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FINANCE OF BIODIVERSITY

ABSTRACT

The 2030 Agenda for Sustainable Development, adopted at the UN General Assembly in New York in 2015, then implemented by the European Union, respectively by Romania (through Romania's Sustainable Development Strategy 2030), is a historic document, through its 17 goals, which promotes a sustainable future for all citizens. Structured on the three pillars of sustainable development – economic, social and environmental – it highlights one of the priorities of global sustainable development and a major concern of our time – environmental protection. Two of the Sustainable Development Goals of the 2030 Agenda – life on land and life in water – are found in the EU's Biodiversity Strategy for 2030. This strategy is the cornerstone of nature protection in the EU, a key element of the European Green Deal.

Biodiversity is disappearing at an unprecedented rate, with biodiversity loss and ecosystem collapse among the most important threats that humanity will face in the next decade. In this context, the EU member states must establish a series of commitments, objectives and appropriate specific measures to preserve the environment, substantially increase the allocation of financial resources necessary to achieve these objectives, so as to stop the loss of biodiversity. The objective of this approach is to highlight some aspects related to private and public financing for the protection of the environment and of biodiversity in Romania, based on statistical data. Evaluating public data sources, national concerns regarding the protection of the environment and biodiversity are highlighted, through specific indicators: national expenditures and investments for the protection of the environment, of biodiversity respectively, by categories of environmental services producers, by environmental domains, at European and national level.

Key words: environment, financial resources, biodiversity conservation.

JEL Classification: O13, P18, P48, Q57.

1. INTRODUCTION

In conceptual terms, biodiversity describes all life on earth and the interactions that exist between its various components (soil, air, water, etc.); *biodiversity protection and conservation represent one of the priorities of global sustainable development.* The UN proposed that this decade be dedicated to the protection of biodiversity and established a 2050 vision, namely "By 2050 biodiversity is valued, conserved, restored and sustainably used, maintaining ecosystem services to sustain a healthy planet and ensure the well-being of the population".

According to the *New Nature Economy Report*[1] of the World Economic Forum[2], almost half of the world's GDP depends on the natural environment and its resources. But the natural capital, the key resource that fuels the global economy, is subject to degradation, and almost 70% of the world's biodiversity has been lost in the last 50 years and one million species are facing the threat of extinction.

On the other hand, *the great sectors of the economy*[3], accounting for over one third of the global economy and providing up to two thirds of all jobs: agriculture, infrastructure or extractive industries, *mostly depend on nature and exert some of the most powerful (negative) effects on biodiversity*, endangering almost 80% of all threatened species on the IUCN red list[4]. Practically, they have the responsibility to stop nature loss.

The interdependence between biodiversity and the economic sectors that represent major threats to biodiversity requires the creation of a sustainable market for the financing of biodiversity, in order to increase the current finance of biodiversity; otherwise the national economies of some countries and many jobs could be at risk. This requires action from 3 main directions: political will, common enforceable legislation and private sector participation.

2. STATE OF KNOWLEDGE

EU member states must establish a series of commitments, objectives and appropriate specific measures to preserve the environment, allocate ***financial resources*** necessary to fulfil these objectives, so as to stop biodiversity loss.

In the period 2014–2020, the EU allocated 85 billion EUR to combat biodiversity loss. For the next years, the *EU's Biodiversity Strategy for 2030* establishes that at least 20 billion EUR per year will be allocated to the protection and conservation of nature: both public and private funds will be considered, at national and EU level.

The strategy also states that, as nature restoration will largely contribute to the fulfilment of climate objectives, a significant part of the EU's budget dedicated to climate action will be directed to biodiversity and nature-based solutions.

[1] New Nature Economy Report II: The Future of Nature and Business, July 2020, https://www.weforum.org/reports/new-nature-economy-report-ii-the-future-of-nature-and-business

[2] The World Economic Forum – the international organization for public-private cooperation.

