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CONVERGENCE MATRIX OF IFRS METHODOLOGY AND SEEA FOR THE RECOGNITION OF MINERAL RESOURCES IN THE CONTEXT OF TRANSITIONING TO A SUSTAINABLE ACCOUNTING AND REPORTING MODEL: LIMITATIONS AND OPPORTUNITIES OF MOLDOVA'S PRACTICE

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Abstract
The objective is to develop a Matrix of convergence indicators for the IFRS methodology and the SEEA concept for the recognition of mineral resources in the financial statements, the format of which adheres to the socio-economic model. In order to achieve this goal, the hypotheses were put forward and substantiated. The study identified a set of indicators characterizing the degree of correlation between IFRS and SEEA, developed a convergence matrix for the two frameworks, demonstrating a high degree of connection between them with respect to the recognition of mineral resources. The proposed matrix is a conceptual basis for the calculation of the En-contribution of business to the realization of sustainable development goals. The application of IFRS methodology, which meets the goals of sustainable development and which represents the base to form a socio-economic model of accounting and financial reporting, should be considered as a promising direction for recognizing mineral resources and natural capital as a source of their origin. The assessment model of mineral resources adopted at the legislative level in Republic of Moldova leads to an asymmetric effect of the contribution of real sector enterprises related to the use of mineral resources, to the development of the national economy.

Keywords: *methodology of accounting, SEEA concept, measurement of natural capital*.

JEL Classification: G32, M14, M41

I. INTRODUCTION

The modern technological landscape is characterized not only by scientific and technological advancements but also by a broad spectrum of economic, environmental, and social issues. The cause of environmental problems is the business's pursuit of their selfish goal – the endless accumulation of financial capital. The consequence of this pursuit is of a contradictory nature, as on one hand, it contributes to the prosperity of the society and sometimes economic development, and on the other hand, it leads to a phenomenon known as the degradation of the environment (see Millennium Ecosystem Assessment, 2005).

In their activity, businesses utilize both financial and non-financial (human and natural) resources provided by owners. Respectively, the company relies on the contributions of the owners from the associated capital, with the drivers of its growth being the financial, human, and natural capital. These three types of capital constitute the triad of associated business capital (Golochalova, 2022).

It is evident that, for the purpose of evaluating the efficiency of resource utilization and determining the actual financial performance of a business, it is necessary to assess the contribution of each of the "drivers" to the increase in the value of the associated capital and allocate the obtained result among them. The instrument for achieving this goal is accounting, and the form of presentation is the financial reporting.

Moreover, the foundation of accounting comprises: 1) the accounting law, implemented through the identification of rights concerning ownership; 2) the economic evaluation of business events concerning ownership. The mechanism for identifying and economically assessing the rights of financial capital owners is clearly established. However, the methodology concerning the rights of human capital owners is not yet standardized, while the question of recognizing property rights to natural resources remains a subject of debate. As a result, the information in the financial reporting had a distorted nature since the structure of associated capital requires the recognition of rights from different types of property owners.

The Concept of Sustainable Development, developed within the framework of the International Commission on Environment and Development (1995), aims to neutralize the cause of the environmental crisis. Its economic platform is based on the imperative interpretation of business capital as associated, and the size of each of its triad of capital which must be consistently supported. The ecological platform defines the ecosystem as a participant in economic relationships, the condition of which must be maintained to preserve the productive capacities of its components - natural resources and ecosystem services.

The implementation of the principles of the sustainable development concept can only be demonstrated through a specific set of indicators characterizing each type within the triad of associated capital.

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This fact has predetermined the evolution of business reporting, as it necessitated a reconsideration of criteria for assessing the utility and the format of its information field, preparation rules, accounting principles, and mechanisms for recognizing new accounting objects (Bychkova et al., 2021).

In this context, the first standards developed were the Global Reporting Initiative (GRI), and based on them, businesses began preparing public non-financial reporting aimed at disclosing specific information about the economic, social, and environmental activities of the business. Subsequently, six principles of responsible investing were developed, and Environmental, Social, and Governance (ESG) indicators were proposed, facilitating the assessment of business risks and opportunities for the achievement of its sustainable model. However, the goal of GRI-reporting and ESG-reporting does not meet the investors' demand for the presentation of accurate and understandable information about the value of natural resources used by the business and changes in the state of natural capital as the source of their origin. This fact is explained by the difference in the purpose of presenting financial and non-financial reporting, which determines the lack of correlation between financial and ESG-indicators (Buboi & Cosmulese, 2023).

Obviously, the question of assessing or expressing the accounting of event results is fundamental. Shareholders and investors evaluate the effectiveness of a business through the "language" of numbers, which can provide comparable and understandable information for investment decisions. Financial reporting was intended to represent such information; however, its current format does not align with the principles of sustainable development.

