

ESG Concept in the Condition of Municipalities: The Case Study of Beskydy Region

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Abstract: - In today's world, sustainability is discussed in several fields. It is not only applied to enterprises in the business environment but also at the level of the country, even at the local management level. It is investigated as an important aspect in the effort to increase the efficiency of small control units in the field of management. Cities, municipalities, and communities themselves play a very important role in the effort to increase efficiency and achieve sustainability. In addition, a sustainable public sector means an even better quality of life for the citizens because of the higher interest of the local management in the surroundings. This paper provides insight into the investigation of sustainability in the conditions of municipalities, where the analyses focus on a new possible use of ESG criteria as an indicator of sustainability in municipalities and their local management. In this article, we look at municipalities like on social business, where the municipalities also try to reach the satisfaction of their “suppliers” and “employees” (inhabitants and tourists). Through synthesis, comparison, and financial analysis, the article brings out ESG criteria for municipalities, then applies the ESG ratings and latter select municipalities into rating groups. In the end, this article brings suggestions for improving ESG in municipalities and some brief mentions about future research. This article is a revised version of the author's 2023 article.

Key-Words: - sustainability, municipalities, local management, financing, ESG concept, ESG rating.

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1 Introduction

Sustainability is important mainly for the healthy and productive functioning of the entire company and the satisfaction of the employees. Nowadays, sustainable development is understood as a new and evolutionary management paradigm not only of the company but also of the state. The sustainability of the company recognizes not only the basic principles of business (growth and profitability) but also the pursuit of social and environmental goals. The key ones include environmental protection, social justice and equity, and economic development, [1].

In the following part of the paper, we will summarize studies dealing with this problem of sustainability in the condition of municipalities. Modern literature provides several studies devoted to this issue, but the whole idea of how to examine sustainability is discussed the most. In general, it is difficult to define and find suitable and effective indicators of sustainability in general.

Most authors are focused on financial sustainability in their research on sustainability, specifically in “transformative” countries. Authors

of [2], [3], [4], [5] and [6] found that many transformative countries have problems with financial sustainability. This reflects the fact that the capabilities of municipalities cannot meet the growing demand for infrastructure, [7], [8], [9]. The need to perceive not only overall sustainability but also its perception at the level of municipalities arose subsequently. Sustainability should be measured at local and regional levels, [10].

The best-known effort to define sustainability is the 17 Sustainable Development Goals (SDGs) in the document “The 2030 Agenda for Sustainable Development”, which was created by the United Nations in 2015. Goal 11 deals with sustainable cities and communities, where it is recommended to create and include integrated policies and plans to support the efficient use of resources and climate change, [11]. This goal is linked to other goals within this document, while pointing out the involvement of local governments in achieving sustainable development, like, for example, food security, clean water and sanitation, economic growth, infrastructure investments, and sustainable resources. Although these roles and responsibilities

of local actors are imprecise in this document, representatives of cities and other local settlements form part of the global management system, in which municipalities represent key actors in this issue, [12]. Of course, we must consider the fact that cities and municipalities have a significant role in fulfilling the goals of sustainable development, but the level of implementing these goals differs from the type of organization, their mission, action plan, program, and the main goals.

According to authors [13], it is necessary to adopt a new approach that includes "community sustainability" and "management" in the existing financial indicators of effectiveness, to solve the problems of strategic management and sustainable development in local government. The Municipality Sustainability Index (MSI) is such a solution, where are included indicators of community and financial sustainability. Its score serves to identify areas where it is necessary to act and implement corrective measures, while also ensuring the involvement of residents in community affairs, [14]. MSI is measured by 25 indicators, which are in the form of four dimensions: governance, government effectiveness, economic and social development, and financial sustainability. This model combines qualitative and quantitative assessment of sustainability in municipalities, but it is necessary to consider other possible indicators.

According to authors [15], there are certain common features that should be characterized as indicators of sustainability: multidimensionality, policy-making orientation, sharing within the community, objectivity and relevance, emergence based on goals and context, and cooperation in the form of participation. It is necessary to note that these characteristics are ideal for objective sustainability at the state level, but at the level of local investigation, they are not very applicable. Local sustainability research has its specific conditions, when various deviations and anomalies compared to general results are proven (each village/city is different), [16], [17]. Because of this fact, these indicators are not an effective support for policy-making, [16], [18]. The main keys to sustainability are interactions between environmental action and community-based activities, [19].

The Dashboard of Sustainability for integrated appraisals, created at the end of 1990, measures the various dimensions of sustainability while covering environmental, economic, social, and health aspects. This model mainly examines objectively measurable indicators, such as demographic data of the population (death rate, birth rate, migration,

transport...), economic indicators of the region (GDP, inflation, unemployment...), and measurable data on the quality of air, water, and waste (humidity, precipitation, ozone, recycling...), [15].

A literature review points out the need for a measurement of sustainability in municipalities and gives us some real measuring tools, although many of them have limits. Among the different tools available in the literature to measure sustainability, this research considers its own measuring tool. In recent years, the whole concept of sustainability (mostly in the business sector) has been connected to CSR (corporate social responsibility), when companies tried not only to reach profit but also to take responsibility for the environment and increase their social values. After the CSR it was ESG (environmental, social, and governance), which replaced the word "sustainability", [20]. ESG are practically set of criteria that evaluate a company's performance and impact on environmental, social, and governance areas, which is nowadays important for investors and sponsoring organizations. We can say that ESG is practically a measuring tool for sustainability, but of course, it has deeper points, therefore it is sometimes called a concept.