[3] *The global food, land and ocean use system, including the entire supply chain (12% of global GDP and up to 40% of employment);constructions (40% of global GDP); extraction, production and generation of energy and materials (about 23% of global GDP and 16% of employment);mining (10.5% of global GDP)*.

[4] The IUCN (International Union for Conservation of Nature) Red List is a critical indicator of the world's biodiversity health, an information tool on the threats on biodiversity and the actions needed for biodiversity conservation.

Under the EU's investment programme for 2021–2027, InvestEU[5], an initiative will be established dedicated to natural capital and circular economy to mobilise at least 10 billion EUR in the next 10 years, based on public/private mix financing.

In addition, in line with the European Green Deal, the European Parliament, Council and Commission have decided that biodiversity should be integrated in the EU programmes – to allocate 7.5% of annual spending to biodiversity objectives in 2024, to be increased to 10% both in 2026 and in 2027.

Overall, the contribution to biodiversity objectives is estimated at 115,264 million EUR, in the period 2021–2027, representing 6.5% of the EU's long-term budget.

An assessment of the financing needs for the implementation of the EU's Biodiversity Strategy for 2030 was carried out in the *Biodiversity Financing and Tracking Study*, published by the European Commission in May 2022, these being estimated at approximately 48 billion EUR annually between 2021 and 2030, i.e. an amount significantly higher than the 20 billion EUR mentioned in the Biodiversity Strategy for 2030. The study also estimates the general expenditure for supporting biodiversity, from the MFF[6], the national budgets of member states, as well as from private funding, at about 29 billion EUR in the period 2021–2030, and the remaining financing deficit would be from approximately 19 billion EUR annually.

Consistent and substantial funding are still needed, both globally and in each individual region.

3. MATERIAL AND METHODS

One of the methods used to prepare the raw material for analysis was the customised query of available official databases. The highlight of financial resources necessary to protect biodiversity was based on the results of the *Yearly Statistical Research on Environmental Protection Costs*, published by the National Institute of Statistics (NIS) in the Environmental Statistics Series, *press releases* in the field of environmental protection and the Tempo Online public database query, followed by author's own processing. The information source mainly consisted of *the databases of the National Institute of Statistics: TEMPO Online, EUROSTAT, OECD, World Bank databases.*

For documentation purposes, the *national and international specialised literature* (treatises, monographs, research projects, papers/scientific communications in established journals), various *studies and analyses* were significant milestones. The information from analyses, reports and unofficial studies, as well as from regional development strategies was also used.

[5] The InvestEU Programme supports sustainable investment, innovation and job creation in Europe.

[6] Multiannual Financial Framework to biodiversity objectives.

Another method used in this study was filtering, gathering and analysis of complementary information (internet, publications), based on complex documentation.

4. RESULTS AND DISCUSSIONS

Due to its geographical position, Romania has a high biodiversity, both in terms of ecosystems and of species. Natural and semi-natural ecosystems account for about 47% of the country's area, agricultural ecosystems represent 45%, while constructions and infrastructure 8%.

As stipulated in Romania's Development Strategy 2016–2035, *biodiversity influences the economic development process*, a causal relationship existing between these: when development does not respect the natural environment, biodiversity is subject to negative transformations, and the European Commission's reports highlight the continuous biodiversity decline in the EU.

Given that the vital importance of environmental protection is one of the priorities of global sustainable development, biodiversity protection and conservation should be one of the major concerns of our time.

