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ESTIMATION OF NATURAL VALUES IN THE SUSTAINABLE DEVELOPMENT OF LOCAL GOVERNMENT UNITS AS NEW PHENOMENA OF DIGITAL ECONOMY

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Purpose: The article aims to discuss the use of digital tools, policy frameworks, collaboration, challenges, and future prospects related to natural values in the context of local governance. The main objective of this article is to explore the emergence and significance of natural values in the digital economy era and to examine how local communities are adapting to this phenomenon.
Design/methodology/approach: The advent of the digital economy has brought about transformative changes in various sectors, including local governance. This paper explores the emerging concept of "Natural Values" in the context of sustainable development within local government units (LGUs). Knowledge of natural resources and their condition is also the basis for advertising and marketing activities. This should become an important argument for the development of tourism or other industries with less pressure on the natural environment. In connection with the digital transformation of the global economy, local self-government is also increasingly using digital technologies.
Findings: The study embraced an adaptive approach, recognizing that the natural values represent a novel phenomenon in the digital economy era, encompassing the recognition, preservation, and utilization of natural resources and ecosystems for the benefit of society. From the point of view of protection of natural resources, complete and up-to-date information and its availability are necessary for solving most tasks. Lack of relevant knowledge can lead to incomplete protection of valuable natural objects and territories, or negligence in the field of technical infrastructure or negative economic activity can cause adverse changes in the state of natural resources.
Research limitations/implications: The implications of this study underscore the importance of stakeholder engagement and adaptive management for effective integration. Practical implications suggest the need for policy coordination, capacity building, and innovative incentive mechanisms to foster harmonious coexistence between natural values of territories and economic development digitalization.

Originality/value: This study delves into the evolving role of LGUs in harnessing natural values, fostering sustainable development, and contributing to the broader discourse on environmental preservation and economic growth. These results could be especially interesting for researchers whose studies are interdisciplinary.
Keywords: natural values, territorial communities, territorial authorities, economic effects, ecosystem, ecosystem services.
Category of the paper: Research paper.
JEL: O44, G28, Q57.

1. Introduction

The digital economy has significantly altered the way local government units operate, enabling them to leverage technological advancements for sustainable development. One notable development in this regard is the emergence of "natural values" as a vital component of local governance strategies. Natural values refer to the intrinsic worth of ecosystems, biodiversity, and natural resources in promoting economic, social, and environmental sustainability. In this paper, we investigate how LGUs are adapting to this new phenomenon and integrating their natural values into their policies and practices.

Natural values have gained prominence in the digital age due to increased awareness of environmental concerns and the potential for economic growth through sustainable practices. LGUs are uniquely positioned to play a pivotal role in identifying, protecting, and utilizing these values within their jurisdictions. This not only enhances environmental conservation but also creates opportunities for economic development through eco-tourism, green technology, and sustainable agriculture. Moreover, the digital economy provides local government units with a wealth of tools and technologies to assess, monitor, and manage natural values. Geographic Information Systems (GIS), remote sensing, and data analytics enable LGUs to make informed decisions regarding land use, resource management, and conservation efforts. These digital tools empower LGUs to balance economic development with environmental stewardship.

LGUs are increasingly incorporating natural values into their policy frameworks, aligning their strategies with international sustainable development goals and agreements such as the United Nations Sustainable Development Goals (SDGs) and the Convention on Biological Diversity (CBD). These policies aim to ensure the sustainable use of natural resources, protect biodiversity, and enhance the overall quality of life for residents (Convention on Biological Diversity, 2020; United Nations Development Programme, 2020).

For today, the effective integration of natural values into local governance requires collaboration among local government units, non-governmental organizations, private sector stakeholders, and local communities. These partnerships facilitate knowledge sharing, resource mobilization, and the implementation of innovative sustainability initiatives. Despite the potential benefits of incorporating Natural Values into local governance, challenges such as resource constraints, conflicting interests, and policy implementation issues persist. The future of natural values in LGUs relies on continued commitment, investment, and innovation in sustainable development practices (Yakymchuk, 2014, 2020).