Meanwhile, in the 21st century, the crucial role of natural resources in ensuring sustainable development has been recognized, leading to the development of a specialized system of ecological-economic accounting (hereinafter, SEEA). Its basic thesis is as follows: for the rational use and maintenance of natural resources, it is necessary to conduct their accounting, which contributes to measuring the impact of economic activities on their state and determining priority directions for "green" investments.

SEEA is presented by two general-purpose documentary acts. The first one is the "Central Framework of the System of Environmental-Economic Accounting", which includes recommendations on the identification and classification of natural capital types, rules and principles of account management, and the application of asset and flow accounts (System of Environmental-Economic Accounting 2012: Central Framework, 2012).

Subsequently, the second documentary act of SEEA was prepared – "SEEA – Ecosystem Accounting" (2021). It outlines the minimum requirements for documenting accounting data and preparing accounting records, the process of calculations, the content of the Balance, and provides recommendations on the application of assessment methods for ecosystem assets and ecosystem services (System of Environmental-Economic Accounting–Ecosystem Accounting, 2021). However, the SEEA initiatives do not give importance to the reform of accounting and the modernization of financial reporting (Jacques & Altukhova, 2017a). In another documentary act – the Natural Capital Coalition (2020), it is noted that the IFRS are recognized as a modern accounting practice. However, there is doubt expressed that the application of IFRS aids to the generation of useful information in reporting, due to the lack of data on the businesses' contribution to maintaining natural capital for sustainable development purposes.

In this context, the question arises: *do the provisions of SEEA correlate with the modern methodology of accounting, its principles, and the rules for preparing financial reporting – the methodology of IFRS?*

The Republic of Moldova is a candidate for the European Union (EU) membership and in accordance with Law No. 315/2022, Approving the National Strategy "European Moldova-2030" is designated as socio-economic development. It outlines the priority directions for the development of the country and society, as well as the goals, objectives, and indicators of the expected effect, in accordance with international commitments and the Agenda for Sustainable Development for the period up to 2030.

In the context of implementing priority directions, one of which is the maintenance of natural capital, the Strategy notes that to achieve this, it is necessary to develop and implement a policy for a sustainable, competitive, and clean industrial sector, based on the "polluter pays" principle. The implementation of this principle involves integrating sustainable development principles and contributes to optimizing the internal environmental costs of businesses. However, businesses in Moldova, while focusing on addressing economic issues, show little concern for the environmental crisis and, at times, contribute to environmental pollution.

In developing countries, characterized by unstable economic conditions and geopolitical situations, businesses often seek to maximize their profits and may not pay adequate attention to environmental projects. Additionally, the society may not be interested in the "philosophy" of social responsibility and its role in environmental conservation. The prevalent view in these regions sees economic development as the only path to achieving sustainability (Akdogan et al., 2020).

In this regard, the following question is debatable: *Is it possible to implement the provisions of SEEA in developing countries, including the Republic of Moldova?*

To answer the outlined question, an interdisciplinary investigation is required, which relies on the modern accounting methodology – the IFRS methodology and the SEEA concept, and contributes to the transition to a new

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Volume **12** / 2024 ISSN 2344-102X
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socio-economic model of financial reporting. In the context of the above, the author puts forward the following hypotheses:

H1: Convergence between IFRS methodology and SEEA concept promotes the recognition of mineral resources and natural capital within the elements of business financial statements;

H2: In the accounting and reporting system of the Republic of Moldova, which resembles more the continental model of accounting, there are still no prerequisites for the implementation of SEEA and presentation of useful information on the state of mineral resources in the financial statements.

II. LITERATURE REVIEW

Throughout the evolution of economic studies, environmental resources have always held a special place. Starting from the 17th century, notable scholars dedicated their works to the assessment and recognition of land as the primary source of wealth and its growth – capital. Among them are Petty and the physiocrats, Smith, Say, and Marx. However, in their doctrines, these renowned economists did not assign importance to other natural resources and the environmental constraints on their usage. This can be explained by the fact that the research pertained to the era of nascent capitalism when industrial sectors were weakly developed, and some were nonexistent.

The doctrines of these researchers share a common idea that land is a productive capital contributing to the formation of the value of the created product. This means that the land, as a natural resource, was assessed through the lens of human activity – its costs giving rise to land rent. An exception to this series of doctrines is the theory of Jean-Baptiste Say, a supporter of the theory of marginal utility. According to his theory, land received the interpretation of an economic phenomenon endowed with value by a specific subject.

Essentially, this interpretation preempted the development of accounting theory and, as a result, was forgotten for a long time. Later, neoclassical economists (Fisher, Hicks), considering the demand of financial capital owners for its accurate assessment, reconstructed the concept of associated capital. They abandoned forms of income on capital such as labor compensation and rent, interpreting it solely as financial capital. The economist Fisher is known for the aphorism: "rent and interest are just two ways of measuring the same income." He developed the theory of the interest rate on financial capital, the essence of which involves calculating the income on capital as an adjustment of the capital size to Fisher's interest rate. Hicks later provided it with a complete mathematical form and formulated the concept of maintaining financial capital, which laid the foundation for the theory of financial reporting (Alexander et al., 2005).