The paper introduces the business ESG concept built on environmental and social aspects but applied in the context of chosen municipalities. We chose the idea of ESG and the municipalities because they are mostly thinking about their residents' well-being. Society is made of many individuals, who need to feel safety and happiness (people need financial, social, environmental, personal, and religious certainty). That means they need a high quality of life, which could increase even the level of sustainability (the happy person does more things and is more productive, which leads to higher productivity of the state). Accordingly, we connected these two concepts in this paper.

ESG brings out social and environmental aspects, which are very important for the quality of life because the quality of life is based on individuals' surroundings. Sustainability is, because of this, really connected to the quality of life. In scientific literature, quality of life represents a wide concept that is not easy to describe. Every author understands quality of life in different content areas, but in general, this concept means satisfaction with ourselves, the people around us, the system, and of course the untouchable, or even the unchangeable, environment everywhere around us. The quality of life is generally composed of individual, social, and environmental aspects.

The paper deals with this idea and presents the results of research carried out in the Beskydy region, Slovak and Czech Republic, between June and August 2023. The new ESG criteria were applied in this region, and all the municipalities were sorted to create an ESG rating of their sustainability level.

This paper is organized as follows: introduction, section 1, which briefly introduces the existing research of sustainability in municipalities, section 2 shows ESG concept and its main point, section 3 presents data and methodology and our own ESG criteria for municipalities built upon a classic ESG criteria for business, and the last section is dealing with the results of the case study and applies our ESG rating. The paper ends with some brief conclusions and suggestions for municipalities based on their level of quality of life and the level of the existing ESG.

2 ESG Concept and Its Point

In recent years, the concept of business Enviro-Socio management (Environmental, Social, and Governance - ESG) has come to the fore. ESG helps communities improve their functioning and prevent economic difficulties. The application of ESG connects the areas of the environment, the social sphere, and management (Figure 1), which are considered as a modern perception of sustainability mainly in the field of business, but also in the government and public sector, [21]. Social and environmental values are nowadays more important than ever, as improving them can help communities at different levels accelerate their recovery from the pandemic COVID-19.

The first area (the environment) emphasizes the need to protect the environment, and the associated replacement of harmful substances with various alternative eco-friendly ways, which builds a greener business. The social area pays attention to human rights and freedom, it perceives employees not only as labor but also as valuable human beings. The last area covers classic business management when it is important to determine the goal and direction of the business and ground in the ideas of management to investors and stakeholders, [22]. It is important to consider the sustainable management of natural resources and ecosystems - this is the main idea of the ESG concept.

The trend of the ESG concept is getting stronger but nowadays is still taken as an added value and a clear sign of the flexibility and awareness of the company. There is a prediction that in the future this concept will be taken as the standard. All market

entities must realize the importance of ESG and not only implement changes but also try to find a deeper meaning of this concept, [21].



Fig. 1: Areas of sustainable development according to the ESG concept

Source: [23]

Currently, as part of the ESG concept, companies are evaluated by external specialists - rating agencies, which determine the level of fulfillment of the ESG criteria based on selected indicators.

Among the one of the first and best-known ESG rating agencies is MSCI (Morgan Stanley Capital International). Their rating method is focused on a sub-sector or sector according to the GICS global industrial classification, which MSCI jointly created with S&P Global. The evaluation is based on objective rules, while the information is obtained from a large amount of free available data.

MSCI's criteria for assigning ESG ratings to individual companies focus on 35 key ESG issues. They create an intersection between the company's core business and industry-specific issues. Key issues are then weighted according to the impact and time horizon of the risk or the opportunity.

Environment pillar:

- Climate change – carbon emissions, product carbon footprint, financing environmental impact, climate change vulnerability,
- Natural capital – water stress, biodiversity and land use, raw material sourcing,
- Pollution and waste – toxic emissions and waste, packaging material and waste, electronic waste,
- Environmental opportunities – clean technologies, green building, renewable energy.

Social pillar:

- Human capital-labor management, health and safety, human capital development, supply chain labor standards,
- Product liability – product safety and quality, consumer financial protection, privacy and data security, responsible investment, chemical safety,
- Stakeholder opposition – controversial sourcing, community relations,
- Social opportunities – access to finance, access to health care, opportunities in nutrition and health.

Governance pillar:

- Corporate governance – board, pay, ownership, accounting,
- Corporate behavior – business ethics, tax transparency.

The last pillar represents the conditions for all types of businesses, respectively for all business sectors.

After considering their criteria, individual enterprises are classified into three groups, regardless to the MSCI classification (Figure 2). Two groups include two subgroups (AA, AAA, and B, CCC) and the third includes up to three subgroups (A, BB, BBB). The first (green) group includes those companies that have a leading position in solving the most significant ESG risks and opportunities. The second (yellow) group includes companies with mixed or exceptional experience in managing the most significant ESG risks and opportunities compared to other competitors in the industry. In the last third (red) group there are companies lagging in their industry due to high exposures and inability to manage significant ESG risks.