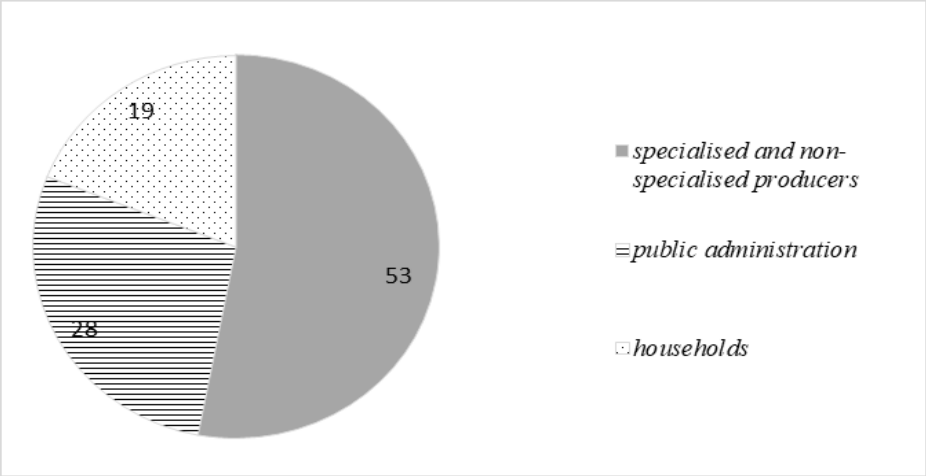
According to Eurostat estimates, for the year 2022, the ***national expenditure on environmental protection of the European Union*** amounted to 340 billion EUR, up by 20% from 2018; as regards its share in gross domestic product (GDP), this remained relatively stable throughout the period, at about 2%.

Following the trend of previous years, private companies had the largest share, with two thirds of total environmental protection expenditure (about 44 billion EUR), while the public administration and the non-profit sector accounted for one third of total expenditure.

The estimates of environmental protection expenditure *by activity sectors* indicate the largest contribution of the *specialised and non-specialised producers/ corporations sector*[7] (accounting for 53% of total environmental protection expenditure). From 2018 to 2022, the environmental protection expenditure of corporations increased by 22%.

The environmental protection expenditure of *public administration and non-profit entities and households*, in the year 2022, accounted for 28% and 19% respectively of total environmental protection expenditure. From 2018 to 2022, the environmental protection expenditure of public administration and non-profit entities increased by 21%, and that of households increased by 13%.

[7] Specialised producers – corporations that provide environmental protection services (e.g., waste and waste water management) on the market, non-specialised producers – corporations that do not sell environmental services on the market, but carry out environmental protection activities internally and for their own use, in order to limit the negative effects on the environment of their main production activity (e.g., a refinery or a water supply company that treats its exhaust gases).



Source: EUROSTAT.

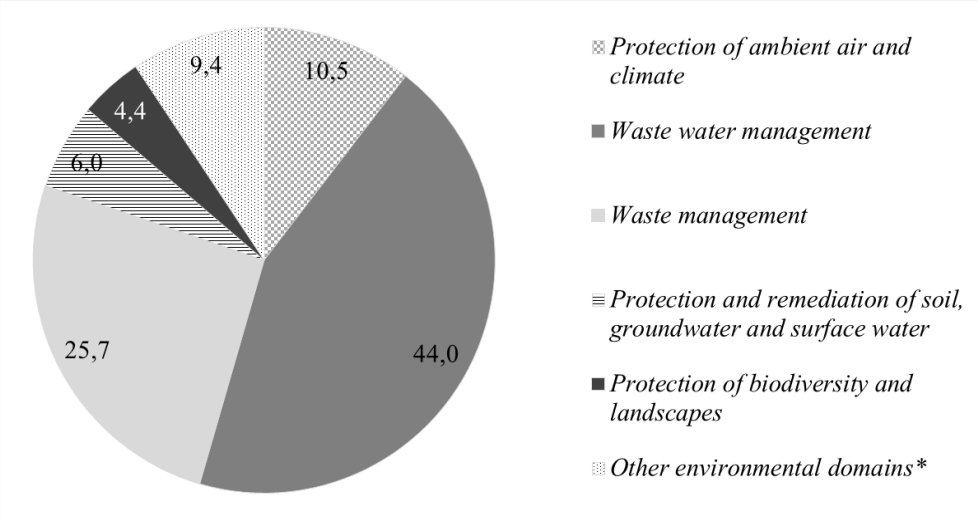
Figure 1. EU's national expenditure on environmental protection, by categories of producers and environmental services, 2022

In the same period (2018–2022), the EU's ***environmental investments*** increased by 24%. In 2022, the EU investments for the provision of environmental protection services amounted to 69 billion EUR, up by 10 billion EUR compared to the previous year and by 15 billion EUR compared to 2020.

