditing organizations, conducting environmental auditing, and the supervision of auditing practices (The Union of Environmental Auditors 2015). Moreover, Spilka functions are based on the *'Ethics Code of Environmental Auditors'*. with the basic principles of honesty, objectivity, professional competence, confidentiality, independence, and professionalism (The Union of Environmental Auditors 2015). In summary, the environmental auditing practice is the common interest for all members of this organization.

The second component of CoP is *community*, which means regular practices and activities for all members (Wenger 2008). Every October, the Union of Environmental Auditors holds a meeting during the Green Mind Forum in Kyiv. This is the only opportunity for members of this organization to meet and get to know each other. However, the outcomes of this meeting are questionable. One of the interviewees, who works for the company “Plast”, characterized this gathering in the following way: “Spilka organizes meetings just for talking, but it does not do anything”. In addition, the findings of my non-participant observation during one of these gatherings in October, 2014 also showed that this kind of meeting is more of a formal obligation than a meaningful event. The Union of Environmental Auditors does not organize any seminars, workshops, or any other activities for professional development for its members. Thus, this all shows that Spilka does not fully meet the second requirement of the community of practice.

The third component is *practice*, which is defined as the constant practical experience in the field of members of CoP (Wenger 2008). According to the membership requirements of the Union of Environmental Auditors, this is a requirement for all members. Cards of environmental auditors, which is essentially a short CV listing all their environmental auditing projects, published on Spilka’s website show that members of this organization are active practitioners in the field. In Ukraine, there are no official statistics of conducted mandatory environmental auditing, as the

Ministry of Ecology and Natural Resources and the State Property Fund are not monitoring it. Therefore, I used information about projects conducted by members of Spilka available on its website to create a preliminary database (see Table 5.1 and ANNEX XII). This is incomplete information about the number of conducted environmental audits as it represents only projects of some members of the Union of Environmental Auditors. According to this list, the biggest number of environmental audits were carried out at the enterprises of the heavy industries, like metal and coal production, chemical and construction industry, nuclear power plants, thermal power plants, as well as various mines, which are located mostly in the industrial Eastern regions, Lugansk (39) and Donetsk (50), as well as one in central oblast: Dnipropetrovsk (31), which is presented in Table 5.1. below. However, it is important to highlight that often environmental auditors have projects in different parts of Ukraine, which is illustrated in Table 5 of ANNEX XII.

Table 5.1. Rough statistics of mandatory environmental auditing projects in Ukraine

Region	Number of Auditors	Number of Projects
Northern Ukraine:		
Zhytomyrska	1	
Kyiv	36	14
Chernigiv	0	1
Sumy	1	2
Total	38	17
Central Ukraine:		
Vinnitsia	1	0
Dnipropetrovsk	7	31
Kirovograd	0	6
Poltava	0	1
Cherkasy	0	0
Total	7	38
Western Ukraine:		
Lviv	2	5
Ivano-Frankivs	1	1
Ternopil	0	3
Volynska	0	0
Rivne	0	1
Khmelnysky	2	2
Chernivei	1	
Zakarpattia	1	0
Total	7	11

Eastern Ukraine:		
Kharkiv	13	4
Donetsk	10	50
Lugansk	5	39
Total	28	93
Southern Ukraine:		
Zaporizhia	3	13
Kherson	0	0
Odesa	4	4
Mykolaiv	0	2
Crimea	2	1
Total	9	20

However, the existence of active environmental auditing practices of Spilka's members is questionable. After the previously-mentioned meeting, I asked for interviews with several members of this organization but their response was that they did not have any practical experience in this field. As such, it is clear that the Union of Environmental Auditors does not fulfill the characteristic requirements of the CoP: domain, community and practice. Thus, this organization is not a community of practice yet, but has potential to become if the members will be interested in it. From the perspective of the collective action theory, the reason of not developing CoP on the basis of Spilka is that there are too many members (102) which created a phenomenon of free-rider, when people are not willing to contribute for common purposes as it is not visible.

This outcome of my analysis questions the intentions and reasons for the establishment and operation of this organization. Therefore, I continued the exploration of the Union of Environmental Auditors by identifying its role in the environmental auditing field in the Ukraine by analyzing the attitudes environmental auditors toward the Union. For this, interviewees were divided into three groups according to their opinions about Spilka. The first group included members of this organization, who voluntarily joined and were active or peripheral members. The members of second and third groups were outsiders in relation to Spilka, as they were not members. The second group consisted of environmental auditors who were willing to join the Union, as they

saw some benefits of being a member. The third group included environmental auditors who did not want to join this organization due to various reasons, presented below. Some of them see this organization as a corruption scheme which was created for the purpose of personal financial benefits and which does not support the development of the field. The following quotations from seven transcribed interviews illustrate this opinion.

This organization was established *for private needs of the president and vice-president of this organization*. It is a small corruption scheme.

There was an expectation to create a special organization that will *earn money by teaching and retraining environmental auditors as well as receiving bribes during environmental auditing...* There was an expectation of a big financial income.

Someone needed it... The former minister and his deputies wanted to steal money, therefore, they lobbied for this law and then founded the Union of Environmental Auditors. And now we can say the original aim was to earn money through environmental consultancy.

Spilka is a *corruption scheme*, which should be destroyed and they should be punished. Spilka deals with tenders and other disgraceful practices. They are insane. Which kind of NGO is it? What are the reasons for its operation? There is a monopoly for trainings. We should have a right to choose where we want to study. The price for courses is increasing each year. There is no other choice. This organization should be destroyed and a new one should be established.

They have *only one goal: to get income*. The former deputy minister created an organization to earn money. He gets all big projects from The State Property Fund. All privatization projects are theirs.

A corruption issue is connected to Spilka. They signed an agreement with The State Property Fund that they recommend three environmental auditors out of their members for a project tender.

They just want to earn money by any chance. *You should give them 90% of your income if you get project through them, before it was 30%.*

These quotations highlight various corruption³⁴ issues as a feature of the Union of Environmental Auditors as, according to the interviewees, it was created with the intention to earn

³⁴ In the context of my research I use the following understanding of **corruption** “occurs when private wealth and public power overlap. It represents the illicit use of willingness-to-pay as a decision-making criterion. In the most common transaction a private individual or firm makes a payment to a public official in return for a benefit. Bribes

money by organizing preparatory courses, receiving bribes, and other schemes. The last three quotations explain a corrupt cooperation between the Spilka and the State Property Fund of Ukraine, which is the main client for mandatory environmental auditing in the case of privatization. This non-governmental organization and the state institution signed an agreement that whenever the State Property Fund has a privatization project, it will ask Spilka to recommend three auditors out of their members to conduct environmental audit. This agreement provides possible explanations for the reasons of the creation of Spilka, as its founders and people, who are in good relations with them, get all the projects of mandatory environmental auditing for privatization purposes, which are requested by the State Property Fund. However, it should be done by a transparent open tender called by the State Property Fund, that allows all certified environmental auditors to participate and the best offer to be chosen. During the meeting, the deputy director mentioned about the signed agreement and a scheme of cooperation with the State Property Fund. She said: “it may be wrong but it is how it is” and her suggestion for the certified environmental auditors was to become a member of Spilka if they want to work with privatization projects.

During this annual meeting, the Vice President highlighted the success of the Union of Environmental Auditors in 2014, since this organization had managed to strengthen its role in the environmental auditing field. Thus, it became a member of the Council for Environmental non-governmental organizations at the Ministry of Ecology and Natural Resources, which allowed a representative of Spilka to join the examination committee responsible for issuing certificates to environmental auditors. In addition, the Spilka became a member of the Ukrainian Chamber of

increase the private wealth of officials and may include them to take actions that are against the interest of their principals, who may be bureaucratic superiors, politically appointed minister, or multiple principals such as the general public. But illicit payments may sometimes flow in the reverse direction: Those holding or competing for public office make cash payments to private individuals, firms, or other officials to get benefits for themselves or their political parties. Finally, commercial bribery may involve no public official at all. Agents of one private firm may bribe agents of another to obtain business in much the same way that business may bribe public official to obtain contracts or concessions” (Rose-Ackerman, S. (2006). International Handbook on the Economics of Corruption. UK, Elgar Publishing Limited.)

Commerce, which presents an opportunity to promote environmental auditing services, according to its Vice-President. This demonstrates that the Spilka is one of the influential actors in the field of environmental auditing in Ukraine, not as a community of practice which is serving goals of all members, but as a mechanism of influence of the President, Vice-President and a closely related group of individuals.

Conclusion

This chapter explored one of the peculiarities of the environmental auditing practice in Ukraine, which is the answer to second sub-question of my research. The findings showed that less than 10% of the environmental auditors, who got their certificates from the Ministry of Ecology and Natural Resources, carry out environmental auditing on a regular basis. Therefore, in this chapter I analyzed the reasons for this phenomenon by investigating the persona of an environmental auditor to understand his/her motives for choosing such a profession and training path. I also interrogated the existence of community of practice in the field of my study.