Fig. 2: ESG ratings according to MSCI

Source: [24]

3 Data and Results

The main goal of this paper is to improve and revise the previous author's article, [25], where the author

pointed out the importance of the ESG concept, which should be implemented not only in the business sphere but also in public administration. This goal was improved by this paper, where the author brought out ESG ratings from own created criteria and selected municipalities based on financial analysis and ESG criteria into four ESG rating groups.

In the processing of this paper, we used basic scientific methods, such as observation, analysis, synthesis, comparison, deduction, and induction. These articles were made in cooperation with the Horizon Europe COEVOLVERS project [26], where was chosen seven regions in states of the European Union (Spain, Estonia, Finland, United Kingdom, Czechia, Slovakia, Hungary, and Italy). In the condition of Slovak and Czech Republic, it was the Beskydy region, which we chose as a pilot region in this paper. There are more municipalities in this Beskydy area than we will present in this work, but we decided to compare chosen municipalities according to the access to information about these municipalities. According to this, we will show more objective characteristics of the given area. The data are freely available on the websites of individual municipalities and the register of financial statements.

Figure 3 presents the results of the application of the territorial quality of life in states of the European Union. Each color mark represents another level of quality of life in the selected territories, which are at the regional level according to the NUTS 3 division (the NUTS classification is hierarchical, each member state of the European Union is NUTS 1 level, territorial units mean NUTS 2 level and each NUTS 2 divided into smaller territorial unit is NUTS 3).

While most territories on the map reached the red category (territorial quality of life index at the level of 0.25-0.43), the Beskydy region moved into the orange category (territorial quality of life index at the level of 0.44-0.49), which was the higher category in Slovak and Czech Republic area and referred to the better conditions in this area. Therefore, this is the reason why the COEVOLVERS project used this area.

The blue color represents the highest quality of life (0.60-0.69) in the given region, while red represents the lowest value. The Nordic countries, especially Norway, Sweden, and Finland, followed by the United Kingdom, Germany, Switzerland, and Austria, achieved the highest values of the quality of life indicator. The lowest level of quality of life (0.25-0.43) was demonstrated in the countries of the Baltic states - Lithuania, Latvia, and Estonia,

followed by Romania, southern Italy and Sicily, Portugal, Poland, some areas in Spain and France, but also the northern part of the Czech Republic and the south and east of the Slovak Republic. According to the report, it should be considered that this research had limited availability of environmental and subjective indicators, therefore its results may not be very accurate, [27].

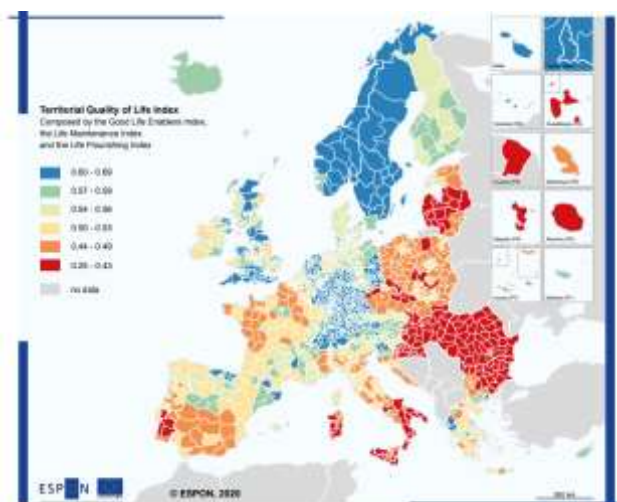


Fig. 3: Quality of life in European countries, regional level (NUTS 3)

Source: [27]

The Beskydy region is a border region between the Czech Republic and Slovakia, in this area, there are Slovak and Czech municipalities. We personally chose for comparison these municipalities: Velké Karlovice, Staré Hamry, Bílá, Karolinka, Halenkov, Huslenky, Hovězí, Makov, Vysoká nad Kysucou, Horná Mariková, Turzovka, Korňa, Dlhá nad Kysucou and Klokočov, which are listed in Table 1. We indicated the number of inhabitants, the area of the village, and whether the given village has its own development plan available, where X means that the plan is available.

All monitored municipalities have a smaller number of inhabitants than 3000 people. The village of Bílá has the smallest number of inhabitants (272), but its area is almost 5 times larger than Dolná nad Kysucou with 628 inhabitants. It is the same in the opposite case, when the largest village of Staré Hamry with an area of 83.45 km² has only 562 inhabitants and the largest population is in the village of Vysoká nad Kysucou, up to 2,520 inhabitants.

Municipalities in both the Slovak Republic and the Czech Republic are required to publish their financial statements as well as development plans, programs, and strategies, which we will analyze in the next subsection. Unfortunately, we could not

find all the development plans, so the X means the village has published the plan publicly. Later in this article, we will look at their financial stability, which will tell us more about the economic level of these chosen villages.