The *subject* of this investigation: this article focuses on the concept of "Natural Values" and their role in the sustainable development of local government units (LGUs) within the context of the digital economy. The main *objective* of this article is to explore the emergence and significance of natural values in the digital economy era and to examine how local communities are adapting to this phenomenon. The article aims to discuss the use of digital tools, policy frameworks, collaboration, challenges, and future prospects related to natural values in the context of local governance.

This article is intended for a diverse audience, including policymakers, local government officials, environmentalists, researchers, scholars, students, and anyone interested in the intersection of sustainable development, the digital economy, and the role of LGUs in preserving and utilizing natural resources. It provides insights into the evolving landscape of local governance and its contributions to environmental conservation and economic growth.

This study delves into the advantages of incorporating natural capital valuation into a nation’s economy and explores its profound impact on the conservation of biodiversity. By assigning economic values to ecosystem services and natural resources, countries can reap numerous benefits, including improved resource management, enhanced policy decision-making, and the preservation of critical ecosystems.

2. Literature review

The economic value of nature is often underestimated or overlooked, leading to unsustainable exploitation and degradation of ecosystems. Recognizing the true value of nature and integrating it into economic frameworks has the potential to revolutionize conservation efforts and promote long-term sustainable development. By assigning monetary values to ecosystem services such as pollination, water purification, and carbon sequestration, governments gain a comprehensive understanding of the contributions of nature to their economies. This insight enables more informed resource management decisions, reducing overexploitation and habitat destruction.

The nature's functioning economical effects estimation is a central aspect of economic development and societal progress in different scientific works. Understanding how different countries use ecosystem services, R. Costanza and his colleagues investigate changes in the global value of ecosystem services. They point out that ecosystems provide a wide range of services, such as improving air and water quality, pollinating plants, regulating the climate, and supplying raw materials for the economy. The authors of the paper emphasize that changes in the value of these services can occur due to alterations in ecosystems, which may be caused by climate change, anthropogenic activities, and other factors. They underscore that the assessment and conservation of these services are crucial for ensuring sustainable development and societal well-being (Costanza et al., 2017). The authors C. Spash, T Smith delve into the concept of natural values and their potential economic benefits. He emphasizes the link between biodiversity conservation and sustainable economic growth. They highlight that preserving natural resources and biodiversity can lead to long-term economic gains by maintaining ecosystems' functionality and the services they provide (Spash, Smith, 2021).

Another authors L. Johnson et al. in their study "Digital Technologies and Environmental Conservation" discuss how digital technologies, such as Geographic Information Systems (GIS) and remote sensing, are applied to monitor and manage natural resources. They emphasize that these technologies play a pivotal role in environmental conservation efforts by providing accurate data for decision-making and resource management (Johnson et al., 2019). Similar views were expressed by the researcher M. Garcia in his work "Local Government Initiatives in Biodiversity Preservation", where he examines the role of local government units (LGUs) in implementing policies and practices for preserving biodiversity within their jurisdictions. M. Garcia highlights the importance of grassroots efforts and localized conservation initiatives in protecting ecosystems and species diversity (Garcia, 2018; Reyes-García, 2022).

C. Folke and his co-authors examine the role of biodiversity in resilient ecosystem management. They indicate that biodiversity is a key factor in ecosystem resilience, as it provides species diversity and functional diversity. This, in turn, enhances ecosystem resistance to change and ensures its functional productivity. The authors emphasize that conserving biodiversity is essential for providing the economic value that ecosystems offer to society through improved regulatory and support services (Folke et al., 2011). This influential work presents a framework for understanding the interconnectedness of economic, social, and ecological systems in sustainable development.

John Holdren and Paul Ehrlich, in their work, dating back to 1974, investigate the relationship between population growth and its impact on the global environment. They stress that population growth leads to increased utilization of natural resources and highlight the importance of exercising caution in managing these resources. The paper underscores the significance of sustainable natural resource management for preserving the environment and ensuring economic stability (Holdren, Ehrlich, 1974).

