

ISSUES OF ACCOUNTING INFORMATION DISCLOSURES FOR ECOSYSTEM SERVICES (IFRS-S1 INTERPRETATIONS)

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Abstract: Measuring and reporting the results of ecosystem services is currently challenging accounting. On the one hand, the business activity takes advantage of ecosystem services, creating entrepreneurial benefits, on the other hand, business tries to restore the damage to ecosystems and ensure sustainable development, that need accountability for their results. The article interprets the core provisions of the IFRS-S1 standard in the framework of ecosystem services, presenting the priorities of sustainable development information disclosures. In particular,

emphasis is positioned on information disclosures of ecosystem services in the financial reports published by organizations in the short-term, medium-term and long-term.

Keywords: ecosystem services, sustainable development, IFRS-S1 standard, accounting reports, non-financial information

JEL code: M40, M41

Research objectives: to identify the possibilities of presenting the results of ecosystem services with the accounting reports published by the organizations

Research novelty: the accounting information possibilities of changes in the financial results of businesses related to ecosystem services in the short-term, medium-term and long-term have been identified

Introduction

Information provision of ecosystem services is currently a challenge for society. By using natural goods in their lives, business activities, and even recreation and restoration processes, people must ultimately be aware of what they have taken from nature and how they are trying to restore natural use. Therefore, recording, coordinating and evaluating information related to ecosystem services creates new complications for accounting, as until now it reported information on the financial results of business activities, bypassing financial and non-financial information, related to ecosystem services.

Obviously, the accounting reports published according to the current IFRS international standards mainly presented the financial

side of the organization's activities, sidestepping the reflection of ecosystem service providing information, which interested the stakeholders of this field. Moreover, in such a case, the value of capital of organizations was interpreted purely by financial and commercial criteria, without taking into account the attitude of the beneficiaries of sustainable development towards the ongoing business. Therefore, somewhere there was a gap between the financial and real value assessments of the organization, if the risks of sustainable development and the possibilities of their prevention were not presented in the published reports.

Convincingly, is essential to submit sustainable development reports based on the related international standards alongside the published financial reports. Therefore, in 2023, the International Sustainable Development Standards Board (ISSB) published the "General Requirements for Disclosure of Financial Information Related to Sustainability" IFRS-S1 and the "Climate-Related" International Financial Reporting Standards S2, which in organizations will be applied in parallel with IFRS standards.

By applying these standards, organizations will be able to present in their published financial statements results from ecosystem services that will be used by stakeholders in making decisions.

Research results

Any system consists of separate components that are interconnected with each other in such a way that even a change in one of them has an effect on the other components. Ecosystems

operating in nature are formed by this very principle, because in them, for reasons of life support and harmonious activity, such natural components are interconnected, which, interacting with each other within the framework of one system, ensure the stability of life support.

The inactivity, or absence of each component of the ecosystems can disrupt the level of biodiversity, lead to the violation of the ecological balance, and thus, to the disruption of the planned eco-functions. In this sense, human intervention in ecosystem structures should be carried out carefully, so as not to disrupt not only the environmental balance, but also the set of ecosystem functions, which is extremely important for the survival and sustainable development of mankind. And the functions carried out by nature itself, which, by the way, humanity uses for free, are presented as ecosystem services.

In the professional literature, ecosystem services are interpreted from different perspectives, presenting them as means contributing to the well-being of mankind [1], functions of reproduction and expansion of natural resources by mankind [2], services contributing to sustainable development [3]. However, all of these are based on a general definition, according to which ecosystem services are the various benefits provided by nature to people, the consumption of which ensures the socio-economic sustainable development of the population [4].

In general, ecosystem services are presented in the following groups: providing natural resources, regulating the environmental

processes, and related to recreation and restoration activities (see Figure 1).