Piketty et al. (2016), a researcher of Capital of the XXI century, on the example of leading Western countries (Great Britain, France), explained the process of exclusion of natural capital from the triad of associated capital due to the following reasons:

1) natural capital was not taken into account when calculating the return on invested capital, which was due to the low value of land, as a result of colonial conquests, and the lack of property rights to natural resources;

2) natural resources were considered free because they were not the product of human activity and the rights to them belonged to the state or society as a whole.

As a result, the accounting methodology did not provide their reflection in the balance sheet under the "Assets" section as capital available for use, but under the "Liabilities" section as natural capital - one of the forms of linked capital supporting economic activity (Jacques & Altukhova, 2017b).

However, with the development of societal awareness, there came an understanding of the crucial role of Environmental Resources in economic development. Since the late 20th century, they became the subject of ecological theories and subsequently accounting methodology. The development of environmental-economic accounting in the 21st century has sparked intense debates and numerous studies regarding the recognition of natural resources. The mainstream of these discussions revolves around assessing the contribution of natural resources to business economic development and conversely, the business's contribution to maintaining their capabilities for sustainability.

In this context, numerous articles are dedicated to the impact of ESG-indicators on the financial performance of businesses. The authors of several studies have demonstrated a positive correlation between the environmental (E_n) indicators, as one of the measures of social responsibility, and corporate financial metrics such as ROA, ROCE, Tobin-Q (Almeyda & Darmansya, 2019; Kim et al., 2019; Brinzaru et al., 2023).

Zirman et al. (2021) deserve special recognition for their work, which compared data from annual financial reports and ESG-reporting in order to examine the effects of environmental information disclosure on the Tobin-Q ratio and financial metrics like business value and financial efficiency. The authors study the impact of E_n-indicators on the business value. As a result, they conclude that good financial performance does not motivate owners of financial capital to disclose their environmental performance, and the principle of voluntary ESG-reporting removes responsibility for its accuracy from businesses. Most researchers of the ESG-reporting problem form a critical opinion regarding its usefulness to the decision-making process for sustainable development. Their argument is that: the use of natural indicators to measure the ESG-contribution of business to sustainability has promoted the phenomenon of Greenwashing (Lee & Suh, 2022). The term "Greenwashing" refers to a technical approach to preparing information

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Volume **12** / 2024 ISSN 2344-102X
Issue 1 / **February** 2024 ISSN-L 2344-102X

about the state of a business, aimed at misleading investors and consumers when assessing risks and prospects. Koshy et al. (2019) share this position. They note that ESG-reporting indicators are not always sufficiently adapted to changes in users' requests for the usefulness of information. These authors consider that ESG-reporting, which presents data on the E_n-contribution of a business, should be based on structurally understandable traditional financial statements (Koshy et al., 2019).

The current financial reporting format does not reflect the contribution of natural capital to the financial performance of the business and, conversely, the contribution of the business to maintaining the size of natural capital. The assessment of business contribution is often reduced to moral arguments about its reputation (Lusmanschi & Costetchi-Jusca, 2023). In this context, we bring forward the work of Brinzaru et al. (2023). They studied the impact of the ESG-policy of a business on its financial stability. The outcome of their study is the argumentation of the negative impact of the E_n-policy on the enterprises, whose activities are based on natural resources and on their financial stability.

Studying the issue of natural resource valuation, Watson et al. (2022) conclude that: 1) valuation of natural resources based only on natural indicators characterizing their state does not reflect the dynamics and changes in the production potential of ecosystem assets; 2) the lack of reliable information on the balance of benefits and costs those businesses receive from interacting with ecosystem assets hampers effective decision-making for sustainable development.

In this regard, the study by Tsurcanu and Golochalova (2015), aimed at studying the valuation of mineral resources as a type of ecosystem asset, is of interest. In their work, the authors consider the application of the standardized cost method (SMOG) in the context of modern IFRS methodology.

One cannot but agree with the position of Darbalaeva et al. (2012) that natural resource valuation is a methodological innovation that should start with enterprises. For its implementation, it should be accompanied by institutional innovations such as: 1) elaborating mechanisms for evaluating natural resources and environmental services; 2) developing and implementing documentary acts regulating the issues of natural resource and their services valuation.

All modern studies make a significant contribution to the solution of the problem outlined. However, the issue of recognizing natural capital in business financial statements in the conditions of imperative transition to the socio-economic model remains open.