The outcomes of my investigation showed that the main reason for this paradox is low demand for environmental auditing services, which is caused by the fact that even if the Law “On Environmental Auditing” presents two types of environmental auditing: mandatory and voluntary only mandatory one is conducted in Ukraine. Of six obligatory cases for mandatory environmental auditing (see section 1.2, Chapter 1), the environmental audit is performed only in cases of privatization, since secondary legislation has not been developed for other 5 cases.

Consequently, the State Property Fund is the main client of mandatory environmental auditing for privatization in Ukraine. However, this state institution, instead of working through open tenders and choosing environmental auditors based on equal requirements, signed an agreement with the Union of Environmental Auditors for cooperation. According to the agreement, the Spilka should recommend three environmental auditors out of its members for the request of the

State Property Fund. Thus, only environmental auditors who are members of Spilka can be involved in privatization projects called by the State Property Fund.

In Ukraine, the voluntary environmental auditing is not popular among owners of the enterprises because they see it as a threat and as an additional cost. According to my interviewees, the Ministry of Ecology and Natural Resources is not interested in the popularization of voluntary environmental auditing because the institution itself is funded by fines and bribes collected from polluter industries by the State Environmental Inspection. It seems that the Ministry is not interested in improving environmental performance of the enterprises as they might pay fewer fines. The owners of the industries order environmental auditing only if they have a court case related to pollution with the State Environmental Inspection, as the report of environmental auditing can be used as an evidence of innocence.

In addition to that, section 5.1. showed that person who is willing to become an environmental auditor is forced to give bribes for receiving the certificate and for renewing it at the Ministry of Ecology and Natural Resources. Albeit, some of them see their professions as a way to fight against corruption, as it was mentioned at the beginning of this chapter. This highlights contradiction inside of the environmental auditing field. However, environmental auditors do not create communities of practice to protect their rights and to find a solution for dealing with all challenges in the field. The already existed NGO Union of Environmental Auditors (Spilka), which claims to be a professional association, was created for serving the personal interest of self-enrichment of the former deputy minister and his closely related team. Therefore, such circumstances shrink demand for environmental auditing, which causes a decrease of number of certified environmental auditors in Ukraine.

Conclusions

This research set out to explore the reasons for the difference between environmental auditing in Ukraine and the approach commonly used in developed countries, where it is a voluntary management tool used by companies and other organizations to improve their environmental performance. The findings of my research showed that in some post-Soviet countries – Belarus, Kazakhstan, Russia, and Ukraine – environmental auditing has taken on the extra role as an instrument of state environmental control, and it is an obligatory requirement in certain cases. Therefore, in these four countries there are two types of environmental auditing: voluntary and mandatory. My theory-based research was dedicated to the detailed exploration of this phenomenon in Ukraine, functioning as an example of countries going through the economic and political transition from the central based authoritarian regime to market economy with democracy. I studied environmental auditing practice using two perspectives, which were formulated into the two following sub-questions: What were the driving forces behind the introduction and evolution of environmental auditing in Ukraine? What are the peculiarities of environmental auditing practice in Ukraine? In order to present the answers to these two questions, I used the following structure for this chapter: the design of my research, empirical findings, policy and theoretical implications, and avenues for further research.

My research design includes a combination of three theories and a mixture of qualitative with some elements of quantitative methods. The theoretical framework includes the shift of policy paradigm theory, the collective action theory and the community of practice theory, which I combined to analyze environmental auditing in Ukraine. The necessary data and information were collected through a combination of various qualitative methods: literature review, semi-structured open-ended interviews, participant and non-participant observations, and analyzed using the coding technique. A research design featuring these theories and a combination of qualitative methods has

never been before used to explore environmental auditing. Therefore, this is one of the contributions of my study to the body of knowledge.

The empirical findings of my research showed that the conditions of societal transition from centrally planned authoritarian regime to market democracy, combined with four unique factors, triggered the introduction of mandatory and voluntary types of environmental auditing in Ukraine. These four exclusive factors were the following: (1) the deterioration of the environmental situation caused by the polluting activities of various industries; (2) the massive privatization of state property in the 1990s and 2000s; (3) an opportunity to enter the European and international markets; and (4) the opening of Ukraine's borders to international investors and other financial entities. Therefore, a mandatory environmental auditing was developed for fulfilling the purpose of supporting and encouraging privatization of the state property and as a tool on for the functioning of state environmental control. Although, a voluntary environmental audit was introduced for environmental management systems in the context of environmental quality certification, as well as assessing environmental and social liabilities for international financial institutions for issuing loans.

The effort to define environmental auditing in the Ukrainian reality is an attempt to understand its role and function as one of the tools of environmental governance. My comparative analysis showed that the official definition of the environmental audit in the Law "On Environmental Auditing" differs to some extent from the understanding of environmental auditors. I categorized their opinions into three groups. This variety of meanings attached to 'environmental auditing' shows that there is no single understanding of the term, but it also points to the practice's multi-functionality and wide range of applications. Representatives of the first group of environmental auditors, as well as scientific experts, offered definitions similar to the official definition, as they argue that "An environmental audit is always a *compliance audit* based on the

previously set criteria.” The second group described the environmental audit’s role in environmental protection and achieving sustainable goals. The third group described the environmental auditing process from the perspective of personal involvement as for some of them it is an instrument to fight against corruption.

My analysis of collected information about environmental auditing in the literature and from my interviewees showed me the differences between the different periods of its development in Ukraine. Therefore, I have divided the evolution of environmental auditing into three stages: ‘preliminary’ (August 1991–May 2004), ‘foundation’ (June 2004–December 2010) and ‘stagnation’ (January 2011–December 2015). The preliminary stage is characterized by the introduction of the concept of environmental auditing and the creation of a legislative, theoretical and practical background for its further development. These all were served by the Ukrainian/Canadian partnership project (1994-1997); the DSTU ISO 14001:1997, the DSTU ISO 14004:1997, and DSTU ISO 19011:2003; and the Resolution on “The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security” (1998). The foundation stage marks the tool’s final legislative basis for regulation, as the Law “On Environmental Auditing” and the Methodological Recommendations were published in 2004 and 2005 accordingly. Moreover, this stage set the conditions needed to establish a community of environmental auditors. During this period, environmental auditing was seen as a prospective environmental consulting service, resulting in several individuals obtaining environmental auditor certification from the Ministry of Ecology and Natural Resources. Finally, the stagnation stage was characterized by a drop in the number of certified auditors and unsuccessful two attempts to improve the Law “On Environmental Auditing”. This decrease continues: as of 2014, there were 92 certified environmental auditors, and now (at the time of writing this dissertation) there are only 59.

The peculiarity of environmental auditing practice in Ukraine is not only in the existence of two types, mandatory and voluntary, but also in their implications. My findings showed that less

than 10% of the environmental auditors who got their certificates from the Ministry of Ecology and Natural Resources, carry out environmental auditing on a regular basis. The key reason for this paradox is low demand for environmental auditing services, which is caused by the fact that even if the Law “On Environmental Auditing” presents two types of environmental auditing (mandatory and voluntary), only mandatory audits are conducted in Ukraine. Of the six obligatory cases for mandatory environmental auditing, the environmental audit is performed only in cases of privatization, since secondary legislation has not been developed for other 5 cases. However, the privatization case of environmental auditing does not function properly since the main client, the State Property Fund, has signed an agreement with the Union of Environmental Auditors for cooperation, instead of organizing open tenders for all certified environmental auditors. According to the agreement, the Spilka should recommend three environmental auditors out of its members for the request of the State Property Fund. Thus, only environmental auditors who are members of Spilka can be involved in privatization projects called by the State Property Fund.

In addition, in Ukraine the voluntary environmental audit is not popular among owners of the enterprises because they see it as a threat and as an additional cost. According to my interviewees, the Ministry of Ecology and Natural Resources is not interested in the popularization of voluntary environmental auditing because the institution itself is funded by fines and bribes collected from polluting industries by the State Environmental Inspection. It seems that the Ministry is not interested in improving environmental performance of the enterprises as they might pay fewer fines. The owners of the industries order environmental auditing only if they have a court case related to pollution with the State Environmental Inspection, as the report of environmental auditing can be used as an evidence of innocence.

The results of my analysis show that there are no communities of practice among environmental auditors. The possible reason for it is the low demand for environmental auditing service, which is caused by a high competition on the market for clients. Therefore, environmental auditors are not

willing to cooperate with others and to share their own experiences and knowledge. Despite the large number of problems and challenges in their field caused by a poorly written the Law “On Environmental Auditing” (including the absence of a unified methodology and corruption issues), environmental auditors are not stimulated to cooperate and to develop the field. There is one non-governmental organization, the Union of Environmental Auditors, that presents itself as a professional association. However, my analysis shows that the reasons for its creation and current activities are not significantly supporting an improvement of the environmental auditing field. Moreover, it seems that it was created for serving the personal interest of self-enrichment of the former deputy minister and his closely related team. Therefore, such circumstances shrink demand for environmental auditing, which causes a decrease of number of certified environmental auditors in Ukraine.