Table 1. Main characteristics of the chosen villages

Village	Number of inhabitants	Area	Development plan
Velké Karlovice	2 310	82,00 km ²	X
Staré Hamry	562	83,45 km ²	X
Bílá	272	56,42 km ²	X
Karolinka	2 419	42,14 km ²	
Halenkov	2 404	42,21 km ²	X
Huslenky	2 194	35,08 km ²	X
Hovězí	2 390	22,13 km ²	
Makov	1 731	46,05 km ²	X
Vysoká nad Kysucou	2 520	43,87 km ²	
Horná Mariková	574	47,56 km ²	X
Turzovka	7 043	34,91 km ²	
Korňa	1 976	25,33 km ²	X
Dolná nad Kysucou	628	12,26 km ²	
Klokočov	2 231	51,17 km ²	

Source: Own construction according to free access data from websites of every village

For the purposes of this paper, we have created our own ESG criteria from basic business ESG criteria from MSCI according to the conditions of the chosen municipalities and the situation in the pilot area of the cross-border Beskydy region. These criteria include 10 environmental criteria, 8 social criteria, and 2 governance criteria.

Environment pillar:

- Financing, or supporting projects aimed at adapting to the environment (eco-friendly projects) - renewable resources,
- Water management in the country and water management infrastructure – efforts to preserve water flows and capture water,
- Preserving biodiversity and supporting the reproduction of species prone to extinction, as well as maintaining the landscape,
- Using the land for its natural purposes, to preserve the natural environment, while minimizing land use for construction - supporting the construction of parks in the urban area and forest infrastructure (educational trails, forest roads, forest cycle paths...) rather than hotel complexes and large family houses,

- Creating the waste management or its completion, the completion of sewerage and WWTP, and the introduction of bio-waste composters in households,
- Preventing illegal landfills, dumping waste in the wild, and creating collection yards,
- Creating measures for the reuse of waste, e.g. re-use centers,
- Improving digitalization in the sphere of municipal management in the framework of saving paper and forests (functional websites and mobile applications, where all important information for citizens and visitors is published...),
- Creating measures to reduce the risk of natural disasters,
- Supporting small farmers, supporting agroforestry, supporting crop cultivation and livestock breeding.

Social pillar:

- Compliance with personal data protection and data security, compliance with human rights, and efforts to help citizens solve their problems,
- Supporting business activities in the village,
- Ensuring the availability of health care (at least one general doctor in the village) and making the connection to the health and social care,
- Ensuring the availability of education (at least one level of primary school or kindergarten) and basic services in the village (post office, sports grounds, parks, recreation areas),
- Supporting tourism and the development of tourism in the village,
- Preserving traditions and renovating cultural monuments and historical buildings,
- Organizing cultural events for citizens,
- Supporting mutual aid, volunteering, and joining community projects in the village.

Governance pillar:

- Municipality management – access to finances, payment management, accounting,
- The behavior of the municipality - publishing documents (annual reports, accounting statements, strategic documents...), developing of a code of ethics and compliance with its rules, selecting the "suppliers" of services and "contractors" (contracts, projects) based on their approach to ESG, or rating/results of ESG reporting, educating its citizens about ESG values - in schools, radio, newspapers..., gathering feedback from residents.

We divided the chosen municipalities into two groups - Slovak and Czech and looked at their financial stability (Table 2 and Table 3). We looked at their actual income and expenses, total net profit, and property value, and then also at three financial indicators that we calculated based on data from the financial statements of every municipality - level of self-financing (internal financing sources divided by total debts), total indebtedness (total debts divided by total income) and return on equity (income divided by equity). The data are for the year 2022, while Czech municipalities have financial values listed in Czech crowns and Slovak municipalities in euros. In this article, we put on the table only the indicators. In Table 2, there are Velké Karlovice (1), Staré Hamry (2), Bílá (3), Karolinka (4), Halenkov (5), Huslenky (6), Hovězí (7).

Table 2. Financial indicators of Czech villages, data from 2022 in %

Indicator	1	2	3	4	5	6	7
Self-financing ratio	96,26	97,44	97,80	95,61	97,99	99,90	98,57
Total indebtedness ratio	3,74	2,56	2,20	4,39	2,01	0,91	1,43
Profitability of own capital ratio	5,12	2,04	3,22	1,81	3,64	6,94	9,23

Source: [25]

In Table 2 there is an overview of the indicators of financing of Czech municipalities and in the following Table, 3 is an overview of Slovak municipalities. In the Table 3, there are Makov (8), Vysoká nad Kysucou (9), Horná Mariková (10), Turzovka (11), Korňa (12), Dlhá nad Kysucou (13), Klokočov (14).

These tables show that Slovak municipalities are much less capable of self-financing. While the level of self-financing in Czech municipalities is around 90 %, Slovak municipalities reached the highest value at the level of 74 %. The lowest value of self-financing in the case of Slovak municipalities is even below 11 %. The total indebtedness ratio of Slovak municipalities exceeded the value of 50 %, while Czech municipalities did not even reach 5 %. The return on equity in Slovak municipalities reached the level of negative numbers in one case (-0,39 %), in other cases these values reached a range from 1% to almost 9 % (8,84 %). Czech municipalities have better values of this indicator, mostly around 5% to almost 10 %.