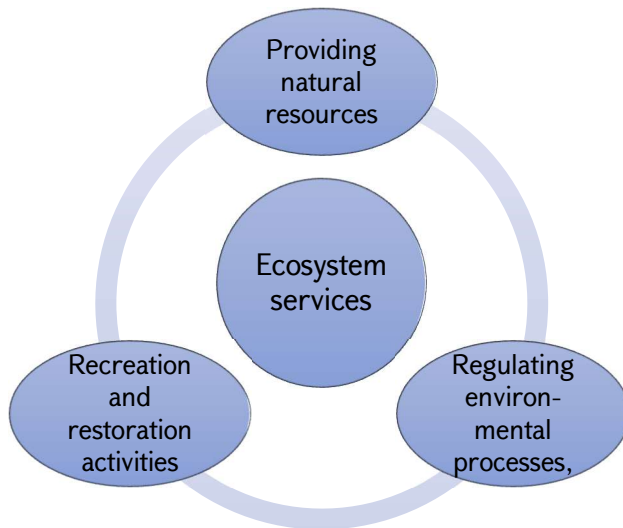


Figure 1. Ecosystem services activities framework⁶

At first glance, it may seem that the majority of ecosystem services provided to humanity fall on the supply of natural resources [5]. Every day it becomes visible to us, what kind of benefits man receives from nature in the form of natural wood, water resources, biological components, minerals, which are used in everyday life and production. In this sense, the ecosystem

⁶ Composed by authors

services of natural resource provision are also referred to as direct services in the professional literature [6].

However, indirect ecosystem services, which may not be straightforwardly visible to people, but perform regulatory and environmental support functions (pollination, water purification, erosion and flood prevention, climate regulation, etc.) are no less valuable. Thus, the forest cover of the Amazon river basin is called the "lungs of the planet Earth", because a huge mass of spent oxygen is reproduced there, or the evaporation of the oceanic layer ensures the atmospheric circulation of water resources, etc.

On the other hand, often enjoying our native nature and spending time on the shore of the lake or in the high mountains, we do not always realize the fact of providing ecosystem services specifically addressed to us. On the other hand, nature provides us with services that contribute to recovery, to which there is a need to show a proper attitude, without polluting the environment, without violating environmental norms. And it turns out that, having received various ecosystem services, humanity consumes them as much as possible for the benefit of socio-economic prosperity and thus feels the need to manage this process, otherwise, relentless consumption of services provided by nature leads to environmental disasters.

The purpose of preparing and presenting both general financial and sustainability statements is to provide information about the reporting entity, that is useful to current and potential investors, lenders, and other creditors in making decisions about providing

resources to the entity. In order to assess an organization's prospects for future net cash inflows, current and potential investors, lenders, and other creditors must have information about the organization's resources, demands on the organization, and how well they are using the establishment's resources.

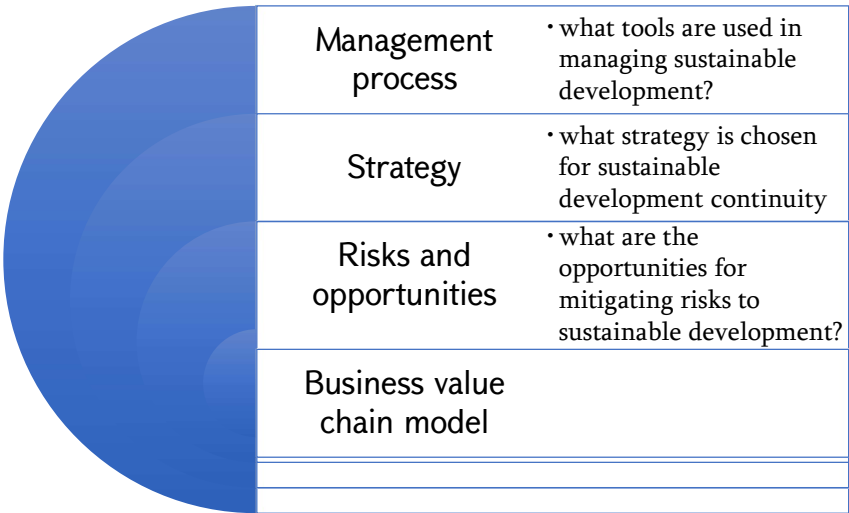


Figure 2. Key disclosing’s identified in the sustainable development reporting standards⁷