III. RESEARCH METHODOLOGY AND METHODS

This study is conducted on the basis of general scientific and special methods: systematic approach, content analysis, analysis, synthesis, modeling, study of special literature. The application of the system approach is manifested in a rational combination of certain scientific methods aimed at building a research methodology: problem formulation, hypothesis formulation and their justification. Other methods used are presented in Table 1.

Table 1. Scientific methods underlying the research methodology of the problem of information usefulness assessment

Nature of the methods	Method of	Explanation of use
Theoretical	axiomatic	to formulate theses T1.
	comparison	the convergence matrix between the IFRS system and SEEA is interpreted (Table 2).
	induction	when making hypotheses H1, H2.
	synthesis	which made it possible to formulate conclusions and argue the hypotheses.
	abstraction	which was used in the study of the problem of mineral resources assessment in the context of sustainable development goals.
	modeling	which helps to visualize the format of the evidence based of the hypotheses put forward (Tables 1, Table 2 and Figure 1).
Empirical	content analysis	when studying the provisions IFRS and SEEA, which allowed for the development of a matrix of convergence between them (Table 2).
	studying scientific works	is used in the study of the works of famous scientists published in scientific journals, indexed in Scopus and other databases, and as monographs

Source: author's estimations

Note that this study focuses on the possibility of recognizing mineral resources as a type of ecosystem asset in the context of the Sustainable Development Goals. To achieve the goal, a research design has been developed, comprising the following elements:

- *Conceptualization of the matrix of recognition for mineral resources and natural capital in the context of the development of a socio-economic accounting and financial reporting model*;

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Volume **12** / 2024
Issue 1 / **February** 2024
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- *General characterization of the institutional platform of the Republic of Moldova in measuring mineral resources and the contribution of business to maintaining natural capital in the context of the Sustainable Development Goals.*

IV. RESULTS AND DISCUSSION

4.1. Conceptualization of the matrix of recognition for mineral resources and natural capital in the context of the development of a socio-economic accounting and financial reporting model

One of the tracks of the transition to a socio-economic model of financial reporting is the establishment of the convergence between the IFRS methodology and the SEEA concept based on a critical analysis of their differences and the development of an appropriate conceptual platform. It is known that the concept of IFRS has been recognized as a modern accounting methodology. The matrix of convergence of IFRS methodology and SEEA concept for recognition of mineral resources (MRs) in the context of the transition to the socio-economic reporting model will help to solve this problem. A large number of works, including the author of this study, have been devoted to the content of the Conceptual Framework for Financial Reporting (2018) (hereinafter, IFRS Concept) and the assessment of the effectiveness of the application of IFRS in the context of recognition of accounting objects and presentation of reliable information. The study therefore focuses only on the provisions of IFRSs relating to the presentation of useful information on the state of MRs. Under the IFRS Concept, useful information is prepared under the "true and fair view" principle and based on a fair value measurement model. This implies subjectivity of information, which is neutralized through a "rational and efficient process of applying qualitative characteristics". This approach is called economic, peculiar to the Anglo-Saxon model of accounting.

For the effectiveness of the economic approach within the IFRS system, IFRS 13 "Fair Value Measurement" is provided. The provisions of this standard regulate the rules of application of three valuation approaches for accounting objects: cost, income and market approaches. Each of the approaches includes specific valuation techniques, the choice of which depends on the specific use of each recorded item. Meanwhile, the development of a deposit for the extraction of MRs is essentially an investment project. In this context, in developing IFRS 6 "Exploration for and Evaluation of Mineral Resources", the IASB concluded that although the standardized measure of discounted future cash flows (SMOG) method is far from perfect, it may be sufficient in the absence of other sources of information on the value of MRs. A feature of this method is the use of a standardized discount rate in the calculation. Moreover, IAS 2 "Stocks" permits the valuation of minerals and MRs at net realizable value. Thus, in terms of presenting the information on MRs, the source of which is natural capital, the IFRS system responds flexibly to the requirements of the concept of sustainable development and provides for the transition to the socio-economic model of financial reporting.

Let us now briefly summarize the key points of the SEEA concept with respect to the reporting of information on MRs and their status. It should be emphasized that this study focuses on corporate accounting as one of the two directions of ecosystem accounting (corporate (or business) and public), the integration of which, as indicated in SEEA-CA, will contribute to the neutralization of the environmental crisis.