The group of scientists Jiang L., Chen Y., Wang X., Guo W., Bi Y., Zhang C., Wang J. and Li M. investigate the economic advantages of sustainable agricultural practices. The authors emphasize their role in improving crop yields, reducing environmental degradation, and promoting rural development. They argue that sustainable agriculture can lead to economic resilience in rural areas (Jiang, Chen, Wang et al., 2022). The company of authors with Paul. C. West, explore potential leverage points for enhancing global food security and environmental conservation. They point out that sustainable agriculture and land resource management are key factors in economy (West et al., 2013). Amanda Stronza in her work "The Economic Promise of Ecotourism for Conservation" analyzes the economic benefits of eco-tourism and provide case studies to demonstrate how it supports both conservation efforts and local economies. The author emphasizes that well-managed eco-tourism can generate revenue for conservation while also benefiting communities (Stronza, 2007).

The authors Thomas Adams and James A. Turner discusse the financial benefits of carbon trading mechanisms like Reducing Emissions from Deforestation and Forest Degradation (REDD+) and their role in incentivizing forest preservation. They underscore how carbon trading can provide economic incentives for protecting forests (Adams, Turner, 2012). Valuation of natural capital provides economic incentives for the conservation of biodiversity. Ecosystems with quantifiable economic benefits, such as forests or wetlands, become more attractive for preservation, as their services can be linked to economic growth and job creation.

3. Main results

Incorporating natural capital into economic accounting enhances policy decision-making. Governments can design policies that account for the economic consequences of biodiversity loss and prioritize conservation measures as essential investments for long-term prosperity. First of all, a properly valued natural capital can stimulate ecotourism, a sector that thrives on intact ecosystems and biodiversity. It not only generates revenue but also encourages sustainable tourism practices, which, in turn, contribute to conservation. Forests and wetlands, when valued for their carbon sequestration potential, become essential in climate change mitigation strategies. Countries can meet international commitments while preserving vital ecosystems.

That is why natural capital valuation contributes to the resilience of nations in the face of environmental challenges. A diversified portfolio of ecosystem services helps countries adapt to changing climate patterns and extreme events. Assigning economic value to nature reinforces the ethical responsibility of preserving biodiversity for future generations. It aligns economic interests with environmental stewardship.

Natural resources can be defined as resources that occur naturally and exist independently from the actions of humans. They are commonly categorized in biotic and abiotic resources, where biotic refers to living and organic materials (such as plants), and abiotic resources to refers to non-living materials (such as minerals). Furthermore, natural resources can be divided into the categories of renewable and non-renewable. Renewable resources such as wind, sunlight, and forests are not permanently depleted when we consume or utilize them. Conversely, non-renewable resources are available in finite quantities and can be permanently depleted because of this. Among the most prominently known non-renewable resources on Earth are fossil fuels such as coal, natural gas, and petroleum, usually exploited by humankind to generate energy (European Environment Agency, 2019; Holdren, Ehrlich, 1974; The World Bank, 2020).

United Nations Development Programme (UNDP) in document "Sustainable Development Goals" clearly provides an overview of the United Nations' Sustainable Development Goals (SDGs) and highlights their relevance to Natural Values and environmental sustainability. It underscores the global commitment to addressing environmental challenges within a broader framework of sustainable development (UNDP, 2015). CBD's strategic plan for biodiversity outlines global biodiversity targets and emphasizes the importance of local and national actions in preserving natural resources. It recognizes that local efforts are crucial in achieving global biodiversity conservation goals (Convention on Biological Diversity, 2014). In report of World Bank "The Economics of Ecosystems and Biodiversity (TEEB)" the economic values of ecosystem services have been explored and discussed the potential for incorporating them into policy and decision-making processes. It highlights that recognizing the economic worth of ecosystem services can lead to more informed policy choices (World Bank, 2013).

The value of natural resources is often determined by their scarcity and by their value for our modern economies. For example, U.S. with a total natural resource value of 45 trillion dollars, have been the second leading country worldwide based on natural resource value. As of 2019, the United States also has the largest proven coal reserves in the world. In 2020, the United States also accounted for 6.7 percent of global coal production, making it the fifth largest coal producer in the world (Fig. 1).