Table 3. Financial indicators of Slovak villages, data from 2022 in %

Indicator	8	9	10	11	12	13	14
Self-financing ratio	74,32	32,44	65,61	63,86	49,73	10,91	31,72
Total indebtedness ratio	8,26	17,20	1,52	7,79	21,91	58,16	24,88
Profitability of own capital ratio	-0,39	1,09	8,84	4,36	0,84	0,46	3,18

Source: [25]

This difference between the financial indicators of the selected municipalities is caused primarily by political and economic differences between the Czech Republic and the Slovak Republic. Mainly the area of fiscal decentralization and the overall system of functioning and financing of self-governing regions in the conditions of the Czech Republic is more efficient and brings less dependence on the state. Also, the power division itself is defined differently in the Czech constitution. While Czech mayors and municipal councils are selected from the ranks of the municipality, or of the city council, Slovak mayors and municipal councils are elected by the citizens of the municipality. This fact can potentially cause their reduced abilities because they do not have to be part of the municipal council before. Membership in the municipal council means already having the acquired abilities and competencies in decision-making within a higher position in the management of the municipality, and it also brings easier cooperation with others in the head of the municipality.

Currently, Slovak municipalities are dependent primarily on the state, respectively on income from external sources (grants from the state, regions, or from the European Union projects). Their own resources are only local taxes and fees, revenues from sanctions, and revenues from the sale of property.

The state itself currently shows a public finance deficit of over 6 % (of GDP) in 2023, which only points to worse prospects for the future. Slovak municipalities currently have finances mostly for basic operations, such as heating and lighting, and they have no finances left for innovation and development. These limited options force municipalities to reduce expenses and increase their revenues, which is reflected in increased taxes and higher fees. The government's latest statement decided that they will provide finances for municipalities, but it is still not enough. Slovak municipalities have currently financial deficiency,

therefore, there is no opportunity for greater development, [25].

Subsequently, we looked at the published development plans of municipalities, their programs of economic development and social development, and other strategic documents. The economic and social development programs of the municipality contain, in addition, information about the municipality, an assessment and analysis of the economic, social, and environmental situation, as well as an assessment and analysis of culture and services of the territory of the municipality. They also contain a strategy for the development of the municipality, and determination of the main directions, priorities, and goals of the development of the municipality, which provide the vision and effort of the municipalities to do something extra for their territory and citizens. These documents mainly contain a list of measures and activities to ensure the implementation of the village development. Programs for economic development and social development also contain strategic plans of municipalities, which are drawn up for the next medium-term period. Subsequently, in this paper, we present these plans and programs according to what the individual municipalities had in their documents. Table 4 (Appendix) presents a summary of their most important measures.

Since some municipalities (Karolinka, Hovčezí, Vysoká nad Kysucou, Turzovka, Dlhá nad Kysucou, and Klokočov) have not updated these documents for a long time or are in the process of creating them (as determined by communication with individual municipalities), we present only eight development plans. Five of them concern Czech municipalities, and the next three are from Slovak municipalities.

We selected those measures from the development programs and strategic plans that relate to the ESG concept, i.e. natural, social, and other measures that deal with the management of the municipality itself.

The list of measures (Table 4, Appendix) is for the villages Velké Karlovice (1), Halenkov (2), Makov (3), Korňa (4), Bílá (5), Staré Hamry (6), Horná Mariková (7), Huslenky (8). These selected measures are on a long-term basis, but we need to know objectively what the municipalities are not only planning, but also, we need a little overview of what they already have done. Planned measures are marked as X (the ones, which are going to be implemented - the municipalities know the importance of it, but they cannot do it right now) and already implemented measures are listed as O in Table 4 (Appendix). Unobtained information or measures that do not exist in the given municipality

are listed as an empty field. Table 4 in Appendix is based on the strategic documents and programs (Table 7 and Table 8) of economic and social development – technical notes from the mayors of individual municipalities, [28].

Table 4 (Appendix) shows that despite reduced financial flows Slovak municipalities are also trying to achieve progress and innovation. Even when the municipalities have no idea about the ESG concept, they apply some conditions spontaneously. By comparing individual measures in the table, we can see that Czech municipalities focus more on natural aspects and protect the environment, and Slovak municipalities focus more on the social aspects. They organize events, support business activities, and increase the attractiveness of their village to tourists. The publication of financial statements and annual reports is a problem for several municipalities, although it is mandatory to publish it by law. We obtained some development plans even through email communication with the municipalities, but unfortunately, we did not get these plans from every village.

In this section, we present our overall evaluation of the municipalities, based on which we assign each municipality our own ESG rating. Table 5 represents the number of fulfilled ESG criteria for municipalities that we set (these are listed in the section above), based on the previous Table 4 (Appendix), when we consider both - future and already implemented measures. The deviation between the smallest and largest value of fulfilled criteria is 5 criteria (minimum 12, maximum 17).

In addition to the criteria, we also chose the level of self-financing and total indebtedness, which are listed in the table. These two indicators represent the financial health of municipalities and indicate potentially two things - the ability of municipalities to handle finances or the dependence of the municipality on state finances in the form of grants. Regardless of this, the important thing for us is the resulting possibility of the municipality to manipulate finances.

When evaluating the fulfilled criteria, we did not consider the division of competencies into original (local competencies - public lighting, cemeteries, local communications, kindergartens...) and transferred (competencies from state - elections, registers, primary schools...), since we do not examine the distribution of municipalities' competences, but the total results of municipalities. However, we acknowledge that a deeper analysis of the financing could show that the given municipalities may have a lot of transferred competencies, what brings them larger grants from

the state and subsequently makes them appear to be in debt. However, for our purposes in this article, it is irrelevant.