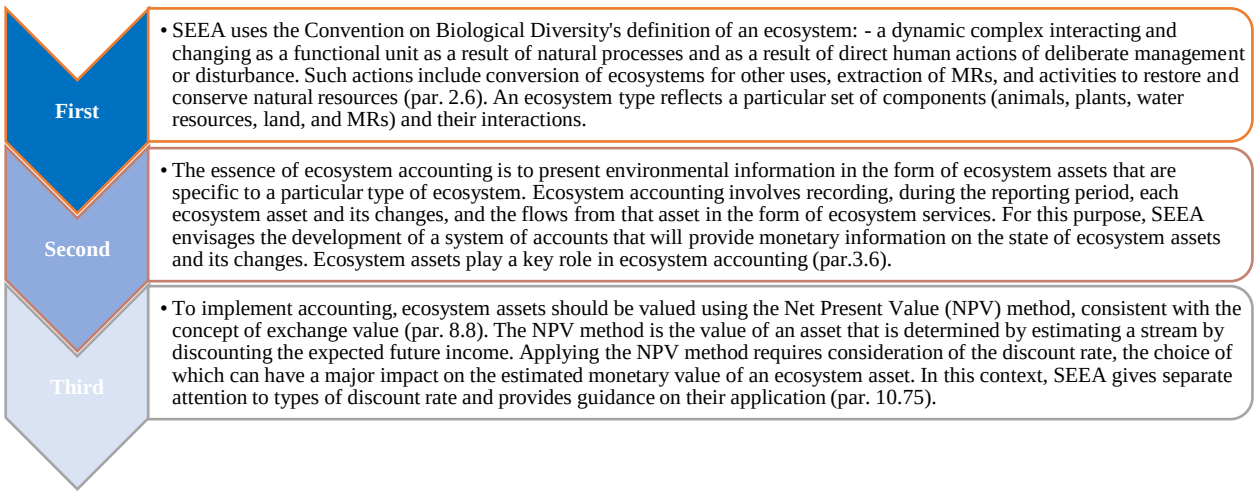

Figure 1a. The main elements of SEEA defining the accounting treatment of mineral resources and recognizing the source of their origin - natural capital.
Source: author's estimations, 2024

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Volume **12** / 2024
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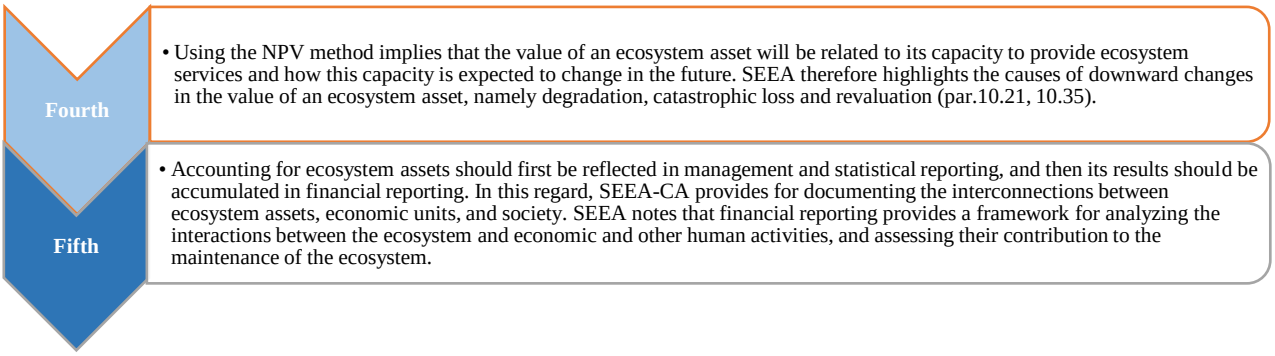

Figure 1b. The main elements of SEEA defining the accounting treatment of mineral resources and recognizing the source of their origin - natural capital.
Source: author's estimations, 2024

Now let's move on to the development of the convergence Matrix of IFRS methodology and SEEA concept in terms of recognition of MRs and their source - natural capital. The development of the designated Matrix was carried out according to a three-stage algorithm.

As part of the *first stage* of the algorithm, the key points of each of the studied concepts applied to MRs were considered. The mission of the *second stage* was to solve the following issues: identification of criteria for comparison of IFRS methodology and SEEA concept in terms of recognition of mineral resources; formulation of explanations for clarification of the indicator complying with IFRS methodology and peculiar to SEEA concept. The *third stage* is the actual compilation of the Matrix and the answer to the following question: *Is there convergence between the IFRS methodology and the SEEA concept?*

The convergence matrix of IFRS and SEEA methodology is presented in Table 2.