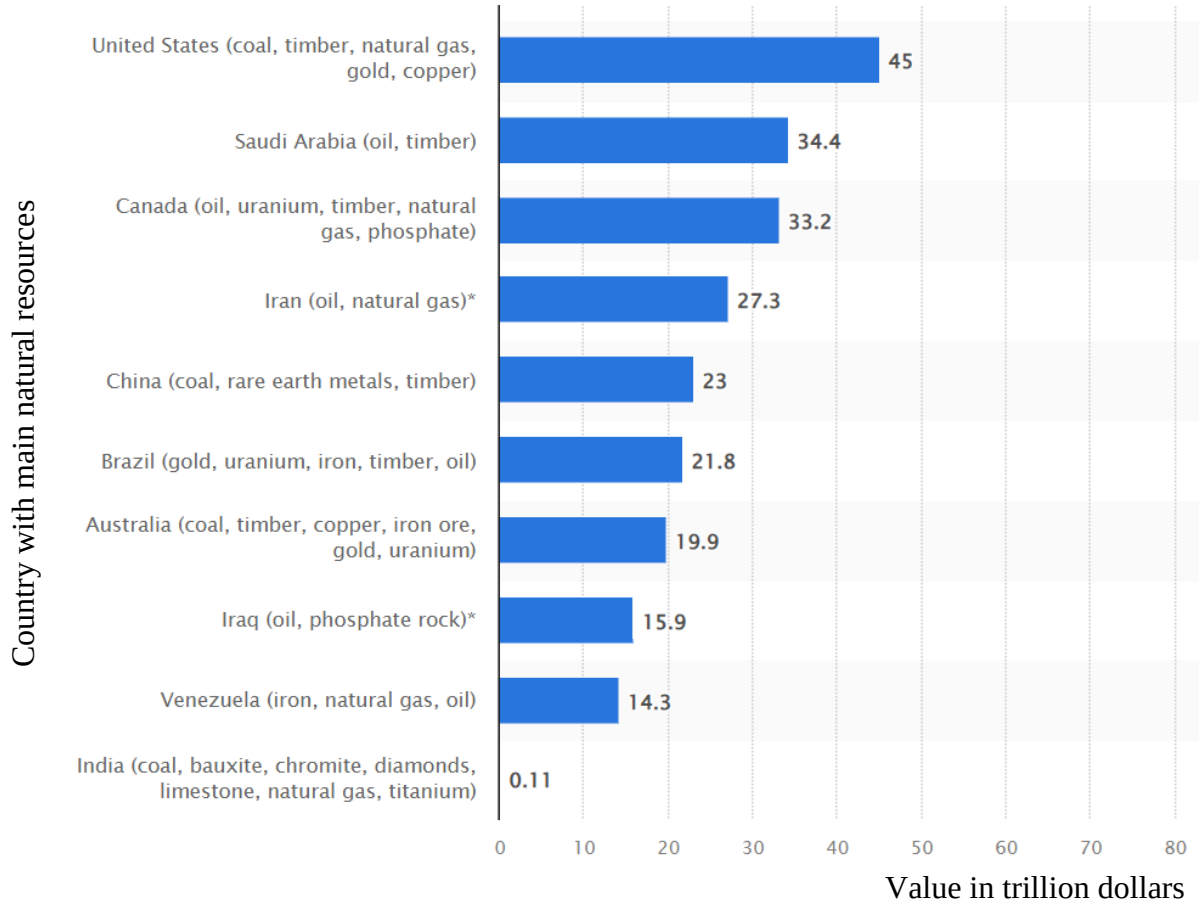

Figure 1. Leading countries on natural resource value in trillion U.S. dollars, 2021.

Source: The data is based on the latest available statistics from STATISTA, 2021 (Leading countries worldwide, 2021).

Saudi Arabia (oil, timber) is in second place – 34,4 trillion dollars, Canada is in third place with oil, uranium, timber and natural gas (33.2 trillion dollars) and Iran is in fourth place – 27,3 trillion dollars with oil and natural gas.