The share of investments for environmental protection in total investments in the EU reached 2.5% in 2022. By *activity sectors*, the estimates of investments for environmental protection show that the share of environmental protection investment in total investments of corporations was 2.0%, while that of public administration 4.8%.

The distribution by *environmental domains* indicates that the largest share of investments was for waste water management and waste management services, these two domains accounting for 44.0% and 25.7% respectively of total environmental protection investments.

The other environmental domains (protection of ambient air and climate, protection and remediation of soil, groundwater and surface water, protection of biodiversity and landscapes, noise and vibration abatement, protection against radiation, research and development and other environmental protection activities) accounted for only 30% of total investments for environmental protection: 10.5% went to the protection of ambient air, 7.8% to protection against radiation, to research and development and other environmental protection activities, 6.0% to soil and groundwater protection, 4.4% to the protection of biodiversity and landscapes, and the remaining 1.6% to noise abatement.



* *including: noise and vibration abatement, protection against radiation, research and development and other environmental protection activities.*
Source: EUROSTAT

Figure 2. EU environmental protection investments, by environmental domains, 2022

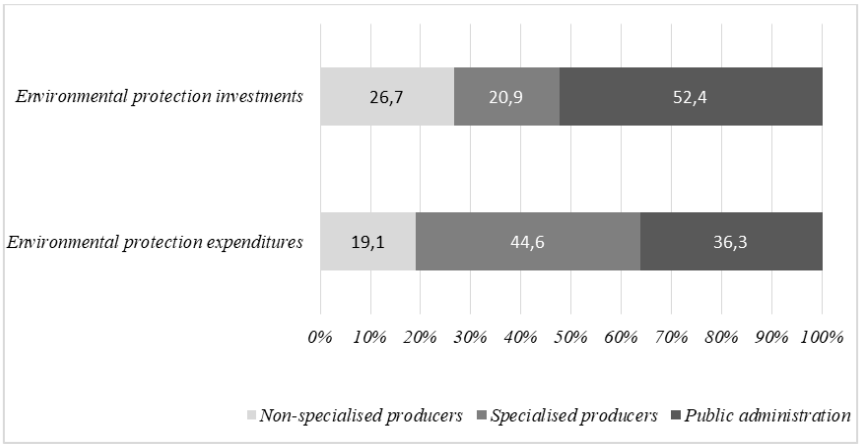
In **Romania,** according to the National Institute of Statistics data, in the year 2021[8], ***the environmental protection expenditure, at national level***[9], amounted to 16.9 billion RON, up by 15% compared to 2018. Its share in the gross domestic product (GDP) remained relatively stable throughout the period, at about 1.5% of GDP.

The environmental protection expenditure can be analysed by main *categories of producers of environmental services involved.* Thus, the highest share in total environmental expenditure can be noticed in the case of specialised producers (44.6%), followed by public administration (36.3%), while non-specialised producers represent less than 20%.

These expenditures, distributed by *activity sectors,* have different shares: thus, the largest expenditures of specialised producers were directed to environmental protection in the sector "collection, treatment and disposal of waste for activities to recover recyclable materials" (91.2%), and those of non-specialised producers to the sectors "production and supply of electricity and thermal energy, gas and hot water" (49.3%), "manufacturing industry" (15.9%) and "water abstraction, treatment and distribution" (14.1%).

[8] Latest available year.