Table 2. Matrix of convergence indicators of IFRS methodology and SEEA concept for reporting the state of MRs

Criterion	Notes	Financial reporting methodology IFRS	Concept of SEEA (CF, EA)
Role in Sustainability	How do the provisions relate to the principles of the Sustainable Development Concept (SDC)?	Responds flexibly to the requirements of the SDC and provides for the transition to the socio-economic model of financial reporting	Is part of the SDC and contributes to the transition to a socio-economic model of financial reporting
Stakeholders in information	Who are the users of information on the status of mineral resources (MRs) and natural capital - the source of their origin?	Existing and potential investors, lenders and other creditors expecting a return on investment that depends on the responsible management of all resources	Owners (investors and shareholders), business policy makers, government, environmental economists, general public and others
Methodological approach	What methodology is envisioned to resolve the problem?	Based on accounting and accounting theory, the concept of 21st century capital, and the concept of economic valuation	It is interdisciplinary in nature, based on methodological tools of the following concepts: ecological economics, statistics, economic evaluation of management accounting
Classifications for the accounting of MRs:	What classification groupings are envisioned to resolve the problem?	assets by type of work by phase of the extractive industry: 1 - exploration and production (IFRS 6); 2 - refining and marketing (IAS 2)	1) accounts; 2) types of ecosystem assets; 3) types of ecosystem services
Methods of quantitative measurement of MRs	Are quantitative measurement methods envisioned?	Not provided for. Prerogative of management accounting	Describes a framework for accounting for the supply and utilization of MRs
Method of measurement of MRs and their changes	What methods of value measurement are recommended?	Method of standardized measure of discounted future net cash flows (SMOG)	Net present value method (NPV)
Change in the quantitative state of MRs:	Are changes in the quantitative status of	is taken into account as part of the MR depletion calculation	is an important element for integrating data on the state of MRs

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Volume **12** / 2024
Issue 1 / **February** 2024
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Criterion	Notes	Financial reporting methodology IFRS	Concept of SEEA (CF, EA)
	mineral reserves taken into account?		
Change in the value status of the MRs	What are the reasons for changes in the value of mineral reserves?	Due to depletion (extraction) and depreciation	Caused by degradation (including extraction), transformation, revaluation
Recognition of natural (En) capital	Is natural capital to be recognized as an element of the financial statements as part of the capital of the business?	Provision is made for the application of the equity method for the contribution of non-financial participants in the business (IAS 20)	Not considered separately, but SEEA tool for implementation of the SDC, which requires the recognition of natural capital as a driver of environmental business activities
Disclosure of information	What is the purpose of the disclosure process?	Defined by reporting requirements focused on assessing the value of the business and its economic impact on society.	Aims to provide a structured link between the environment, business economic activity and human well-being.

Source: author's estimations

The result of comparing the indicators characterizing each of the concepts in terms of recognition of MRs and the source of their origin - natural capital, shows their high degree of convergence. The fundamental distinction lies in the SEEA's focus on preparing statistical and managerial information and its presentation in the appropriate reporting, although it does not disregard the role of financial accounting and reporting in decision-making contexts.

However, the SEEA's concept does not place sufficient emphasis on presenting information about natural capital as a source of the emergence of ecosystem assets and services. Meanwhile, its implementation is aimed at assessing the contribution of business to the maintenance of ecosystems, which predetermines the need to analyze the state of natural capital.

In this context, one cannot but agree with the Natural Capital Coalition's (2020) position that although integration of IFRS and SEEA is somewhat difficult, it is possible. The limitations are related to the provision of truthful information in the preparation of financial statements due to objective difficulties in obtaining data, in particular, on the state of MRs, which are affected by both market and non-market factors. At the same time, these difficulties should not be an obstacle to finding ways to neutralize the problem of reliable valuation of mineral and other natural resources in the context of the transition to a socio-economic model of financial reporting. The above is the justification of hypothesis H1: The convergence of the IFRS methodology and the SEEA in regards to the recognition of mineral reserves and natural capital as their source within the elements of financial reporting contributes to its transition to a socio-economic model.

4.2. General characterization of the institutional platform of the Republic of Moldova in measuring mineral resources and the contribution of business to maintaining natural capital in the context of the Sustainable Development Goals

Let's now focus on the legislative framework of the Republic of Moldova (RM) in the field of accounting and reporting, which determines the procedure for presenting information about mineral reserves as resources used by businesses in their activities.

The first aspect to focus on is the national accounting system's model for evaluating mineral reserves.

According to Law No. 287/2017 on Accounting and Financial Reporting, financial statements are prepared with clarity, providing an accurate representation of the financial position and financial performance (Art. 20). This aligns with the concept of "directness and clarity." In this regard, the author puts forward the thesis (T1): The principle of accuracy implies that in preparing financial statements, a legal approach and the "cost principle" should be used, which inherently excludes the application of income and market approaches to assess accounting objects, and thus, the concept of fair value in the accounting system. Let's try to justify its truth.

To comply with the cost principle, the NAS (2013) "Long-term Intangible and Tangible Assets" recommends following rules:

1. Mineral resources are recognized as part of long-term tangible assets at the cost of exploration and evaluation activities upon their completion, provided that their cost is reliably assessed (Art. 68).

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Issue 1 / **February** 2024 ISSN-L 2344-102X

2. All direct and indirect costs, as well as the amount of the estimated liability for the restoration of the natural landscape, fees, and taxes provided by legislation for the use of mineral resources, are included in the costs (Art. 75).