For sustainability-related financial reporting must be relevant and credible. The usefulness of sustainability-related financial information is enhanced, if the information is comparable, verifiable, relevant and understandable. These certainly increase

⁷ Composed by authors

the qualitative characteristics of useful financial information related to sustainability. However, unlike general purpose financial reporting standards, sustainable development standards require additional disclosures related to sustainable business development management tools, sustainable development strategy adopted by the organization, risks and opportunities for its implementation, as well as about the value chain of business, where the foundations of sustainable development are formed (see Figure 2).

It is remarkable, that the international standards for the preparation of sustainable development reports require the disclosure of management tools. Beneficiaries using information should understand, how much the organization manages to make the process of sustainable development under control, in what ways the process is monitored, what kind of management device and reporting measures are used [7].

The international standards of sustainable development reporting also emphasize the disclosure of the organization's sustainability strategy. The risks and opportunities, that are formed during the implementation of the sustainable development strategy are especially highlighted.

In contrast to general purpose financial reports, which traditionally present information characterizing the internal condition of organizations, sustainable development standards require the disclosure of sustainable development outside the organization in other parts of the business value chain and ecosystem services. The consequences of the acquisition, which

arise as a result of changes in the economic management of the reporting organization. By doing so, the beneficiaries are informed about the extent to which the reporting organization affects the sustainable development of other business organizations included in the business value chain, or how business activity effected on ecosystems services.

The purpose of the standard "General requirements for the disclosure of financial information related to sustainability" (IFRS-S1) is to present information about risks and opportunities, related to sustainability in the published reports of organizations, which is useful to the main users of financial reports, making decisions (IFRS-S1, item 1).

In fact, the standard is mainly addressed to potential investors, so that they can make decisions based on the findings in the published reports when providing financial resources to an organization on the path of sustainable development. However, by using the standard, valuable information related to the sustainable development of the organization is presented to other stakeholders, who evaluate both partnership risks and business success.

The IFRS-S1 standard requires an entity to disclose information about sustainability risks and opportunities, that may affect the entity's cash flows, access to financing, or cost of capital in the short, medium, or long term. Financial disclosures related to the stability of the organization should be made in the same period as the period in which the published financial statements are presented.

Case study [7]

In the forested area the “Z” hotel complex was founded in 2021, which works for profit and provides tourist services (overnight stay, horse trekking, forest walks). Back in 2022, the company's shareholders' meeting decided to make a transition to sustainable development, expanding the business, guided by a number of sustainable development goals from the United Nations in 2015.

In particular, it was decided to implement resort services along with hotel and tourist services, for which huge investments would be required. In order to make the published financial statements of the company in terms of sustainable development understandable to potential investors and creditors, it was decided to include disclosures according to the IFRS-S1 standard "General requirements for financial information related to sustainability" in the set of financial statements published in 2023.

Thus, the chief accountant of "Z" hotel complex had already prepared financial statements according to the requirements of IFRS standards (see tables 1-2), and now he was going to present additional disclosures in that package. guided by the requirements of the IFRS-S1 standard and addressed to the beneficiaries of sustainable business development.