The political implication of my research is in providing thoughts on how the EU-Ukraine integration process will affect environmental auditing in the country of research. Ukraine has accepted the supremacy of the European Law. Therefore, the process of the approximation of its environmental legislation has already started and will affect environmental auditing to some extent. The outcomes of my research showed that mandatory and voluntary environmental auditing practices had different paths of their development, which will continue.

The future of the mandatory environmental auditing is an open question as there is no equivalent in the EU. Consequently, there are several possible scenarios: a modification of the existing version and the reorganization of the whole branch of mandatory environmental auditing or its disappearance over time as the need for it will drop. The voluntary environmental auditing has more positive perspectives for the future in Ukraine. The rules of the single European market force the owners of the enterprises to improve their environmental performance as it is one of the ways to decrease impact on the environment and human health as well as survive in the high competitive situation. The environmental quality standards like ISO 14001 family or EMAS are a way to satisfy

criteria of the European market. The outcomes of my internship showed that procedure of EMAS III/Global has not been properly developed yet, therefore, Ukrainian companies cannot get this kind of certificate. Moreover, in general EMAS is becoming less popular among European enterprises and companies. Thereby, Ukrainian producers can certificate their industries according to the ISO 14001 family as it is the best solution to increase their competitiveness on the EU market. Moreover, in 2015, the international financial institutions have increases the flow of investments into Ukraine, therefore, the use of environmental auditing in the context of issuing credits might increase.

It is not easy to foresee the development of environmental auditing, which is carried out by the Accounting Chamber of Ukraine, which is the representative organization of INTOSAI WGEA, as there is no much information about it. Despite this, the Accounting Chamber of Ukraine might assist in the ongoing approximation of Ukrainian environmental legislation, what the equivalent organizations of INTOSAI WGEA have done in the Czech Republic and Bulgaria, when these two countries joined the European Union.

My research contributes to filling the gap in scientific knowledge since, as Power (1997) and Parker (2005) explain, the topic of environmental auditing has not been properly explored. In addition, Rika (2009) highlighted that environmental auditing in developing or transition countries has been studied even less than in the developed ones. Therefore, my research brings new knowledge about this topic from the region which remains uninvestigated. Moreover, my review of the existing literature on this topic showed that it focuses on guidance for practitioners, which is not theory-based research as this one.

To extend this research I identified three avenues for future investigations, which are worthwhile to investigate in the near future. One peculiarity of the PhD study is that while answering research questions scholar finds more undiscovered questions and topics which would be interesting to explore in-depth. I faced the same problem but because of limitations in terms of case

selection and the lack of information I was not able to investigate in detail the following three topics.

The first topic is the practical aspects of the operation of mandatory environmental auditing in the Republic of Belarus, the Republic of Kazakhstan and the Russian Federation. In Chapter 1, I presented a comparative analysis of environmental auditing in these three countries and Ukraine based on an overview of legal documents and available literature. However, the main research focus of my study is environmental auditing in Ukraine, therefore, I only explored peculiarities of its implementation according to experiences of environmental auditors in this country. To explore how this tool operates in Belarus, Kazakhstan and Russia, I would replicate the research structure of this study. The findings of the proposed research will enrich my PhD dissertation and contribute to the body of knowledge on environmental auditing.

The second subject that I believe requires more in-depth research is the use of environmental auditing by Ukrainian commercial banks. OTP Bank, ProCredit Bank, Raiffeisen BANK AVAL, UkrEximBank, and Ukrsibbank BNP Paribas Group banks have received loans from the European Bank for Reconstruction and Development with an obligatory requirement of social and environmental auditing for any investment project. The practice of using environmental auditing is new for Ukrainian banks, therefore I would like to explore how they managed to meet this requirement.

The third possible research topic is the cooperation between INTOSAI WGEA and the Accounting Chamber of Ukraine, which is an official representative of this organization. According to the newsletter of INTOSAI WGEA, many environmental auditing projects have been conducted by the Accounting Chamber of Ukraine. However, none of my interviewees have ever heard about any environmental auditing conducted by this organization or even about INTOSAI WGEA. Thus, these unclear issues are worthwhile to explore more.

Consequently, this research is the first step in exploring peculiarities of the environmental auditing practice in the post-Soviet countries undergoing economic and political transition.

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ANNEX I

An Interview Guide for an Environmental Auditor

First and Last Name:

Contact information (phone & e-mail address):

Work title and place:

Date:

Section I. Environmental Auditor Career

1. What was your motivation to become an environmental auditor? When did you get a certificate of national environmental auditor? Do you plan to prolong this certificate?

2. Did you take a preparatory environmental auditing course? How was the final exam organized?

3. Do you have an international certificate of environmental auditor? If yes, which one?

Section II. Environmental Audit

4. What is 'environmental auditing' for you?

5. What role do you think environmental auditing plays in environmental governance in Ukraine?

6. Why is 'environmental auditing' regulated by a special law (The Law of Ukraine "On Environmental Auditing" in Ukraine)?

7. What is your opinion about environmental legislation that regulates environmental auditing issues?

8. Which problems/challenges are you facing in everyday practice?

9. What changes in the Law of Ukraine "One Environmental Auditing" can improve your work?

10. In which way corruption influences your work?

11. Do you work only with Ukrainian clients or foreign as well?

12. Are your clients asking for recommendations as a part of the report?

13. Are you are a member of NGO Union of Environmental Auditors?

14. Are there other professional associations of environmental auditors?

15. Do you have experience of joint project with other environmental auditors? If yes, with whom?

16. What is your opinion about Twinning Project: “Support to the Ministry of Environmental Protection of Ukraine for the Implementation of the Law of Ecological Audit” (2012)? Did you notice any changes after this project?

17. How do current political and economic crises influence your work?

Section III. Final Questions

18. Who you can call an 'expert' (environmental auditors or researchers) in environmental auditing?

19. Which literature on environmental auditing can you recommend for my research?

ANNEX II

An Interview Guide for a Representative from the Ministry of Ecology and Natural Resources

First and Last Name:

Contact information (phone & e-mail address):

Work title and place:

Date:

Section I. General Questions

1. Please give your background and describe your involvement in the environmental auditing process.

Section II. Environmental Auditing and Environmental Legislation

2. How can you describe 'environmental auditing'?

3. What is the role of environmental auditing in environmental governance in Ukraine?

4. In your opinion, why is environmental auditing is regulated by the specific law in Ukraine?

5. What do you think about Ukrainian legislation that regulates environmental auditing?

6. Which changes should be implemented in the legislation to improve conducting of environmental auditing?

7. What do you know about Twinning Project «Support to the Ministry of Environmental Protection of Ukraine for the Implementation of the Law of Ecological Audit»? Did you notice any improvements after this project?

8. What was the role of the Ministry in this project?

9. Did you participate in this project?

10. Do you notice any changes in the environmental auditing field that reflects the current political and economic crisis? If yes, please name these changes.

Section III.Environmental Auditors’ Certification and Their Practice

11. What is the role of the Ministry in the process of certifying environmental auditors? Who are the members of the certifying committee?

12. What is the role of the Union of Environmental Auditors in environmental auditing field?

13. Are there other professional associations of environmental auditors?

14. Whom can you call an ‘expert’ (environmental auditors or scientist) in environmental auditing?

15. Which literature can you recommend to read for my research

ANNEX III

An Interview Guide for a Scientific Expert

First and Last Name:

Contact information (phone & e-mail address):

Work title and place:

Date:

Section I: General Questions

1. Tell me a little bit about yourself and your involvement in the environmental auditing process.

2. How can you describe 'environmental auditing'?

3. What is the role of environmental auditing in environmental governance in Ukraine? What is its place among other regulatory tools and mechanisms?

4. What is your opinion about legislation that regulate environmental auditing?

5. Why environmental auditing is regulated by a specific law in Ukraine?

6. What changes are necessary in environmental auditing legislation?

7. Do you notice any changes in the environmental auditing field that interlinks with the current political and economic crisis? If yes, please name these changes.

Section II. Environmental Auditing Course

8. Do you teach a course on environmental auditing? If yes, in which university? Is it undergraduate or masters course?

9. When did you start teaching it? What are the key topics in the course syllabus?

10. Do you cooperative with environmental auditors in developing/updating this course? If yes, with whom?

Section III. Environmental Auditors' Practice

11. Do you plan to become a certified environmental auditor? Why yes/no?

12. Do you know any professional association of environmental auditors?

13. Whom you can call an 'expert' (environmental auditors or researchers) in environmental auditing?

14. Which literature can you recommend to read for my research?

ANNEX IV

Table 1. Comparison of environmental auditing in Ukraine, the Republic of Belarus, the Russian Federation and the Republic of Kazakhstan.