Table 5. Evaluation table of selected municipalities with development plans

Village	Fulfilled created criteria ESG for municipalities	Self-financing ration	Total indebtedness ratio
Velké Karlovice	17	96,26 %	3,74 %
Halenkov	16	97,99 %	2,01 %
Makov	17	74,32 %	8,26 %
Korňa	14	49,73 %	21,9 %
Bílá	15	97,80 %	2,20 %
Staré Hamry	13	97,44 %	2,56 %
Horná Mariková	14	65,61 %	1,52 %
Huslenky	13	99,90 %	0,91 %

Source: Own construction

Table 5 presents our selected indicators based on which we did an evaluation of municipalities. The graphical visualization is in the following Figure 4. It is an evaluation matrix divided according to two axes - x and y. On the x-axis are the financial capacity and capability of the municipality, and on the y-axis are the ESG criteria. The Rating (from A to D) is also determined based on whether the indicator values are "positive" or "negative". The maximum number of points for ESG criteria is 20, as a threshold we set half of these points, and as an evaluation indicator for finances, we use the level of financing, which we set a threshold of 75% based on the values we have at our disposal. The explanation of individual quadrants is in Table 6.

Table 6. Explanation of the quadrants of the evaluation matrix for determining the ESG rating

Rating	ESG	Finance	Explanation
Rating A	+	+	ESG above 50 %, self-financing ratio above 75 %
Rating B	+	-	ESG above 50 %, self-financing ratio under 75 %
Rating C	-	+	ESG under 50 %, self-financing ratio above 75 %
Rating D	-	-	ESG under 50 %, self-financing ratio under 75 %

Source: Own construction

To facilitate the evaluation, better overview, and a small amount of data (not enough information about the investigated municipalities and also their total number), we chose only a basic rating scale,

which we will not subsequently divide into further subcategories (real ratings are divided to more subcategories as was shown in the section above), shown in Figure 4.



Fig. 4: Evaluation of ESG rating matrix of municipalities based on ESG criteria and finances

Source: Own construction

We assign rating A to the municipalities Halenkov, Bílá, and Velké Karlovice, which have a level of self-financing above 75% (97.99%; 97.80%, and 96.26%), and ESG rating above 50% (16, 15 and 17). Rating B belongs to the municipality Makov, which has a degree of self-financing below 75% (74.32%) and an ESG rating above 50 % (17). Rating C represents the municipalities Staré Hamry and Huslenky, which have a level of self-financing below 75% and did not meet several ESG criteria (only 13). The municipality Korňa is in the Rating D quadrant, as its level of self-financing is not only below 75%, but even the ESG criteria are below 50%. For this reason, we decided to place it even lower in the rating.

Slovak municipalities are less independent and more dependent on the state compared to the Czech ones (our assessment is based on the level of self-financing and level of indebtedness), as it was mentioned in the chapter before. This ultimately makes it impossible for them to adapt easily and set higher and longer-term goals within their budget plan, as they often do not have enough finances even to cover the village's basic needs (the proof is the low percentage of the self-financing ratio and the level of indebtedness). Therefore, this is the reason we give them a lower place in our evaluation rating compared to Czech municipalities.

4 Conclusion

Subsequently, in our paper, we examined the financial stability and development plans of

individual municipalities from the Beskydy region. We found out that Slovak municipalities are more dependent on state finances compared to Czech municipalities through our analysis. Their total self-financing ratio was below 75% and their total indebtedness ratio was up to 59%. The development plans and long-term plans pointed to a comparable number of environmental measures in Czech and Slovak municipalities, but this number was still higher in the case of Czech municipalities (an average of 9.3 measures in the case of Slovak municipalities and an average of 9.4 in café of Czech municipalities). On the other hand, in terms of social measures, these municipalities have changed. We found out that Slovakia municipalities are better at trying to make some social progress (an average of 6.3 measures from development plans) compared to Czech municipalities (an average of 4.2 measures from development plans).

The individual development plans of the municipalities included various measures, mainly related to waste management, but these measures are quite diverse in general. Each municipality focuses on a different type of solution to this problem (not all municipalities dispose of black dumps, and sometimes there are no collection yards or home composters... of course, there is the possibility that some municipalities already have these things for years, but in the development plans they are not included. They may have mentioned these measures in their VZN - general binding regulations). Maintaining cleanliness in the villages is also carried out in a small number of villages. In our opinion, the occasional cleaning events are an ideal solution, when it is possible to involve a higher number of inhabitants and volunteers. Measures to increase air quality or to reduce natural disasters and landscape maintenance to support climate quality are also insufficiently solved in this area. Recreational opportunities and job opportunities appear in development plans when the investigated municipalities support tourism in their region.

Based on these facts, we divided the selected municipalities into individual categories of ESG ratings created by us. Czech municipalities ranked better in our rating than Slovak municipalities based on their better financial indicators – they had a higher level of self-financing ratio and a lower level of total indebtedness.