[9] National expenditure includes: investments, internal current expenses (current expenses incurred through own environmental protection activities) and other public administration expenses (subsidies granted, transfers), not including external current expenditures (mainly represented by expenses for the purchase of environmental protection services from third parties).



Source: NIS, Environmental Statistics Series, 2022

Figure 3. Share of environmental protection expenditures and investments by categories of producers of environmental services, 2021

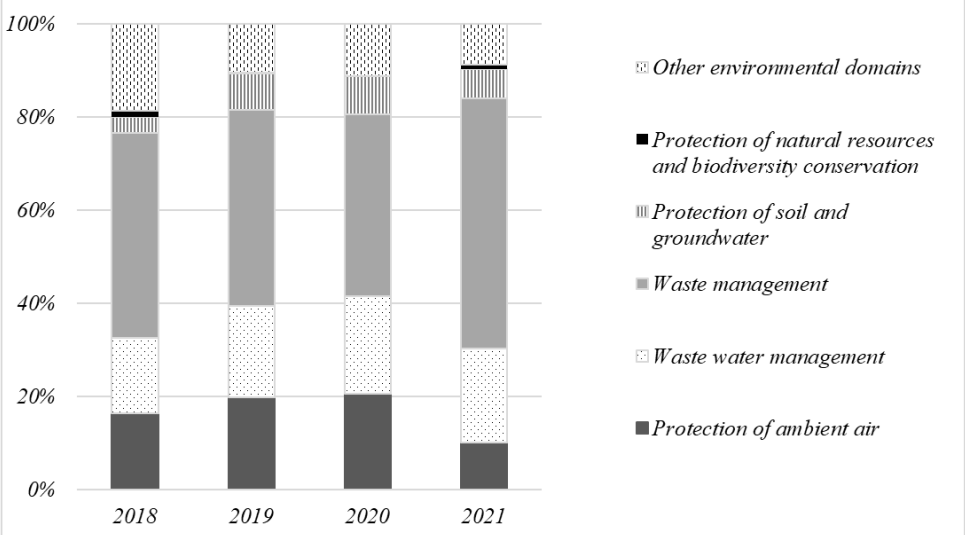
The ***environmental protection investments*** accounted for 15.2% of total environmental protection expenditures. By categories of service producers, public administration investments have the highest share in total environmental protection investments (52.4%), followed by investments of non-specialised producers (26.7%) and investments of specialised producers (20.9%).

By *environmental domains*, at national level, the highest *environmental protection expenditures* were for waste management in specialised producers, which represented 77.3% of total expenditure in the field of waste management; in environmental protection investments, the highest values were found in waste water management (in the public administration, accounting for 74.8% of total investments in waste water management).

At the same time, it is also worth noting that in recent years, the highest environmental protection expenditures were found in waste management. In the year 2018, the waste management expenditures accounted for 44.1% of total environmental expenditures, to increase by almost 10 percentage points in 2021, to the detriment of ambient air protection. An increase of waste water management expenditures and of soil and groundwater protection expenditures was also noticed in the investigated period, by 4 and 3 percentage points respectively.

A reverse trend can be noticed in the expenditures for the protection of natural resources and biodiversity conservation. Although in the latest 4 analysed years this domain has benefited from the lowest expenditure levels, the share of expenses for the protection of natural resources and biodiversity conservation[10] has decreased (in the middle years, even dramatically).

[10] The domain of the natural resource protection and biodiversity conservation includes activities aimed at the protection of species, natural protected areas, ecological reconstruction, restoration of aquatic environment, ecological prevention of natural hazards.