#	Question/Issue	Ukraine	The Republic of Belarus	The Russian Federation	The Republic of Kazakhstan
1	Reasons for EA introduction	<ul style="list-style-type: none"> • Privatization • Foreign investments • Stricter environmental legislation 	<ul style="list-style-type: none"> • Privatization • Foreign investments • Stricter environmental legislation 	<ul style="list-style-type: none"> • Privatization • Foreign investments • Stricter environmental legislation Same reasons 	<ul style="list-style-type: none"> • Privatization • Foreign investments • Stricter environmental legislation Same reasons
2	First mentioning about EA in policy documents	1998 The Resolution of Ukrainian Parliament "The Principles of State Policy of Ukraine on Environmental Protection, Natural Resources and Environmental Security", which had a list of industries that were required to conduct environmental auditing before privatization.	2002 The Article 97 "Environmental Audit" was added to The Law of the Republic of Belarus "On Environmental Protection"	1993 In the Presidential Decree # 2284 "On the State Program of Privatization of State and Municipal Enterprises" environmental audit was presented as a requirement.	1997 The Law of the Republic of Kazakhstan "On Environmental Protection", Article 81.
3	Official Definition of Environmental Audit	Environmental audit is a systematic independent evaluation process of the auditing object that includes collection and objective assessment of the evidence for establishing a compliance of certain activities, events, conditions, environmental management system and information, to the requirements of Ukrainian environmental protection legislation and other criteria of environmental audit. (The Law of Ukraine "On Environmental Auditing" 2004).	Environmental audit is an independent, comprehensive documented verification of compliance of legal entities and individual entrepreneurs that are engaged in economic and other activities, with different requirements, including standards and technical regulations in the field of environmental protection, requirements of international standards, and recommendations for reducing (prevention) detrimental impact of such activities on the environment. (The Republic of	Environmental audit is an independent, comprehensive, documented assessment of compliance of economic and other activity requirements, including standards and regulations in the field of environmental protection, requirements of international standards and recommendations to improve these activities. (The Law of Russian Federation 2002)	Environmental audit is an independent assessment of industrial or other activity of auditing object that aims to identify and assess environmental risks and development recommendation for increasing level of environmental security of its activities

			Belarus 26 November 1992/2002).		
4	Objectives of EA	<ul style="list-style-type: none"> - to gather reliable information on the environmental aspects of production through an environmental audit of the facility, and the formulation of a report on the basis of this audit; - to comply with legal requirements on environmental protection and other criteria of ecological audit; - to assess the impact of the object of ecological audit on the environment; - to assess effectiveness, completeness and validity of measures that are used for environmental protection. 	<ul style="list-style-type: none"> - to protect environment and sustainable use of natural resources; - to improve the quality of corporate environmental activities, entities, and individual entrepreneurs engaged in economic and other activities; - the evaluation of economic and other activities auditing subject, the dangers of its facilities, and environmental damage caused by the medium; - to identify opportunities and trends follow auditing activities subject to a specific territory and the need to implement measures to restore the environment. 	<ul style="list-style-type: none"> - to provide basis for environmental policy and strategy of the enterprise; - to prioritize conservation planning of the company and to identify additional opportunities for its implementation; - to verify compliance with the business entity environmental legislation; - to improve the efficiency of controlling the impact of the subject economic activities on the environment; - to reduce the risk of emergencies pollution. 	-
5	Is EA a mandatory or voluntary tool?	Mandatory and voluntary	Mandatory and voluntary	Mandatory and voluntary	Mandatory and voluntary
6	Circumstances for conducting mandatory audit	<ul style="list-style-type: none"> - bankruptcy; - privatization, the transfer of the concession of state and communal property, except cases specified by law; - transfer or acquisition of a state or municipal property; - transfer of long-term lease of state or municipal property; - creation on the basis of state and municipal property joint ventures; 	<ul style="list-style-type: none"> - bankruptcy or liquidation of the legal entity - Bankruptcy or termination of individual entrepreneur that has an impact on the environment - Privatization of enterprises and in other cases stipulated by the legislation. 	<ul style="list-style-type: none"> - bankruptcy and privatization of legal entities and individuals engaged in entrepreneurial activities if their activity is ecologically particularly dangerous; - Carrying out environmental insurance in order to determine the rate or amount of insurance payments and (or) compensation; - Crediting of legal entities and individuals engaged in entrepreneurial 	<ul style="list-style-type: none"> - significant damage to the environment caused by economic and other activities of individuals and legal entities, confirmed by documents; - the reorganization of the legal entity-user of natural resources, are environmentally hazardous types of economic and other activities in the form of merger, separation, and isolation. - the bankruptcy of legal entities natural resources, are environmentally hazardous types of

		<ul style="list-style-type: none"> - environmental insurance facilities; - establishment, operation and certification of environmental management systems - in other cases provided by law 		<ul style="list-style-type: none"> activities, state-owned banks; - Evaluation of the environmental consequences of accidents and natural disasters; - Decision-making by public authorities to extend the licenses issued to legal entities and individuals-entrepreneurs engaged in operation of environmentally hazardous facilities; - The fulfillment of international obligations of the Russian Federation in the field of natural resources and environmental protection; - In other cases established by the Government of the Russian Federation. 	economic and other activities
7	Main Legal Documents that regulate EA	The Law of Ukraine “On Environmental Audit”, 2004	2000 – The Resolution of the Parliament of Republic of Belarus №03810 “National certification system of the Republic of Belarus. Subsystem environmental certification. Requirements for environmental auditors”	1998 – The Resolution of the State Committee for Ecology of The Russian Federation from 30.03.1998 about Environmental Auditing	1997 - The Law of the Republic of Kazakhstan “On Environmental Protection”, Article 81.
			2002 - The Law of the Republic of Belarus “On Environmental Protection”	2002 - The Law of Russian Federation “On Environmental Protection”	2011 – Environmental Code of the Republic of Kazakhstan. Chapter 9. Environmental Audit.
			2006 – Resolution of the Ministry of Natural Resources and Environmental Protection of the Republic “On Environmental Audit”		

			(The Ministry of Natural Resources and Environment 2006)		
8	Is EA mentioned in major Environmental Policy documents such as:				
a	The Environmental Strategy/ Environmental Action Plan/ Environmental Code	Yes	Yes	Yes	Yes
b	The Concept for Sustainable Development	Yes	Yes	No	Yes
c	The Sustainable Developments Strategy	No 2015	Yes 2004	Yes 2002	-

ANNEX V

A Reply from the Ministry of Ecology and Natural Resources for Information Request



МІНІСТЕРСТВО ЕКОЛОГІЇ ТА ПРИРОДНИХ РЕСУРСІВ УКРАЇНИ
(Мінприроди України)

вул. Митрополита Василя Липківського, 35, Київ, 03035, тел.: (044) 206-31-00, (044) 206-31-64;
факс: (044) 206-31-07 E-mail: secretar@menr.gov.ua; Код ЄДРПОУ 37552996

12.08.2015 № 17-2/07-15/215

на № _____

Рубан А.В.

ruban_anna@phd.ceu.tdu

Щодо надання інформації

Розглянувши запит від 10.07.2015 року стосовно розробок з удосконалення Закону України «Про екологічний аудит» Міністерство екології та природних ресурсів України повідомляє.

З метою удосконалення та приведення у відповідність до норм чинного законодавства, до Закону України «Про екологічний аудит» було внесено наступні зміни згідно із Законами № 882-VI від 15.01.2009, ВВР, 2009, № 24, ст.297; № 4442-VI від 23.02.2012, ВВР, 2012, № 49, ст.553; № 5456-VI від 16.10.2012, ВВР, 2013, № 46, ст.640. В той же час, за підтримки держав європейського співтовариства у 2010 – 2012 роках реалізовувався проект Twinning UA09/ENP-PCA/EN/17 «Підтримка Міністерства охорони навколишнього природного середовища України щодо впровадження закону про екологічний аудит».

Підсумком реалізації зазначеного проекту стало напрацювання ряду пропозицій щодо створення нормативних документів з питань обов'язкового екологічного аудиту та порядку його проведення, добровільного екологічного аудиту з Метою Офіційної Реєстрації та порядку його проведення, оцінки та відновлення минулого забруднення (історичного забруднення), спричиненого до початку приватизації. Зазначені напрацювання дозволяють наблизити процедури аудиторської діяльності до європейського законодавства.

**Начальник Управління
екологічного моніторингу,
аудиту та атмосферного повітря**

С.М. Салата

Черненко 17-1 206 31 93

ANNEX VI

EMAS Project Correspondence

“FINAS as [is] a small accreditation body with limited resources is unfortunately not able to serve any foreign clients” – Finland.

“The Austrian ministry of environment is actually preparing a regulation for the licensing of environmental verifiers for activities in third countries. The regulation will be finished by the end of the year 2014. As far as I know the regulation will refer to only licensing of Austrian verifiers as this is within our competence, I will come back to you with more information when we will have a draft of the regulation” - Austria.

“I have to clarify our policy for accrediting out-side our own member state (and outside EU) for this particular activity. We do not get these questions every day. At first glance DANAK seems far away for you (then also a little expensive)” – Denmark.