However, it is known that the value of mineral resources is influenced by a temporal factor driven by societal demand. Nevertheless, the regulatory framework in Moldova regarding accounting overlooks its role in valuation, and it does not provide for a discounting procedure. It is relevant to emphasize that both Law No. 287 and the NAS were developed based on Directive 2013/34/EU and the corresponding IFRS, where the discounting process is an integral part of the assessment of accounting objects.

In this context, it is hard to disagree with the opinion of Jacques & Altukhova (2017a,b) that it is quite challenging to simultaneously navigate Directive 2013/34/EU and IFRS Concept and make a choice between the historical cost and fair value principles – choosing between Fisher and Pacioli! This choice becomes particularly complex when addressing the issue of environmental accounting.

The above description allows characterizing the accounting system in Moldova as traditional, which complicates the implementation of an ecologic-economic accounting system and the transition to a socio-economic model of financial reporting. This forms the basis for Hypothesis H2. However, this does not mean that the transition to a socio-economic model of reporting is excluded in the foreseeable future in Moldova, as indicated by the "European Moldova-2030" Strategy.

V. CONCLUSIONS

The result of the study is the substantiation of the hypotheses put forward and synthesized general and specific conclusions. However, the key result of the study is the development of a convergence matrix of IFRS methodology and SEEA concept for the recognition of mineral resources in the context of the transition to a socio-economic model of financial reporting.

The Matrix was developed according to a three-step algorithm: analyzing the provisions of each of the concepts under study; identifying criteria for comparing the IFRS methodology and the SEEA concept; formulating explanatory questions to clarify the comparison indicator; preparing the matrix and assessing the degree of convergence between IFRS and SEEA. Based on the results of the study, the author formulated the following conclusions:

1) Given the results of the study, based on the assessment of current trends, the author considers the application of IFRS methodology, which meets the objectives of sustainable development and on the basis of which it is possible to form a socio-economic model of accounting and financial reporting, as a promising direction.
2) The results of the study showed that the transition to the socio-economic paradigm of financial reporting in the national accounting system of RM is not yet envisaged.
3) In the context of the request for the usefulness of information on the state of mineral resources and natural capital as a source of their origin for decision-making, primarily investment decisions, the author believes that the problem of optimizing the format of financial reporting has not been solved and needs to be studied.

It is assumed that the obtained results will provide businesses with a better understanding of the modern approach to the formation of the information field of reporting, in terms of recognition of mineral resources and natural capital, which allows investors to assess risks when making environmental decisions. The outcomes are intended to help create a novel format for the balance sheet in light of the shift to a financial reporting model that is socio-economic and offers data on the sustainability of businesses.

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REFERENCES

1. Akdogan, N., Selimoglu, S., & Turkcan, M. (2020). Sustainability accounting and corporate social responsibility in Turkey and in its region. *Accounting and Management Information Systems*. 19(1), 5-32. http://dx.doi.org/10.24818/jamis.2020.01001б
2. Alexander, D., Britton, A., & Jorissen, A. (2005). International Financial Reporting and Analysis (transl.) – M.: «Vershina»
3. Almeyda, R., & Darmansya, A. (2019). The influence of environmental, social, and governance (ESG) disclosure on firm financial performance. *IPTEK Journal of Proceedings Series*, 5, 278-290. Retrieved August 26, 2023 from: https://iptek.its.ac.id/index.php/jps/article/view/6340/4185
4. Brinzaru, S-M., Grosu, V., Siretean, S-T., Mihai, C., & Andrioaia, I. (2023). Assessing the financial sustainability of energy sector in Romania under crisis conditions. *European Journal of Accounting, Finance & Business*, 11, 94-99. https://doi.org/10.4316/EJAFB.2023.11213