From these results, we could conclude that more finances represent a greater financial possibility for the protection and support of the environment, while social measures may not always require as much finances, which is of course only a possible hypothesis. The creation of social organizations,

social groups, various events or the attractiveness of the municipality for the tourism industry are often ultimately cheaper than building sewers, maintaining forest paths, building water management infrastructure, or restoring buildings using ecological elements. Of course, it should be noted that some competencies are compulsory for municipalities and others are carried out voluntarily (we did not examine this in our article). However, this is already for more detailed and extensive analytical research, for which this article does not have scope.

Now we present the suggestions for municipalities, regarding increasing their quality of life and with it also the sustainability in their economic policies based on our analysis of the financial status of the municipalities, their present conditions, and future development plans. The suggestions are more suitable for municipalities from the Beskydy region, but their potential use is sufficiently general and flexible for other municipalities, whether from the territory of the Czech Republic and the Slovak Republic or from territories in other European countries.

General suggestions for municipalities to improve their management and perception of ESG:

- Ensuring greater awareness of the residents about the status of the environment and, consequently, their motivation for help and willingness to contribute to the maintenance of nature in their surroundings - in the form of various seminars, information on the radio, newspapers... With this, of course, the flow of some finances must also be ensured for this purpose. The form of a voluntary fee once a year is recommended (for visitors it would be a partially calculated fee due to the number of days spent in the region) in the form of an independent fund,
- Day of Help - especially for the older citizens and those who have no one to help them, also help nature in the form of collecting garbage, or walking dogs, entertainment for seniors, etc... every month/quarter/half of year/year organizing a Day of Help, which would always be focused on other type of help (people, animals... anyone can apply for help). At the end of the day, there could be some kind of collective reward, music or dance program, food, awarding of prizes...,
- Digitalizing the municipality - the "V obraze" application for municipalities, including all municipalities, electronic voting, online questionnaires, and for older citizens should be asking personally and writing down their answers on a tablet,
- Ensuring social care for citizens (social service homes for the elderly, care homes for immobile or handicapped citizens) at least in a managerial way, when there are no more finances for building them in the village, also ensuring health care - at least support for the occasional visit of a doctor from a neighboring village (if it is not provided in the village),
- Publishing the financial statements and development plans on the municipalities' websites, so that the information reaches the citizens themselves and they can also comment on the management of the municipality,
- Participatory decision-making about the direction of the municipality and functioning in the municipality; participatory budgeting, letting the citizens also participate in it; greater focus of the municipality on the quality of the environment and communication with citizens about this issue as well; in general, when managing the municipality, use demand marketing rather than supply marketing - focusing primary on what residents are interested in,
- Implementing non-financial information into annual reports, as it is in the CSRD directive (Corporate Sustainability Reporting Directive, No. 2022/2464) [25] for companies. The CSRD directive discusses the implementation of non-financial information in the main annual reports of companies about their level of ESG - municipalities should implement this condition too. This would increase overview of the activities and functioning of municipalities, especially for stakeholders (e.g. for developers who want to build in the municipality, or potential entrepreneurs who would employ the residents of the municipality...),
- Increasing the skills and expertise of mayors to a higher level with the help of management training for mayors and municipal council - improving economic knowledge and management skills, while considering and capturing ESG information, which can improve the management of the municipality,
- Exchanging the practical experience and information between municipalities, helping with know-how, social gatherings, whether between neighboring municipalities or cross-border ones - as in the case of the meeting of Slovak and Czech regions on November 16, 2023, in Bojnice, when the Czech regions shared the functioning and financing systems in

their state and in their villages, [25]. The Czech model should be like an inspiration for the Slovak system, where the management should be transferred to smaller units like municipalities, not only to big regions or at the level of the state. In this case, it would be more efficient, because the effect of changes would be faster and more direct.

The idea of our work was that municipalities are quite like businesses, but in some kind of social business, where the municipalities do not have the need to earn money. But what is quite like the business sector is that they also have employees, suppliers, and customers – here we can say that they are inhabitants, and some workplaces nearby, which is basically the area of the municipality.

Sustainability is nowadays used in the conditions of the business sector, like various sustainable strategies or implementing non-financial information into the annual reports, so we wanted to use this concept too and to apply it in the condition of the municipalities. We used the ESG concept because of the similarities with the base of the quality of life, where municipalities need to consider the quality of life of their citizens. We determined the quality of life as individual, social, and environmental aspects, where the last two are also the base of the ESG concept.

According to the examined approach to this issue, the next possible future steps of the author should be mentioned. Communicating the suggestions to mayors and having their opinions will expand the implementation of the ESG concept to the next level. We also plan to ask for more information about the development plan from other villages from the Beskydy region, which will help to better understand the conditions of living and management of these villages. Extensive analysis of villages outside of the Beskydy region and their comparison will bring some interesting findings. We would like to find out if the Beskydy region is the best place to live in the Czech and Slovak Republic, and if their management should be used in other villages in these two countries. In the case of the Slovak republic, we have an interest in developing some useful ways how to improve financing the municipalities, so they could be more self-financing than they are now.