“No, the EMAS regulation enac [EMAS]is not granting accreditation outside Spain” – Spain.

“As a further step this individual accreditation/license can be expanded for third countries, in particular Ukraine. It is possible to apply for a verifier license in Germany including third party license for Ukraine. However the procedure and in particular the exam has to be conducted in German language. For first orientation the requirements can be taken from the description on our website and the legal documents stored or linked there, in particular: Umweltauditgesetz(UAG), UAG-Zulassungsverfahrensverordnung(UAGZVV), UAG Fachkunderichtlinie (UAG-FKR), UAG-Aufsichtsrichtlinie (UAG-AufsR) and UAG-Gebührenverordnung (UAGGebV)[...].

From these documents you can also take the additional requirements for being licensed for third countries like Ukraine. What is important is that an organization which applies for license as a legal entity needs employed personnel that are personally licensed as verifier (at least one person) at first. As a second step and based on the employed individual verifiers an organization can be licensed as a legal entity. As a third step also an organization can be licensed for third countries. In case of an organization all three steps can be done in one operation” - Germany.

ANNEX VII

An Explanatory Letter

Пояснювальний Лист Дослідження



В сучасних умовах і інтеграції України до Європейського союзу в Центрально-Європейському Університеті (Будапешт, Угорщина) проводиться ґрунтовне дослідження екологічної політики України в контексті реалізації Стратегії Екологічної Політики України до 2020 року. Особлива увага в дослідженні приділяється існуючим інструментам екологічної політики, зокрема, екологічному аудиту . Основним методом дослідження є проведення інтерв'ю з особами і організаціями, сертифікованими для проведення екологічного аудиту.

Буду вдячний експертам в сфері екологічного аудиту за сприяння в реалізації даного дослідження і призначити час та місце за яким можна провести інтерв'ю. Інтерв'ю проводитиме Анна Рубан (PhD Candidate, Central European University) і триватиме більше 1 години. Конфіденційність інформації та даних будуть забезпечені. Ви зможете ознайомитись з результатами дослідження після його завершення.

Заздалегідь вдячний за співпрацю,

A handwritten signature in blue ink is written over a circular stamp. The stamp contains the text 'CENTRAL EUROPEAN UNIVERSITY' around the top edge, 'FOUNDATION' in the center, and 'BUDAPEST, HUNGARY' at the bottom.

Ruben Mnatsakanian

Professor, Head of PhD Program

Dept of Environmental Sciences and Policy

Budapest 1 July 2014

ANNEX VIII

Table 2. List of banks, which require or not environmental auditing for lending credits in Ukraine³⁵

#	Bank	Yes	No
1	Active-Bank		*
2	Alfa-Bank		*
3	Bank Credit Dnipro		*
4	BM Bank		*
5	Brokbisnesbank		*
6	VTB		*
7	Delta Bank		*
8	Diamant Bank		*
9	Express-Bank		*
10	IdeaBank		*
11	Imeksbank		*
12	PJSC "ING BANK UKRAINE"		*
13	Industrialbank		*
14	Cominvestbank		*
15	Bank Contract		*
16	Kredobank		*
17	OTP Bank	*	
18	Oschadbank		*
19	Pivdennyi Bank		*
20	Piraeus Bank		*
21	Pravex-bank		*
22	PrivatBank		*
23	ProCredit Bank	*	
24	Prominvestbank		*
25	First Ukrainian International Bank (Pumb)		*

³⁵Banks of Ukraine (<http://bank-ua.com/banks/>).

26	Raiffeisen BANK AVAL	*	
27	Ukrgasbank		*
28	UkrEximBank	*	
29	Ukrsibbank BNP Paribas Group	*	
30	UniCredit Bank		*
31	Universal Bank		*
32	FidoBank		*
33	ERSTE Bank		*
34	Bank "Finance & Credit"		*
35	Bank Financial Initiative		*
36	Bank Khreschatyk		*

ANNEX IX

Table 3. List of professions for candidates, who want to become environmental auditors (The Ministry of Ecology and Natural Resources 2007)

#	Code	Specializations
1	0304	International relations
2	0501	Economy and business
3	0502	Management
4	0601	Law
5	0701	Physics
6	0702	Applied Physics
7	0703	Chemistry
8	0704	Biology
9	0705	Geography
10	0706	Hydrometeorology
11	0707	Geology
12	0708	Ecology
13	0709	Geodesy, Cartography and Land Management
14	0801	Mathematics
15	0802	Applied Mathematics
16	0803	Mechanics
17	0804	Computer Science
18	0901	Engineering materials
19	0902	Engineering Mechanics
20	0903	Mining
21	0904	Metallurgy
22	0905	Energetics
23	0906	Electrical Engineering
24	0907	Radio Engineering
25	0908	Electronics

26	0909	Devices (Equipment)
27	0910	Electronic devices
28	0913	Metrology, Standardization and Certification
29	0916	Chemical Technology and Engineering
30	0917	Food Technology and Engineering
31	0918	Light Industry
32	0919	Mechanization and electrification of agriculture
33	0920	Forest Management
34	0921	Architecture
35	0923	Welding
36	0926	Water Resources
37	1101	Medicine
38	1303	Water Bio-resources
39	1304	Forestry and Horticulture

ANNEX X

A Survey for Environmental Auditors

First and Last Name:

Date:

Categories:

0 – I have never heard of this person

1 – I have heard of this person, but never met in person

2 – We trained together

3 – We are colleagues

Name	Number
Шматков Григорій Григорович	
Галушкіна Тетяна Павлівна	
Картавцев Олег Миколайович	
Волоско-Демків Оксана Іванівна	
Навроцький Василь Миколайович	
Казаков Сергій Павлович	
Гакаленко Оксана Олександрівна	
Іванченко Ольга Сергіївна	
Куруленко Святослав Сергійович	
Барський Руслан Анатолійович	
Ієвлева Ольга Юріївна	
Міняйло Віталій Петрович	
Тараненко Людмила Василівна	
Сьоміна Наталія Василівна	
Барановська Ванда Євгеніївна	
Тураш Галина Олександрівна	
Живолуп Ірина Володимирівна	
Кирбаба Василь Васильович	
Щиборщ Світлана Володимирівна	
Данилкіна Ірина Леонідівна	
Гладенков Олег В'ячеславович	
Галушинський Юрій Миколайович	
Дзьобан Сергій Володимирович	
Середюк В.В.	
Нестеренко Уляна Юріївна	
Скрипник Андрій Павлович	
Малей Ольга Вікторівна	
Поль Світлана Василівна	
Лютаєв Петро Олексійович	
Пригара Михайло Васильович	

Шевченко Олександр Анатолійович	
Артемова Олена Сергіївна	
Ніколаєва Ірина Олександрівна	
Рибак Тетяна Олександрівна	
Третякова Ірина Сергіївна	
Яценко Ірина Джонівна	
Веремійчик Георгій Костянтинович	
Погурельський Сергій Петрович	
Шусть Володимир Іванович	
Крилюк Василь Миколайович	
Архипова Ганна Костянтинівна	
Іващенко Тарас Григорович	
Пушкарьова Ірина Дмитрівна	
Чернявський Микола Павлович	
Горбачова Наталія Іванівна	
Сігал Олександр Ісакович	
Буряк Віра Олександрівна	
Гладчук Олег Зіновійович	
Замша Роман Геннадійович	
Звонова Наталія Іванівна	
Ішков Борис Володимирович	
Кириленку Юрію Вікторовичу	
Кочерга Микола Миколайович	
Леонець Віктор Володимирович	
Падерно Дмитро Юрійович	
Серебрянський Дмитро Олександрович	
Федина Катерина Миколаївна	
Сольоний Володимир Петрович	
Ісаєнко Володимир Миколайович	
Штика Ольга Сергіївна	
Гончарова Олена Геннадіївна	
Фесай Олександр Павлович	
Кизима Лариса Петрівна	
Вернигора Владислав Миколайович	
Чернігівський Костянтин Володимирович	
Скоц В'ячеслав Степанович	
Горпишин Наталія Ярославівна	
Біклян Ігор Миколайович	
Ковтун Леся Олександрівна	
Люшуков Олег Дмитрович	
Харчишин Володимир Терентійович	
Гуцол Олена Миколаївна	
Наумова Ольга Анатоліївна	
Топчій Ростислав Валерійович	
Трофимчук Андрій Борисович	
Кравченко Ольга Олександрівна	
Маковський В'ячеслав Гергійович	