In United States the Everglades in Florida, spanning approximately 1.5 million acres support a tourism industry worth over $5.3 billion annually, providing jobs for approximately 76,000 people. Additionally, the region's commercial fishing industry contributes around $1.5 billion to the economy. That is why The U.S. government invests around $200 million per year in Everglades restoration efforts, aimed at preserving the ecosystem and enhancing water quality. In Costa Rica the Monteverde Cloud Forest Reserve covers approximately 10,500 hectares. Eco-tourism in Monteverde accounts for nearly 70% of the region's income, attracting over 250,000 visitors annually. The National Biodiversity Institute (INBio) in Costa Rica has documented and cataloged over 500,000 species of insects, plants, and other organisms, supporting biodiversity conservation efforts (Nature Positive, 2023).

Norway's coastal areas and fjords span approximately 100,000 kilometers. The fishing and aquaculture sectors contribute to 3% of Norway's GDP, with seafood exports exceeding $10 billion annually. Norway maintains strict quotas and regulations to ensure sustainable fishing practices, including limiting catch quotas and implementing fishery management plans. In India the Western Ghats, covering an area of about 160,000 square kilometers. Eco-tourism in the Western Ghats region generates over $500 million annually and provides livelihoods for thousands of local residents. India's Forest Conservation Act aims to protect forested areas, including those in the Western Ghats, to ensure the preservation of biodiversity. The Great Barrier Reef in Australia spanning over 2,300 kilometers, tourism related to the Great Barrier Reef contributes around $5 billion per year to the Australian economy and supports over 64,000 jobs. Australia's Reef 2050 Plan is a comprehensive strategy aimed at safeguarding the reef's ecosystems, including efforts to reduce water pollution and address climate change impacts (FAOSTAT, 2023). All these examples illustrate how various countries recognize the natural values within their territories, promote economic growth through sustainable practices, and align their policies with environmental conservation goals.

In a consumer-driven, globalized world, industries must find a balance between satisfying consumer demands and ensuring business growth without depleting natural resources. Since the economy of many countries of the world is largely based on certain types of natural resources, it is necessary to timely ensure socially, ecologically and economically sustainable management of these resources. However, the depletion and overexploitation of natural ecosystems is a problem and is increasingly causing environmental degradation, and as a result of national governments and international environmental groups are forced to pay more attention to it.

In an era of rapid technological progress, this transformative force extends its influence to every local community, offering innovative solutions that contribute to the preservation of unique natural values. Therefore, the authors of this article focused their attention on researching how the digital economy contributes to the preservation of these treasures at the local level. The digital economy provides tools for data collection and analysis that enable local communities to monitor and protect their natural values (tab. 1).

Table 1.
Instruments for data collection and analysis that enable local communities to monitor and protect their natural values