Table 1. Financial position report at the January 1, 2024 (mln AMD)

Assets	Sum	Capital, liabilities	Sum
Fixed assets	300	Share capital (2000 shares)	200
Debtors	10	Profit	50
Stocs	70	Loan liabilities	140
Cash	20	Dividend liabilities	10
Balance	400	Balance	400

Table 2. Report on financial results for 2023 (million AMD)

Sales revenue	550
Cost of sales	(350)
Operating profit	200
Financial expenses	(70)
Investment costs	(80)
Profit before tax	50
Profit tax (18%)	(9)
Net profit	41
Earnings per share	0.02

Disclosures with the requirements of IFRS-S1 standard

General description:

"Z" hotel complex aimed to expand business, and in addition to tourist services, to provide resort services, for which it has drawn up an investment plan for 6 years. The plan envisages the construction of two additional buildings, one of which will be used as a hotel, and the other for medical and health restorative needs. Moreover, in this case, a number of environmental problems arise. In particular, if before the expansion of the business, the sewage of the hotel was discharged into the river flowing through the forest, for which an environmental penalty was paid, then in the case of the resort complex, with the increase of guest's number, the removal of waste water should have already been carried out through the common sewer line, which was far from the hotel. 15

km, so the construction of an additional sewer line through the forest area was required.

The forest cover would also be damaged by the construction of two residential buildings, which would require cutting down trees, changes in the natural landscape, and loss of biodiversity.

On the other hand, the operation of the resort complex required a qualified service staff, which he planned to form from the population of the neighboring villages, conducting special training courses for them. It is noteworthy that the workforce of the community is dominated by men and mostly women will be invited to work in the resort complex. In this way, it is planned to solve not only the problems of gender inequality, but also the problems of "decent work" and "stable communities", because the employment in the resort complex will help to find a job and emigration of the national population from the communities intended to stop.

"Z" hotel complex also plans to implement innovations in the provision of health services, applying new rehabilitation technologies, which will increase the income and supplement the community budget with additional payments from the sanatorium's profits, contributing to the socio-economic condition of the community. improvement.

Management procedure

"Z" hotel complex applies a special strategic management procedure, which is implemented within the framework of the "Environment Protection and Development" management department. There are 3 people working in the department, whose

scope of responsibility in the field of management of risks and opportunities related to sustainability is specified. The department uses a toolkit for identifying risks related to sustainability and monitoring the implementation of opportunities, which provides feedback between the stakeholders of sustainable development, and improves the procedures for managing risks and opportunities related to sustainability every 2 years.

The strategic management framework

Aiming to expand its activities and provide healthcare services, "Z" hotel complex will pursue a number of directions of sustainable development, which will generate both risks and opportunities in the short term (2024-2025), medium-term (2024-2026) and long-term (2024-2029). Moreover, all these risks are manageable, and the opportunities for sustainable development are achievable by the organization.

Goal 1: Health and well-being - To ensure healthy lives and promote well-being for all, regardless of age.

When achieving this goal, sustainable development risks are formed, which are related to the long-term construction of the resort buildings. During the 6 years of construction, financing is planned at the expense of long-term loans, which increases interest costs by 4 million drams per year and thereby decreases the net profit. Moreover, at the start of the health care complex, the company will completely repay the loan obligations and will not have any interest expenses. In addition, it is planned to use innovative technologies in healthcare services, which increase operational

costs by 5% annually. After the start of the health care complex, there is an opportunity to increase the revenues of the hotel by 70% per year, after which the profit per share will increase intensely. The design cost of the construction of the resort complex is 180 million AMD, which is expected to be compensated approximately during the 6 years of construction at the expense of credit funds.

The number of people using regional health services is projected to increase by 15%.

Goal 2: Quality Education - Ensure inclusive and relevant quality education for all and promote lifelong learning opportunities.

"Z" hotel complex plans to recruit a workforce providing health care services from the population of the community and for this purpose will organize trainings and provide special educational services. As a result, around 35 employees will undergo additional training, which will be financed by company, and thus the annual operating costs will increase by 2%.

Goal 3: Gender Equality - Achieve gender equality and empower all women and girls.

"Z" hotel complex plans to recruit a workforce providing health resort services from the population of the community, 90% of which should be women.

Goal 4: Affordable and clean energy - Ensure access to affordable, reliable, sustainable and modern energy for all.