ANNEX XI

Table 4. Names and affiliation of my interviewees

#	Name	Affiliation	Stakeholder
1	Oksana Volosko-Demkiv	Center of Environmental Consulting and Audit	Environmental auditor/ Scientific expert
2	Vasyl Navrockyy	Interregional Center for Environmental Audit	Environmental auditor
3	Ruslan Barskyy	Scientific Production and Legal Union "Eco Consult Group"	Environmental auditor
4	Halyna Turash	Company "Analysis-certificate"	Environmental auditor
5	Tetiana Galushkina	Research Institution "Ukrainian Centre for Ecology of the Sea"	Environmental auditor
6	Taras Ivashchenko	State Environmental Academy of Postgraduate Education and Management	Environmental auditor
7	Iryna Dmytrivna	State Environmental Academy of Postgraduate Education and Management	Environmental auditor
8	Ulyana Nesterenko	Company "Intel-Proekt"	Environmental auditor
9	Andriy Trofymchuk	Private Company "Matryks Group"	Environmental auditor
10	Grygoriy Shmatkov	Scientific and Production Enterprise "Center for Environmental Audit and Clean Technology"	Environmental auditor/ Scientific expert
11	Olga Naumova	Scientific company "EKONIKS-CENTER"	Environmental auditor
12	Iryna Danylkina	Ukrainian Center of Environmental Auditing and Assurance "Ukrekoaudyt"	Environmental auditor
13	Tetiana Rybak	Company "Plast"	Environmental auditor
14	Oksana Posacka	Scientific Research Production Enterprise "Ecology"	Environmental auditor
15	Oleg Lushakov	Environmental Consulting company "EKA"	Environmental auditor
16	Oleg Gladchuk	"Ukrtransnafta"	Environmental auditor
17	Leonid Gorshkov	State Environmental Academy of Postgraduate Education and Management	Environmental auditor/ Scientific expert

18	Dmyriy Orel	Shell Ukraine	Environmental auditor
19	Olga Ievleva	Ukrainian Research Institute of Ecological Problems	Environmental auditor
20	Olena Artemova	Ukrainian Research Institute of Ecological Problems	Environmental auditor
21	Oleg Kartavcev	State Enterprise "Center of Ecological Initiatives"	Environmental auditor/ Auditing Committee
22	Yurii Kyrylenko	Zhytomyr Enterprise	Environmental auditor
23	Mykola Pylypchuk	State Environmental Academy of Postgraduate Education and Management	Environmental auditor/ Auditing Committee/ Scientific expert
24	Svitlana Shchyborshch	UkrLandFarm	Environmental auditor
25	Ludmyla Taranenko	Private Scientific Enterprise "Socium"	Environmental auditor
26	Nataliya Zvonova	State Scientific Enterprise on titanium design	Environmental auditor
27	Konstyantyn Chernigivskyy	Scientific Enterprise NEA	Environmental auditor
28	Nataliya Gorpyshyn	Khmenlnycka Nuclear Power Plant	Environmental auditor
29	Georgiy Veremiychyk	Institute for Reforms and Development of Kyiv	Environmental auditor
30	Vasyl Kyryluk	State Environmental Academy of Postgraduate Education and Management	Environmental auditor
31	Olga Kravchenko	Institute of Agro-Ecology and Natural Resource Management	Environmental auditor
32	Segiy Dzoban	Khmenlnytskyy Enterprise	Environmental auditor
33	Hanna Arhypova	Company "System"	Environmental auditor
34	Tetiyana Klochko	Kharkiv Aerospace University	Environmental auditor
35	Oleksandr Sigal	Institute of Industrial Ecology	Environmental auditor
36	Olena Hucol	Company "Evraz DMZ-im.Petrovskoh	Environmental auditor
37	Iryna Yacenko	Private enterprise "EcoProm"	Environmental auditor
38	Natalya Somina	Port Yuzhne	Environmental auditor
39	Vitalyi Minyaylo	Private Company ECO	Environmental auditor
40	Volodymyr Kharchyshyn	Zhytomyr National Agroecological University	Environmental auditor

41	Stanislav Suprunenko	RESEARCH CENTER "ECOFAKTOR"	Environmental auditor
42	Oleksandr Fesa	State Institution "Institute of Environmental Geochemistry of National Academy of Sciences of Ukraine"	Environmental auditor
43	Olga Shtyka	Auditing firm 'EKOS GROUP'	Environmental auditor
44	Hanna Korobjova	V.N. Karazin Kharkiv National University	Environmental auditor
45	Segyi Dzoban	Landscape Design Enterprise	Environmental auditor
46	Yuriy Galuschynskyy	Interdepartmental Center for Certification	Environmental auditor
47	Daniel Benatov	National Technical University of Ukraine "Kyiv Polytechnic Institute"	Scientific Expert
48	Nataliya Goncharenko	Taras Shevchenko National University of Kyiv	Scientific Expert
49	Vadim Lukjanihin	Sumy State University	Scientific Expert
50	Dmytro Demidov	State Enterprise "Center of Ecological Initiatives"	Auditing Committee

ANNEX XII

Table 5. Incomplete list of conducted mandatory environmental audits in Ukraine

Oblast	#	Name of Auditing Object	Year	Environmental Auditor
Odesa oblast (4)				
	1	ВАТ «Одеський припортовий завод»	2006	Барський Руслан Анатолійович
	2	ВАТ «Одеський припортовий завод»	2008	Барський Руслан Анатолійович
	3	ТОВ «Ай Сі Ел Україна»	2009	Барський Руслан Анатолійович
	4	ПрАТ "Ренійський елеватор", м.Рени	2014	Шматков Григорій Григорович
Donetsk oblast (50)				
	5	«Старобішевська ТЕС»	1997	Данилкіна Ірина Леонідівна
	6	«ЦМК „Костян-тинівський завод скловиробів”	2005	Данилкіна Ірина Леонідівна
	7	ВАТ „Краматорський цементний завод – Пушка”	2006	Данилкіна Ірина Леонідівна
	8	ЗАТ „ПКП „Металіст”	2007	Казаков Сергій Павлович
	9	ПП „Полімін Донбас”	2008	Казаков Сергій Павлович
	10	КП „Міжнародний аеропорт Донецьк”	2008	Казаков Сергій Павлович
	11	ДП «Воровское»	2008	Данилкіна Ірина Леонідівна
	12	Державне підприємство «Підприємство по виробництву вибухозахисних і в'язучих матеріалів», м Докучаєвськ	2008	Ніколаєва Ірина Олександрівна
	13	А відокремленого структурного підрозділу «Водоналівний комплекс шахти ім. Володарського»	2008	Данилкіна Ірина Леонідівна
	14	Шахта «Білозерська», м Белозерськ	2008	Ніколаєва Ірина Олександрівна

	15	ЕА «Шахта «Белозерская» ДП «Добропольеуголь»	2008	Данилкіна Ірина Леонідівна
	16	ЕА ОП «Шахта «Піонер»	2008	Данилкіна Ірина Леонідівна
	17	ЕА ОП «Шахта «Алмазная»	2009	Данилкіна Ірина Леонідівна
	18	ГО «Добропольеуголь» (5 шахт)	2009	Ніколаєва Ірина Олександрівна
	19	ТОВ «Кондратіївська ЦЗФ»	2009	Казаков Сергій Павлович
	20	ЕА ОП «Шахта Новодонецька»	2009	Данилкіна Ірина Леонідівна
	21	ЕА ОП «Шахта Белицька»	2009	Данилкіна Ірина Леонідівна
	22	ЕА ОП «Шахта «Добропільська»	2009	Данилкіна Ірина Леонідівна
	23	ОП "Шахта Новодонецька"	2010	Кирбаба Василь Васильович
	24	КП „ЖКП” Приморського р-ну м.Маріуполь	2010	Казаков Сергій Павлович
	25	ОП "Шахта Белицька"	2010	Кирбаба Василь Васильович
	26	ОП "Шахта "Добропольська"	2010	Кирбаба Василь Васильович
	27	ОП "Шахта "Піонер" ДП "Допроніллявугілля"	2010	Кирбаба Василь Васильович
	28	ОП "Шахта Алмазна"	2010	Кирбаба Василь Васильович
	29	КП "Краматорській водоканал"	2010	Кирбаба Василь Васильович
	30	ЕА Комунального промислового підприємства «Краматорський водоканал».	2010	Данилкіна Ірина Леонідівна
	31	Орендне підприємство «Шахта ім. О.Ф. Засядька»	2010-2011	Ніколаєва Ірина Олександрівна
	32	ОП "Шахта ім. О.Ф.Засядько"	2011	Кирбаба Василь Васильович
	33	ЕА ВП «Шахта ім. Засядька»	2011	Данилкіна Ірина Леонідівна
	34	ЕА ДП «Свердловантрацит»	2011	Данилкіна Ірина Леонідівна
	35	ЕА ВП «Миронівська ТЕС»	2011	Данилкіна Ірина Леонідівна