DOI: 10.4316/EJAFB.2024.12105

Volume **12** / 2024 ISSN 2344-102X
Issue 1 / **February** 2024 ISSN-L 2344-102X

5. Buboi, A., & Cosmulese, C. G. (2023). Effect of Market Capitalization on the Association between Firm Size and Corporative Performance of Listed Companies at Bucharest Stock Exchange in Romania. *Review Of International Comparative Management*, 24(5), 815-825.
6. Bychkova, S., Karelskaia, S., Abdalova, E., & Zhidkova, E. (2021). Social responsibility as the dominant driver of the evolution of reporting from financial to non-financial: theory and methodology. *Foods and Raw Materials*, 9(1), 135-145. https://doi.org/10.21603/2308-4057-2021-1-135-145
7. Capitals Coalition. (2020). Improving nature's visibility in financial accounting. Full report. – Retrieved august 15, 2023: https://naturalcapitalcoalition.org/wp-content/uploads/2020/04/NatCap_VisFinAccount_final_20200428.pdf
8. Conceptual Framework for Financial Reporting. (2018). Retrieved august 15, 2023: https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/conceptual-framework-for-financial-reporting.pdf
9. Darbalaeva, D., Romanova, T., & Yakovleva, V. (2012). Natural capital in the sustainable development of ecological and economic system. SPb. - SPbSUEF Publishing House, 134. Retrieved august 15, 2023 from: https://www.academia.edu/
10. Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC Text with EEA relevance
11. Golochalova, I. (2022). Interpretation of associated ownership and its role in the development of the concept of business capital. Vestnik PSU. *Series D. Economic and legal sciences*, 62, 9-15. https://doi.org/10.52928/2070-1632-2022-62-12-9-155
12. International Financial Reporting Standards. (2022). Retrieved august 15, 2023: https://fin-accounting.ru/ifrs
13. Jacques, R., & Altukhova, Y. (2017a). Proposals for reforming enterprise, shareholder and social Interest fundamentals through environmental accounting (Part I). *International Accounting*, 20(22), 1318-1335. https://doi.org/10.24891/ia.20.2 2.1318
14. Jacques, R., & Altukhova, Y. (2017b). Proposals for reforming enterprise, shareholder and social Interest fundamentals through environmental accounting (Part III). *International Accounting*, 20(24), 1427-1448. https://doi.org/10.24891/ia.20.24.1427
15. Kim, J., Cho, K., & Park Ch.-K. (2019). Does CSR Assurance Affect the Relationship between CSR Performance and Financial Performance? *Sustainability*, 11(20), 1-12. https://doi.org/10.3390/su112056822
16. Koshy A., Raynaud J., Ozdemiroglu E., & Provins A. (2019). Natural Capital Statements: a case study on SCA, a Swedish paper and pulp company, *Journal of Environmental Economics and Policy*, 8(4), 394-412. https://doi.org10/.1080/21606544.2019.1635917
17. Law No. 315 of 17-11-2022 for the approval of the National Development Strategy "European Moldova 2030". Retrieved august 16, 2023: https://www.legis.md/cautare/getResults?doc_id=134582&lang=ro
18. Law No. LP287/2017 of December 15, 2017 on Accounting and Financial Reporting, Retrieved august 16, 2023: https://www.legis.md/cautare/getResults?doc_id=120938&lang=ro
19. Lee, M., & Suh, I. (2022). Understanding the effects of Environment, Social, and Governance conduct on financial performance: Arguments for a process and integrated modelling approach. *Sustainable Technology and entrepreneurship*, 1(1), 1-12. https://doi.org/10.1016/j.stae.2022.100004
20. Lusmanschi, G., & Costetchi-Jusca, O. (2023). Approaches to tourism in the republic of Moldova and estimation of the economic value of environmental resources in nature-based tourism. *European Journal of Accounting, Finance & Business*, 11(2), 44-49. https://doi.org/10.4316/EJAFB.2023.1126
21. Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis.* Island Press, Washington, DC
22. National Accounting Standards. (2022). Retrieved august 10, 2023: https://www.mf.gov.md/ro/contabilitate-%C8%99i-audit/acte-legislative
23. System of Environmental-Economic Accounting 2012: Central Framework (SEEA-CF). Retrieved august 16, 2023: https://unstats.un.org/unsd/envaccounting/seearev/seea_cf_final_en.pdf
24. Piketty, T., Saez, E. & Zucman, E. (2016). Distributional national accounts: methods and estimates for the united states. *National Bureau Of Economic Research*. Retrieved august 16, 2023: from: http://piketty.pse.ens.fr/files/PSZ2016.pdf
25. System of Environmental-Economic Accounting–Ecosystem Accounting 2021 (SEEA-EA). White cover publication, pre-edited text subject to official editing. Retrieved august 16, 2023: https://seea.un.org/ecosystem-accounting
26. Tsurcanu, V., & Golochalova, I. (2015). Some Aspects of Accounting for Mineral Resources in the Context of IFRS. In Scientific Vestnik of Uzhgorod University, series "Economics", 1(45), 5-59. Retrieved august 10, 2023: http://www.visnyk-econ.uzhnu.edu.ua/index.php/uk/
27. Watson, St., Watson, G., Beaumont, N., & Preston, J. (2022). Inclusion of condition in natural capital assessments is critical to the implementation of marine nature-based solutions. 838(2), 1-11. https://doi.org/10.1016/j.scitotenv.2022.156026
28. World History of Economic Thought. (1987). In 6 vols, Head ed. col. V. Cherkovets. Lomonosov Moscow State University - M.: Mysl
29. Zirman, Z., Oktari, V., & Khoiriyah, M. (2021). Mediation role of environmental disclosure in the relationship of firm performance and value. *European Journal of Accounting, Finance & Business*, 9(3). https://doi.org/104316/EJAFB.2021.937

DOI: 10.4316/EJAFB.2024.12105