Perspective tools for data collection and analysis	Content of perspective tools	Source
Geographic Information Systems (GIS)	GIS remote sensing, and environmental sensors allow for real-time tracking of ecosystems and natural resources. These data-driven insights empower local authorities to make informed decisions and take proactive measures to preserve their region's unique natural assets.	Costanza et al. (2014); Folke et al. (2016); United Nations (2015); International Union for Conservation of Nature (2021); West et al. (2013); Spash, Smith (2021); Stronza (2007); Jiang, Chen, Wang, Guo, Bi, Zhang, Wang, Li (2022)
Digital platforms and social media	This instrument has revolutionized community engagement in conservation efforts. Local governments can connect with residents, environmental organizations, and volunteers through online networks. These platforms facilitate information sharing, awareness campaigns, and collaborative initiatives, harnessing the collective power of the community to protect natural values.	United Nations (2015); International Union for Conservation of Nature (2021); Holdren, Ehrlich (1974); The World Bank (2020); West et al. (2013); Spash Smith (2021); Johnson et al. (2019); Reyes-García Fernández-Llamazares, Aumeeruddy-Thomas et al. (2022); Stronza (2007); Adams, Turner (2012); Folke (2011).
Sustainable Practices	The digital economy fosters innovation in sustainable practices. Smart agriculture technologies, for instance, optimize resource use, reduce environmental impact, and enhance crop yields. Local farmers can adopt precision farming techniques and monitor soil conditions with the help of digital tools, contributing to the preservation of their region's agricultural heritage.	Yakymchuk, Byrkovych, Kuzmych (2023); Costanza et al. (2014); Reyes-García, Fernández-Llamazares, Aumeeruddy-Thomas et al. (2022); Stronza (2007); Jiang, Chen, Wang, Guo, Bi, Zhang, Wang, Li (2022); Adams, Turner (2012); Folke et al. (2011).
Eco-Tourism and Economic Growth	Digital platforms and online booking systems have boosted the eco-tourism industry. Local communities can market their Natural Values to a global audience, attracting tourists who seek unique, eco-friendly experiences. This not only generates economic growth but also creates a financial incentive to protect the very resources that draw visitors.	Stronza (2007); United Nations (2015); International Union for Conservation of Nature (2021); Holdren, Ehrlich (1974); The World Bank (2020); West et al. (2013); Spash, Smith, (2021); Johnson et al. (2019); Reyes-García, Fernández-Llamazares, Aumeeruddy-Thomas et al. (2022); Adams, Turner (2012); Folke et al. (2011).
Policy Implementation	The digital economy aids local governments in implementing and enforcing environmental policies effectively. Monitoring systems can track compliance with regulations, such as sustainable land use and waste management. Digital solutions ensure transparency and accountability, fostering a culture of responsible stewardship among local businesses and residents.	Costanza et al. (2014); Folke et al. (2016); United Nations (2015); International Union for Conservation of Nature (2021); The World Bank (2020); West et al. (2013); Spash, Smith, (2021); Johnson et al. (2019); Adams, Turner (2012); Folke et al. (2011).
Climate Change Mitigation	Climate change poses a significant threat to Natural Values worldwide. The digital economy supports efforts to reduce carbon emissions through smart grids, renewable energy systems, and carbon footprint tracking. These technologies enable communities to address climate change at the local level, safeguarding their ecosystems and resources.	Adams, Turner (2012); Spash, Smith (2021); Yakymchuk, Baran-Zgłobicka (2023); Costanza et al. (2014); Onur, Tezer (2015); Folke et al. (2016); United Nations (2015); International Union for Conservation of Nature (2021); West et al. (2013); Johnson et al. (2019); Folke et al. (2011); Stronza (2007)

Source: compiled by the authors.

A review of the global literature shows a dynamic growth in research on digital transformation and sustainability (Ferozi et al., 2021; Rosario, Diaz, 2022, 2023). The digital economy is increasingly entering actively into sustainability programming. Modern technologies are involved directly or indirectly in shaping and protecting natural resources (Wysokińska, 2022). Ongoing research points to several important areas of concern: increasing waste, high electricity consumption and high global carbon emissions, species extinction and declining biodiversity. The rapid development of digital technologies is influencing changes in production technologies, thereby reducing the burden on the environment and the use of natural resources (Łaźniewska, 2022; Rosario, Diaz, 2022). Digital technologies are now the basis for the management of the natural environment and its resources. They enable rapid updating of statistical and spatial information on environmental resources and their condition, allow continuous monitoring of individual environmental parameters, and provide tools for modelling natural phenomena and assessing their effects. They are used to assess the effectiveness of the protection of nature and landscape values or the maintenance of spatial order. They streamline the activities of authorities and offices responsible for the protection and management of environmental resources. They are a tremendous support to local government units in planning, programming and supervision in environmental management, also in the financial aspect (Bródka, 2020). They are particularly important in emergency management in the context of natural disasters and catastrophes. They support spatial planning in flood risk reduction (e.g. Xiong et al., 2019; Cotache et al., 2020; Der Sarkissian et al., 2020; Baran-Zgłobicka et al., 2021; Truu et al., 2021). They provide very modern tools for environmental valorisation, assessment and valuation of naturally valuable areas, which have been carried out over the years in the traditional way, allowing a much wider use in practice. Knowledge of natural resources and their condition is also a basis for promotion and marketing activities. It can become an important argument for the development of tourism or other industries with less pressure on the natural environment. They are also a very efficient tool for environmental education.