	36	ВП Шахта № 4-21» ДП «Донецька вугільна енергетична компанія»	2011	Казаков Сергій Павлович
	37	ТОВ «Підентрансбуд»	2011	Казаков Сергій Павлович
	38	ТОВ «Макіївпромтранс»	2011	Казаков Сергій Павлович
	39	ЕА ДП "Донецькобленерго"	2011	Данилкіна Ірина Леонідівна
	40	ВП «Шахта ім. О.О. Скочинського », Донецька область	2012	Ніколаєва Ірина Олександрівна
	41	ЕА ВП «Шахта ім. О.О. Скочинського»	2012	Данилкіна Ірина Леонідівна
	42	ПП «ОРІОН АТ»	2012	Казаков Сергій Павлович
	43	ЕА ВП «Шахта Трудівська»	2012	Данилкіна Ірина Леонідівна
	44	ВП «Шахта «Трудівська ДП «ДВЕК»	2012	Веремійчик Георгій Костянтинович
	45	ВП «Шахта «Південнодонбаська №3»	2012	Веремійчик Георгій Костянтинович
	46	ЕА ВП «Шахта Південнодонбаська № 3»	2012	Данилкіна Ірина Леонідівна
	47	ЕА ПАТ «Донбасенерго»	2013	Данилкіна Ірина Леонідівна
	48	ВП Шахта "Міусинська", ДП "Донбасантраціт", м.Красний Луч	2013	Шматков Григорій Григорович
	49	ВП Шахта "Ізвестія", ДП "Донбасантраціт", м.Красний Луч	2013	Шматков Григорій Григорович
	50	ВП Шахта "Краснокутська", ДП "Донбасантраціт", м. К.Л.	2013	Шматков Григорій Григорович
	51	ВП Шахта "Хрустальська", ДП "Донбасантраціт", м. К.Л.	2013	Шматков Григорій Григорович
	52	ТОВ «ПСК «АлМар»	2013	Казаков Сергій Павлович
	53	ВП Шахта "Новопавлівська", ДП "Донбасантраціт", м.К.Л.	2013	Шматков Григорій Григорович
	54	ПАТ «Донбасенерго»	2013	Ніколаєва Ірина Олександрівна
	55	ПАТ «ДТЕК Донецькобленерго», ВП «Миронівська ТЕС»	2014	Ніколаєва Ірина Олександрівна

Lugansk oblast (39)				
	56	Луганська ТЕС	1997	Данилкіна Ірина Леонідівна
	57	ВАТ "Алчевський коксохімічний завод"	2006-2007	Сердюк Валентин Васильович
	58	ВАТ "Алчевський металургійний комбінат"	2007	Сердюк Валентин Васильович
	59	Виробниче управління водопровідно-каналізаційного господарства м.Алчевськ	2007	Сердюк Валентин Васильович
	60	ВП "Антрацитпрогрузтранс" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	61	ВП "Антрацитовський ремонтно-механічний завод" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	62	ВП "Автобаза" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	63	ВП "Шахта Комсомольська" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	64	ВП "Шахта Партизанська" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	65	ВП "Учбово-курсний комбінат" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	66	ВП "Управління матеріально-технічного постачання" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	67	ВП "Вузел виробничо-технічного зв'язку" ДП "Антрацит"	2009	Кирбаба Василь Васильович
	68	ВП ГЗФ "Мюсинська" ДП "Донбасантрацит"	2009	Кирбаба Василь Васильович
	69	ЕА ОП ГОФ «Міусинська» ДП «Донбасантрацит»	2009	Данилкіна Ірина Леонідівна
	70	ЕА ОП ОФ «Горська» ДП «Первомайськвугілля»	2009	Данилкіна Ірина Леонідівна
	71	ЕА ОП ОФ «Горська» ДП «Первомайськвугілля»	2009	Данилкіна Ірина Леонідівна

	72	ВП ЗФ "Горська" ДП "Первомайськвугілля"	2009	Кирбаба Василь Васильович
	73	ОП ГОФ "Міусинська" ДП "Донбасантрацит"	2010	Кирбаба Василь Васильович
	74	ЕА ОП ОФ "Горська" ДП "Первомайськвугілля"	2010	Кирбаба Василь Васильович
	75	вп гзф "Ізвестій" ДП "Донбасантрацит"	2010	Кирбаба Василь Васильович
	76	ЕА «Шахта «Партизанська» ДП «Антрацит»	2010	Данилкіна Ірина Леонідівна
	77	ЕА «Шахта «Комсомольська» ДП «Антрацит»	2010	Данилкіна Ірина Леонідівна
	78	ЕА «Шахта «Комсомольська» ДП «Антрацит»	2010	Данилкіна Ірина Леонідівна
	79	"Шахта Свердлова" ДП "Сведровантрацит"	2011	Кирбаба Василь Васильович
	80	"Шахта Харківська"	2011	Кирбаба Василь Васильович
	81	"Шахта Д.-Капітальна"	2011	Кирбаба Василь Васильович
	82	"Шахта Красний партизан"	2011	Кирбаба Василь Васильович
	83	"Шахта Центросоюз"	2011	Кирбаба Василь Васильович
	84	Автобаза	2011	Кирбаба Василь Васильович
	85	ГЗФ "Краснопартизанська"	2011	Кирбаба Василь Васильович
	86	ГЗФ "Центросоюз"	2011	Кирбаба Василь Васильович
	87	ЦЗФ "Свердловська"	2011	Кирбаба Василь Васильович
	88	Вантажно-транспортне управління	2011	Кирбаба Василь Васильович
	89	Управління матеріально-технічного постачання	2011	Кирбаба Василь Васильович
	90	ЕА «Сіверодонецьке об'єднання «АЗОТ»	2011	Данилкіна Ірина Леонідівна
	91	ЕА ВП «Шахта ім. Ф.Е.Дзержинського» ДП «Ровенькиантрацит»	2011	Данилкіна Ірина Леонідівна

	92	ЕА ВП «Шахта 81 «Київська» ДП «Ровенькиантрацит»	2011	Данилкіна Ірина Леонідівна
	93	ЕА Шахта ім. М.В. Фрунзе ДП «Ровенькиантрацит»	2011	Данилкіна Ірина Леонідівна
	94	ЕА Шахта ім. В.В. Вахрушева ДП «Ровенькиантрацит».	2011	Данилкіна Ірина Леонідівна
	95	Запорізьська ТЕС	2011	Шматков Григорій Григорович
Zaporizhia oblast (13)				
	96	«Дослідної лінії з утилізації відходів та осадів стічних вод КП „Водоканал”	2004	Данилкіна Ірина Леонідівна
	97	ВАТ “Запоріжсталь”	2006	Шматков Григорій Григорович та Гакаленко Оксана Олександрівна
	98	ДП «Имидж Холдинг»	2006	Данилкіна Ірина Леонідівна
	99	ВАТ «ЗМК «Запоріжсталь»	2006	Ніколаєва Ірина Олександрівна
	100	ПАТ “Запоріжжокс”	2006	
	101	Філія № 28 “Енергодарський теплично-овочевий комбінат” ДП “Агроспецсервіс”	2008	Гакаленко Оксана Олександрівна
	102	ЗАТ “Головинський кар’єр “Граніт”	2009	Гакаленко Оксана Олександрівна
	103	ТОВ “ПРЕСТИЖ – ІНВЕСТ ГРУП”	2009	Гакаленко Оксана Олександрівна
	104	ДП «Кремнійполімер»	2011	Гакаленко Оксана Олександрівна
	105	ПАТ "Запоріжсталь"	2011-2012	Сердюк Валентин Васильович
	106	ДТЕК Запорізька ТЕС	2014	Ніколаєва Ірина Олександрівна
	107	ПАТ "Дніпроенерго"	2011	Шматков Григорій Григорович
	108	ВАТ "Запоріжсталь"	2011	Шматков Григорій Григорович
	109	ТОВ "Дніроспецсталь"	2012	Шматков Григорій Григорович
Kharkiv oblast (4)				

	110	ВАТ „Краматорський цементний завод – Пушка”	2006	Данилкіна Ірина Леонідівна
	111	ЕА ДП "Теплоелектроцентрально-2 "Есхар"	2012	Данилкіна Ірина Леонідівна
	112	ГП "48-ий завод залізничної техніки"	2012	Шматков Григорій Григорович
	113	ГСП "Харківський Державний міжобласний спецкомбінат"	2014	Шматков Григорій Григорович
Kyiv oblast (16)				
	114	ЗАТ "Лакма" м.Київ	2007	Сердюк Валентин Васильович
	115	ВАТ «Лакма»	2008	Звонова Наталія Іванівна
	116	Київський державний зоологічний парк	2009	Клочко Тетяна Олександрівна
	117	Проведення екологічного аудиту земельної ділянки за адресою: вул. Володимирський узвіз, 2 у Печерському районі м. Києва з метою вивчення її відповідності статусу особливо цінних земель та обґрунтування розміщення на ній Центру сучасного мистецтва	2009-2010	Погурельський Сергій Петрович
	118	ТЕЦ-5 "Киїенерго"	2011	Кирбаба Василь Васильович
	119	ТЕЦ-6 "Киїенерго"	2011	Кирбаба Василь Васильович
	120	Теплові мережі "Киїенерго"	2011	Кирбаба Василь Васильович
	121	Житлопеленерго "Киїенерго"	2011	Кирбаба Василь Васильович
	122	Завод "Енергія" "Киїенерго"	2011	Кирбаба Василь Васильович
	123	СВП "Спеценергоавтосервіс" "Киїенерго"	2011	Кирбаба Василь Васильович
	124	Енергоналадка "Киїенерго"	2011	Кирбаба Василь Васильович
	125	Кабельні мережі "Киїенерго"	2011	Кирбаба Василь Васильович
	126	Теплові розподільчі мережі "Киїенерго"	2011	Кирбаба Василь Васильович
	127	ПАТ «КИЇВЕНЕРГО», СВП «Київські теплові мережі»	2011	Ніколаєва Ірина Олександрівна