The power supply of the resort complex will be carried out with solar panels, which will reduce the annual operating costs by 3%,

but the installation of batteries will require 60 million drams, which will be carried out over the next 6 years with equal amounts. At the same time, the company will not make any more investment costs at the start of the healthcare complex.

Goal 5: Decent work and economic growth - Promote robust, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Recruiting labor from the local community and implementing proper wages, a 40% increase in the socio-economic well-being of community families is predicted.

Goal 5: Sustainable cities and communities - Make cities and human settlements inclusive, resilient, safe and sustainable.

After the operation of the resort complex, the emigration of the population of the community due to work motives will be reduced to zero.

Goal 6: Life on land - Conserve, restore and promote sustainable use of terrestrial ecosystems, ensure sustainable forest management, halt biodiversity loss.

With the construction of the health complex, around 2 km² area of forest area will be cut and natural biodiversity will be disturbed. In order to mitigate these risks, the "Z" hotel complex plans to carry out forestation every year, continuously spending 8 million drams annually. In addition, with the construction of the sewer line and connecting to the community network, the company will no longer pay environmental damages in the amount of 1 million drams for polluting the nature with waste water.

Measurements

The company primarily uses financial indicators to measure and monitor sustainability risks and opportunities. In addition, some indicators of sustainable development are also represented by non-financial indicators (area of forest restoration, involvement of additional labor force, number of trainees, increase in the number of recipients of preventive services, etc.).

Financial risks consequences

The reflection of the risks and opportunities of sustainable growth in the financial statements are presented in the short-term, medium-term and long-term terms (see table 4). In fact, in the short and medium term, the company will have risks of forming a shareholder bond, as it will operate at a loss in 2024-2029 and will not be able to pay dividends.

However, starting from 2030, the company's profit will increase intensely, due to the completion of construction and authorizing of the power plant complex, which will give an opportunity to increase earnings per share by 11.3 times ($0.226/0.02$). In other words, in the short and medium term (2024-2029), the lost profit of 0.12 million AMD per share (6 years \times 0.02) can be recovered in 1.88 years ($0.226/0.12$), which is quite a reduction share related risks.

Table 4. Tendency of financial results during the years of establishment and operation of the resort complex (million AMD)

Indiators	2023	2024	2025	2026	2027	2028	2029	2030
Sales from revanew	550	550	550	550	550	550	550	935
Cost of sales	(350)	(371)	(371)	(371)	(371)	(371)	(371)	(371)
Operational profit	200	179	179	179	179	179	179	564
Percentage expenses	(70)	(74)*	(74)	(74)	(74)	(74)	(74)	0
Investment costs	(80)** **	(120)	(120)	(120)	(120)	(120)	(120)	0
Profit before tax	50	(15)	(15)	(15)	(15)	(15)	(15)	564
Profit tax (18%)	(9)	0	0	0	0	0	0	(101,52)
Net profit	41	(15)	(15)	(15)	(15)	(15)	(15)	462,48
Profit per share	0,02	0	0	0	0	0	0	0.231*****

*70+4 **550x1,7 ***350+350x(5%+2%-3%) +8-1 ****80+ 180/6+60/6
 *****462,48/2000

Table 5. Risks and opportunities of sustainable development of "Z" hotel complex in the long term

#	Risks	Manageable	Opportunities
1	A decline in earnings per share	Yes	Is improving from 2030
2	OJSC capital increase	Yes	Gradually happening in 2024-2029.
3	Recruiting qualified workforce	Yes	Gradually happening in 2024-2029.
4	Environmental improvements	Yes	Continuous
5	Improving the socio-economic condition of the community	Yes	Continuous
6.	Promotes gender equality	Yes	Constantly

Thus, the disclosures required by the IFRS-S1 standard are summarized in table 5.