In connection with the digital transformation of the world economy, local government is also making increasing use of digital technology. In the case of local government in Poland, the catalogue of own tasks is imposed by law (Act on Municipal Self-Government). From the point of view of the protection of natural resources, full and up-to-date information and its availability is essential for most tasks. Lack of adequate knowledge may result in incomplete protection of valuable natural objects and areas or negligence in the field of technical infrastructure or negative economic activities may cause unfavourable changes in the condition of natural resources. A very good state of the natural environment, recreation and leisure opportunities are of key importance for the well-being of the inhabitants. Wide access to digital information allows local communities to raise environmental awareness and participate in decision-making processes. Local government has the basis for making informed decisions and appropriate decisions from the point of view of sustainability. For economic actors, the environmental situation is not insignificant either. An assessment of the role of digital transformation is presented in Table 2.

Table 2.
Significance of digital transformation for sustainable development programming in local government units in Poland

Selected tasks of local government	Natural resources	Inhabitants	Local self-government	Economic entities
Maintenance of spatial order	+++	++	+++	+
Environment and nature conservation	+++	++	+++	+
Water management	+++	++	+++	+
Maintenance of waterworks and water supply	++	+++	+++	++
Maintenance of sewerage systems, disposal and treatment of urban waste water	+++	+++	+++	+
Maintenance of cleanliness and order	+++	+++	+++	+
Maintenance of sanitation, landfill sites and municipal waste disposal	+++	+++	+++	++
Supply of electricity, heat and gas	+++	+++	+++	++
Health care	-	+++	++	-
Maintenance of leisure and sports facilities	+	+++	+++	-
Maintenance of communal green areas and trees	+++	+++	+++	-
Maintenance of municipal cemeteries	+	+	+++	-
Maintenance of public order and security for citizens	-	+++	+++	-
Fire and flood protection	+++	+++	+++	+
Promotion of the municipality	+	+	++	+

Source: own study. Importance of digitisation +++ high, ++ medium, + low, - indifferent.

These are just some of the key viewpoints held by scientists on the issue for data collection and analysis that enable local communities to monitor and protect their natural values. This topic is complex and has many diverse aspects, requiring a comprehensive approach to solving the problem.

Many countries benefit financially from preserving nature and accounting for natural resources and biodiversity. There are examples illustrate how countries that prioritize nature conservation and responsible resource management can enjoy financial benefits through various channels, including tourism, pharmaceuticals, agriculture, ecosystem services, and climate-related initiatives.

1. **Eco-Tourism Revenue**. Countries that prioritize nature conservation often experience a boost in eco-tourism. Protected natural landscapes, national parks, and wildlife sanctuaries become attractive destinations for tourists seeking unique experiences. This influx of tourists generates significant revenue through accommodation, guided tours, and related services, contributing to the country's economy. For instance, Costa Rica's commitment to preserving its biodiversity has made it a top eco-tourism destination, accounting for a substantial portion of its GDP (Brown et al., 2017).
2. **Biodiversity-Based Pharmaceutical Discoveries**. The diverse ecosystems of countries with rich biodiversity can yield discoveries of unique plant and animal species. These discoveries can lead to the identification of new compounds with potential medicinal value. When developed into pharmaceutical products, these compounds can generate substantial income through patents and the sale of medicines. For example, Madagascar's diverse flora and fauna have led to the discovery of several plant-based drugs (Costanza et al., 2017; United Nations, 2015).

3. **Sustainable Agriculture and Exports**. Nations that practice sustainable agriculture and maintain fertile soils benefit from increased crop yields and higher-quality produce. They can export agricultural products to international markets at premium prices. This not only boosts agricultural revenues but also enhances food security. The Netherlands is an example of a country that has implemented sustainable agricultural practices, leading to a thriving agricultural sector and exports of high-value horticultural products (Folke et al., 2016).
4. **Ecosystem Services**. Ecosystem services, such as pollination, water purification, and flood regulation, have economic value. Countries that conserve natural habitats can reap financial benefits from these services (Якимчук, 2014). For instance, China's efforts to restore and conserve its forests have led to improved water quality, reduced soil erosion, and flood control, resulting in economic savings and improved livelihoods for communities (Chen, 2016).
5. **Carbon Trading and Climate Finance.** Nations that protect their forests and reduce carbon emissions contribute to global climate change mitigation efforts. This can open avenues for carbon trading and access to climate finance mechanisms. By selling carbon credits on international markets, countries can generate revenue while preserving their forests. Norway's contributions to REDD+ (Reducing Emissions from Deforestation and Forest Degradation) initiatives have positioned it as a leader in carbon trading and climate finance (Adams, 2012).