	128	ПАТ «КИЇВЕНЕРГО», Завод «Енергія»	2011	Ніколаєва Ірина Олександрівна
	129	СВП «КИЇВЕНЕРГО ТЕЦ»	2014	Ніколаєва Ірина Олександрівна
	130	СВП «Автотранспорт»	2014	Ніколаєва Ірина Олександрівна
Mykolaiv oblast (1)				
	131	Ташлицька гідроакумлююча електростанція	2007	Ієвлева Ольга Юріївна
Rivnenska oblast (2)				
	132	Відособлений підрозділ Рівненська АЕС	2007	Ієвлева Ольга Юріївна
	133	Відособлений підрозділ Рівненська АЕС	2010	Ієвлева Ольга Юріївна
Khmelnyski oblast (2)				
	134	Відособлений підрозділ Хмельницька АЕС	2007	Ієвлева Ольга Юріївна
	135	Відособлений підрозділ Хмельницька АЕС	2010	Ієвлева Ольга Юріївна
Poltava oblast (2)				
	136	ПП "Кобилякский сахарний завод" ООО "Агрофірма" "Добробут"	2010	Кирбаба Василь Васильович
	137	База відпочику ПП "Компанія "Надія", с. Глоди		Шматков Григорій Григорович
Chernigiv oblast (1)				
	139	Проведення екологічного аудиту (попереднє оцінювання) Ічнянського національного природного парку Чернігівської області (I етап роботи з Сертифікації системи екологічного управління на відповідність вимогам СТДСТУ ISO 14001:2006)	2013	Горшков Леонід Іванович

Dnipropetrovsk oblast (31)				
	139	ВАТ "Вільногірськ ГЗК"	2005	Шматков Григорій Григорович
	140	ТОВ «Схід-Руда»	2006	Ніколаєва Ірина Олександрівна
	141	Об'єкт ВАТ «ДніпроАзот», «Інженерні споруди по очищенню стічних вод та припинення їх скидання в р. Дніпро»	2006	Ніколаєва Ірина Олександрівна
	142	ДП «Придніпровський завод кольорових металів»	2006	Ніколаєва Ірина Олександрівна
	143	ДП "Криворіжсталь"	2006	Шматков Григорій Григорович
	144	ДП «Дніпронерудпром»	2006	Ніколаєва Ірина Олександрівна
	145	ВАТ «Дніпроспецсталь»	2007	Ніколаєва Ірина Олександрівна
	146	ВАТ «Дніпроенерго» Придніпровська ТЕС	2007	Ніколаєва Ірина Олександрівна
	147	ДП "Завод кольорових металів"	2007	Шматков Григорій Григорович
	148	ВАТ "Дніпровський металургійний комбінат ім.Держинського"	2008	Сердюк Валентин Васильович
	149	Криворізький завод "Промавтоматика" АТЗ "Техноскарб"	2008	Шматков Григорій Григорович
	150	Дніпродзержинське виробництво ВАТ «ХайдельбергЦемент Україна»	2008	Ніколаєва Ірина Олександрівна
	151	Екологічний аудит міста Новомосковск	2009	Шматков Григорій Григорович
	152	ВАТ "Восток-Руда"	2009	Шматков Григорій Григорович
	153	Аудит міста Новомосковськ, Дніпропетровська область	2009	Ніколаєва Ірина Олександрівна
	154	Дніпропетровський район м.Дніпропетровськ	2009	Шматков Григорій Григорович
	155	Шахта «Інгульська» ДП «СхідГЗК»	2009-2010	Ніколаєва Ірина Олександрівна
	156	Дніпродзержинське Державне підприємство «Екоантилід»	2010-2011	Ніколаєва Ірина Олександрівна
	157	ТОВ «ДДЗ «Енергоавтоматика»	2010-2011	Ніколаєва Ірина Олександрівна

	158	Дніпродзержинське державне підприємство «Екоантілід»	2010-2011	Шевченко Олександр Анатолійович
	159	ЗАТ «Дніпропетровський комбінат харчових концентратів»	2011	Шевченко Олександр Анатолійович
	160	ПАТ «Дніпроенерго»	2011	Шевченко Олександр Анатолійович
	161	ВАТ "Гейдельберг-цемент-Дніпродзержинськ"	2011	Шматков Григорій Григорович
	162	ПАТ "Дніпровський металургійний комбінат ім.Дзержинського"	2011-2013	Сердюк Валентин Васильович
	163	ДП "Екоантілід"	2011	Шматков Григорій Григорович
	164	ТзП "Іст Болт Україна"	2012	Шматков Григорій Григорович
	165	Полігон небезпечних промислових відходів Державного підприємства з питань поводження з відходами як вторинною сировиною, м. Жовті Води.	2013	Чернігівський Костянтин Володимирович
	166	ВП "Придніпровська ТЕС"	2013	Шматков Григорій Григорович
	167	ДП "Дніпродзержинська ТЕС"	2014	Шматков Григорій Григорович
	168	Філія "Вільногірський ГМК" ПрАТ "Кримський Титан"	2014	Шматков Григорій Григорович
	169	Вільногірський гірничо-металургійний комбінат	2014	Данилкіна Ірина Леонідівна
	170	Шлакозакладач в б. Ясинова ПрАТ "Хімдивізіон"	2014	Шматков Григорій Григорович
Кryvyi Rig oblast (6)				
	171	ВАТ «Криворіжсталь»	2005	Ніколаєва Ірина Олександрівна
	172	ДНВП «Укрмеханобр»	2005	Ніколаєва Ірина Олександрівна
	173	Криворізький завод промавтоматики філія АТЗТ «Техноскарб»	2008	Ніколаєва Ірина Олександрівна
	174	ВАТ «Дніпроенерго» Криворізька ТЕС	2008	Ніколаєва Ірина Олександрівна

	175	ДТЕК Криворізька ТЕС	2014	Ніколаєва Ірина Олександрівна
	176	ВП "Криворізька ТЕС"	2013	Шматков Григорій Григорович
Lviv oblast (5)				
	177	ДТЕК Добровіська ТЕС	2014	Ніколаєва Ірина Олександрівна
	178	СП Львівенергоспецремонт	2014	Ніколаєва Ірина Олександрівна
	179	СП Галременерго	2014	Ніколаєва Ірина Олександрівна
	180	Бурштинська ТЕС	2014	Данилкіна Ірина Леонідівна
	181	Ладиженська ТЕС	2014	Данилкіна Ірина Леонідівна
Ivano-Frankivsk oblast (1)				
	182	Котельні комунального підприємства "Івано-Франківськтеплокомуненерго"	2008	Сердюк Валентин Васильович
Kirovograd oblast (3)				
	183	ГП "ВостГок" - шахта "Інгульська"	2010	Шматков Григорій Григорович
	184	Бункер для поховання токсичних промвідходів, що належать ВАТ "Чисті метали" м. Світловодськ.	2012	Чернігівський Костянтин Володимирович
	185	«Дослідно-експериментальна дільниця термічного знешкодження відходів» ТОВ «Український центр поводження з відходами» м. Кіровоград	2012	Чернігівський Костянтин Володимирович
Ternopil oblast (3)				
	186	ТОВ «Хоросківський цукровий завод»	2012-2013	Чернігівський Костянтин Володимирович
	187	ТОВ «Збаражський цукровий завод»	2012-2013	Чернігівський Костянтин Володимирович
	188	ТОВ «Козівський цукровий завод»	2012-2013	Чернігівський Костянтин Володимирович
Mykolaiv oblast (1)				

	189	Проведення ЕА з метою оцінки впливу господарської діяльності артезіанською свердловини на навколишнє природне середовище	2009	Данилкіна Ірина Леонідівна
Sumy oblast (2)				
	190	ЕА «Шосткінський гормолкомбінат»	2010	Данилкіна Ірина Леонідівна
	191	ЕА ПАТ «Сумихімпром»	2013	Данилкіна Ірина Леонідівна
Crimia (1)				
	192	ЕА ЗАТ «Стівідона компанія «АВЛІТА»	2010	Данилкіна Ірина Леонідівна
Zhytomyr oblast (3)				
	193	ВАТ "Іршанський ГЗК"	2005	Шматков Григорій Григорович
	194	ТОВ "Валкі-ільменіт"	2014	Шматков Григорій Григорович
	195	Іршанський гірничо-збагачувальний комбінат	2014	Данилкіна Ірина Леонідівна