Conclusion

Thus, in the framework of ecosystem services, it is important to interpret the core provisions of the IFRS-S1 standard, presenting the priorities of disclosure of sustainable development information. In particular, it becomes necessary to emphasize the information

disclosures of ecosystem services in the financial statements published by organizations in the short, medium and long term.

In addition, it is necessary to analyze the types of ecosystem services provided and the possibilities of measuring their results. At the same time, present the evaluations of the results of restoration of damages caused by business to the ecosystems in the financial reports published by the organizations. As a result, it is important to develop financial reporting formats in which the beneficiaries of ecosystem services can make informed management decisions based on the information contained in them.

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**ԷԿՈՀԱՄԱԿԱՐԳԱՅԻՆ ԾԱՌԱՅՈՒԹՅՈՒՆՆԵՐԻ
ՀԱՇՎԱՊԱՀԱԿԱՆ ՏԵՂԵԿԱՏՎԱԿԱՆ ԲԱՑԱՀԱՅՏՈՒՄՆԵՐԻ
ՀԻՄՆԱԽՆԴԻՐՆԵՐԸ
(IFRS-S1 ՄԵԿՆԱԲԱՆՈՒԹՅՈՒՆՆԵՐ)**

Իլուտա Արթիդանե

Ռեգեկների տեխնոլոգիական ակադեմիա, Լատվիա
տ.գ.թ., դոցենտ

Նոննա Խաչատրյան

Երևանի պետական համալսարան, տ.գ.թ., դոցենտ

Նարինե Մարտիրոսյան

Հայաստանի պետական տնտեսագիտական համալսարան
տ.գ.թ., դոցենտ

Բանալի բառեր – էկոհամակարգային ծառայություններ, կայուն զարգացում, IFRS-S1 ստանդարտ, հաշվապահական հաշվետվություններ, ոչ-ֆինանսական տեղեկատվություն

Էկոհամակարգային ծառայությունների արդյունքների չափումը և հաշվետվություններով ներկայացումը ներկայումս մարտահարվերների առջև է կանգնեցրել հաշվապահական հաշվառմանը: Մի կողմից, գործարար աշխարհն օգտվում է ուղղակի կամ անուղղակի էկոհամակարգային ծառայություններից, ձևավորելով ձեռնարկատիրական օգուտներ, մյուս կողմից գործարարության կողմից փորձ է արվում վերականգնելու էկոհամակարգերին հասցված վնասները և ապահովելու կայուն զարգացում: Հենց այս նկատառումների իրագործումները իրենց արդյունքներով հաշվետվողականության կարիք ունեն, որն իր կարգավորումներն է ստանում IFRS-S1 միջազգային ֆինանսական ստանդարտով:

Հոդվածում էկոհամակարգային ծառայությունների շրջանակում մեկնաբանվում են IFRS-S1 ստանդարտի առանցքային դրույթները, ներկայացնելով կայուն զարգացման տեղեկատվության բացահայտումների առաջնահերթությունները: Մասնավորապես, շեշտադրումներ են կատարվում կազմակերպությունների կողմից հրատարակվող ֆինանսական հաշվետվություններում էկոհամակարգային ծառայությունների տեղեկատվական բացահայտումներին՝ կարճաժամկետ, միջնաժամկետ և երկարաժամկետ կտրվածքով:

Բացի այդ, վերլուծվել են մատուցվող էկոհամակարգային ծառայությունների տեսակները և դրանց արդյունքների չափման հնարավորությունները: Զուգահեռաբար, ներկայացվել են գործարարության կողմից էկոհամակարգերին հարուցած վնասների վերականգնման արդյունքների ներկայացման

ուղիները կազմակերպությունների կողմից հրապարակվող ֆինանսական հաշվետվություններում: Ներկայացվել են ֆինանսական հաշվետվությունների ձևաչափեր, որոնցում ընդգրկված տեղեկատվության հիման վրա էկոհամակարգային ծառայություններ ստացող շահառուները կարող են կայացնել հիմնավոր կառավարչական որոշումներ:

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