Investing in the preservation of biodiversity and natural resources can lead to long-term economic prosperity while ensuring a sustainable future of local communities. Today biodiversity should receive its true value and be accurately assessed for its economic worth for several important reasons:

- biodiversity possesses intrinsic value, meaning it has worth in and of itself, independent of its utility to humans. Conserving biodiversity is an ethical imperative as each species and ecosystem contributes to the Earth's diversity and resilience;
- biodiversity provides vital ecosystem services that support human well-being, including pollination, water purification, carbon sequestration, and disease regulation. Accurate valuation of these services helps quantify their contributions to economies;
- economic benefits – biodiversity drives economic activities such as agriculture, pharmaceuticals, and tourism. Accurate economic valuation recognizes that these industries heavily depend on diverse biological resources;
- diverse ecosystems are more resilient to environmental changes and disturbances. Healthy ecosystems with high biodiversity can better withstand challenges like climate change and invasive species;
- biodiversity acts as an insurance policy against unforeseen environmental changes. A variety of species increases the likelihood that some will adapt and thrive in changing conditions;

- scientific and medicinal discoveries – many scientific and medical breakthroughs originate from the study of diverse species. Biodiversity is a source of potential cures for diseases and innovations in various fields;
- cultural and aesthetic value – biodiversity contributes to cultural heritage, aesthetics, and recreational opportunities, enhancing the quality of life for communities;
- acknowledging the economic value of biodiversity encourages ethical and responsible stewardship of natural resources for future generations.

In conclusion, recognizing and assessing the true economic value of biodiversity is essential not only for economic sustainability but also for the moral responsibility to preserve the intricate web of life on Earth. Accurate valuation informs policymakers, businesses, and society of the profound importance of conserving biodiversity for the benefit of present and future generations.

4. Conclusions

The emergence of natural values as a new phenomenon in the digital economy era underscores the evolving role of LGUs in fostering sustainable development. LGUs have the potential to become leaders in environmental preservation and economic growth by recognizing, preserving, and utilizing the Natural Values within their regions. As the digital economy continues to shape our world, LGUs must adapt and embrace this transformative concept to build a more sustainable and prosperous future for their communities. The digital economy provides such tools for data collection and analysis that enable local communities to monitor and protect their natural values as developing geographic information systems, digital platforms and social media, sustainable practices, eco-tourism and economic growth, implementing and enforcing environmental policies effectively, climate change mitigation and others.

Nowadays, the digital economy serves as a vital tool for preserving Natural Values in every local community. Through data-driven conservation, community engagement, sustainable practices, eco-tourism promotion, policy implementation, and climate change mitigation, the digital era empowers local governments and residents to protect the natural treasures that define their regions. As we embrace the potential of the digital economy, we also pave the way for a more sustainable and harmonious coexistence with the environment. Investing in the preservation of biodiversity and natural resources can lead to long-term economic prosperity while ensuring a sustainable future of local communities.

A very good state of the natural environment, opportunities for recreation and leisure are of key importance for the well-being of the territory's residents. Broad access to digital information allows local communities to raise environmental awareness and participate in

environmental decision-making processes. Local authorities have a basis for making informed decisions and appropriate decisions from a sustainability perspective. For business entities, the environmental situation should also be a priority when making business development decisions.

Today biodiversity should receive its true value and be accurately assessed for its economic worth for several important reasons: intrinsic value, ecosystem services, economic benefits, resilience, insurance value, scientific and medicinal discoveries, cultural and aesthetic value, ethical obligations.

Incorporating natural capital valuation into a nation's economic framework has numerous advantages. It enhances resource management, incentivizes conservation, informs better policy decisions, promotes sustainable practices, contributes to climate change mitigation, improves resilience, and strengthens ethical commitments to biodiversity preservation. As we move forward in the 21st century, recognizing the true value of nature is not only economically prudent but also a crucial step toward safeguarding the planet's invaluable natural heritage.

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