Source: NIS, Press Releases 2019, 2020, 2021, 2022

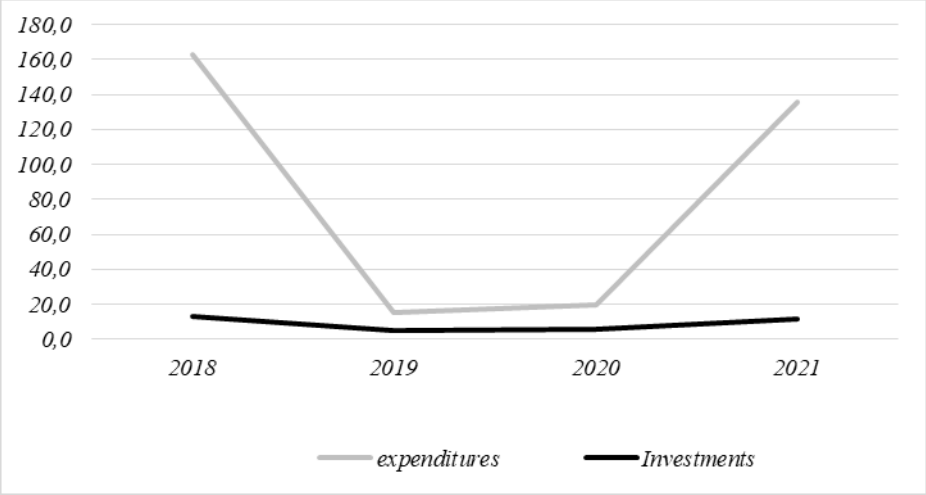
Figure 4. Share of environmental protection expenditures, by environmental domains, in the period 2018–2021

In the year 2021, out of total environmental protection ***expenditures***, only a small percentage was used for ***the protection of natural resources and biodiversity conservation*** (1.28%), the remaining expenditures being allocated to the other specific environmental protection activities: pollution prevention and combat – protection of ambient air and water, waste management, protection of soil and groundwater – and other – research & development, general environmental management, noise and vibration abatement, protection against radiation, education, training, information.

In all four investigated years, the highest share of spending on the protection of natural resources and biodiversity conservation was noticed in the case of non-specialised producers, the expenditure of public administration being almost non-existent – around 1% of total expenditure on the protection of natural resources and biodiversity conservation.

In the year 2021, only 0.28% of ***investments*** were directed towards the protection of natural resources and biodiversity (in total investments for environmental protection), similarly with the situation in the EU (where only 4.4% of total investments for environmental protection were dedicated to the protection of biodiversity), and 99% of these were made by non-specialised producers.

Therefore, although small, current expenditures for natural resources and biodiversity decreased by 20% in 2021 as compared to 2018, and investments followed the same downward trend, by 13%.



Source: NIS, Environmental Statistics Series, author's own calculations

Figure 5. Domestic current expenditures and investments for natural resources and biodiversity (%), in the period 2018–2021

The distribution of expenditures for the protection of biodiversity and landscapes, by categories of producers of environmental services, reveals a diminution by 1.4 percentage points of expenditures of non-specialised producers, the expenditures of which are directed mainly towards the protection of ambient air and climate.

5. CONCLUSIONS

Although the protection of biodiversity should be one of the major concerns of vital importance of our time, although the very existence of human civilisation depends on the protection of biodiversity, although there are agreements, strategies and policies in the field of environmental protection, of biodiversity protection and conservation, and many European countries have allocated increasing financial resources to protect biodiversity, in Romania the expenditures in this field have decreased year by year. Furthermore, although the amounts allocated to environmental protection were small (and decreasing), the amounts allocated to the protection of natural resources and biodiversity conservation were almost non-existent.

For the biodiversity conservation projects, the opportunity is quite limited, as most expenditures for the protection of biodiversity are made by non-specialised producers, while those made by the public administration are almost non-existent.

Without intending to say big words, biodiversity lives all around us, and we live through it, our present and future depend on it. The phrase "to live in harmony with nature, not only to exploit it" is more current than ever. That is why it is imperative to develop and implement appropriate policies to protect and restore biodiversity, to allocate necessary resources for the protection and conservation of nature, to restore nature's place in our lives, so that in its turn nature can provide the resources that we need to live.

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