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References:

- [1] Gong, M., Simpson, A., Koh, L., Tan, H., K. Inside out: The interrelationships of sustainable performance metrics and its effect on business decision making: Theory and practice. *Resources, Conservation and Recycling*. Vol. 128. 2018. pp. 155-166. DOI: <https://doi.org/10.1016/j.resconrec.2016.11.001>.
- [2] Buiter, W. *Aspects of fiscal performance in some transition economies under Fund-supported programmes*, Centre for Economic Policy Research, Discussion paper. NO. 1535 (Washington DC: IMF). 1996.
- [3] Hajilou, M., Mirehei, M., Pilehvar., M. Financial Sustainability of Municipalities and Local Governments in Small-Sized Cities; a Case of Shabestar Municipality. *Journal of Local Self-Government*. Vol. 16, N. 1. 2018. pp. 77 - 106, ISSN 1581-5374. DOI: [https://doi.org/10.4335/10.4335/16.1.77-106\(2018\)](https://doi.org/10.4335/10.4335/16.1.77-106(2018)).
- [4] Fanizza, D., Mourmouras, A. Financial indicators.' Seminar on Financial Policy Management in *Economies in Transition* (Lecture No. 16) – 7-18 November (Washington D.C.: Financial Affairs Department and IMF Institute, International Monetary Fund). 1994.
- [5] Green, C. J., Holmes, M. J. & Kowalski, T. Poland: A Successful Transition to Budget Sustainability?, Economic Research paper. No. 5 (Loughborough: Loughborough University). 2000.
- [6] Pasinetti, L. L. The Myth (or Folly) of the 3% Deficits/GDP Maastricht “parameter”. *Cambridge Journal of Economics*. Vol. 22. 1998. pp. 103-116, [Online]. <https://www.jstor.org/stable/23600404> (Accessed Date: October 8, 2024).
- [7] Chowdhury, A. I. *Instruments of Local Financial Reform and their Impact on Service Delivery* (Dhaka: Centre for Urban Studies, Dhaka). 2004.

- [8] Hossain, M. Poor Municipal Spending for Infrastructure Development and Gap for Investment: A Case of Bangladesh. *International Journal of Business and Management*. Vol. 8, N. 11. 2013. pp. 27-37. DOI: 10.5539/ijbm.v8n11p27.
- [9] Siddique, K. "Local Government in Bangladesh: A Short Introduction". Dhaka: The University Press Limited. 2005. Vol. 32. pp. 66-95.
- [10] Bell, S., Morse, S. *Measuring Sustainability: Learning from Doing*. London: Routledge. 2013. ISBN: 9781136561337.
- [11] United Nations: Transforming Our World: The 2030 Agenda for Sustainable Development. Resolution of the General Assembly. Vol. 70, N. 1. 2015, [Online]. <https://sdgs.un.org/2030agenda> (Accessed Date: October 8, 2024).
- [12] Fenton, P., Gustafsson, S. Moving from high-level words to local action – governance for urban sustainability in municipalities. Current Opinion in *Environmental Sustainability*, Part II. N. 26-27. 2017. pp. 129-133. <https://doi.org/10.1016/j.cosust.2017.07.009>.
- [13] Caldas, P., Dollery, B., Cunha marques, R. Measuring what matters in local government: a Municipality Sustainability Index, *Policy Studies*. 2020. Vol. 43, N. 2. pp. 1-21. DOI: 10.1080/01442872.2020.1726311.
- [14] Caldas, P., Dollery, B., Cunha marques, R. "What Really Matters Concerning Local Government Evaluation: Community Sustainability." *Lex Localis – Journal of Local Self-Government*. Vol. 14, N. 3. 2016. pp. 279–304. DOI: 10.4335/14.3.279-302(2016).
- [15] Scipioni, A., Mazzi, A., Mason, M. Manzardo, A. The Dashboard of Sustainability to measure the local urban sustainable development: The case study of Padua Municipality. *Ecological Indicators*. Vol. 9, N. 2. 2007. p. 364-380. DOI: 10.1016/j.ecolind.2008.05.002.
- [16] Distaso, A. Well-being and/or quality of life in EU countries through a multidimensional index of sustainability. *Ecological Economics* Vol. 64. 2007. pp. 163–180. <https://doi.org/10.1016/j.ecolecon.2007.02.025>.
- [17] Scipioni, A., Mazzi, A., Zuliani, F., Mason, M. The ISO 14031 standard to guide the urban sustainability measurement process: an Italian experience. *Journal of Cleaner Production*. Vol. 16, N. 12. 2008. pp. 1247–1257. DOI: 10.1016/j.jclepro.2007.06.013.
- [18] Dovers, S., R. Sustainability: demands on policy. *Journal of Public Policy*. Vol. 16, N. 3. 1997. pp. 303–318. <https://doi.org/10.1017/S0143814X00007789>.
- [19] Warburton, D. Community and Sustainable Development: Participation in the Future. London: Routledge. 2013. p. 276. ISBN: 9781315066080. <https://doi.org/10.4324/9781315066080>.
- [20] Player, I. ESG and Sustainability – What’s the Difference?. ActionSustainability. 2024, [Online]. <https://www.actionsustainability.com/resource/s/esg-and-sustainability-whats-the-difference/> (Accessed Date: October 8, 2024).
- [21] Cannon, P. What role does ESG have in the future of Government? 2023, [Online]. <https://www.restore.co.uk/Digital/Insights/Blogs/what-role-does-esg-have-in-the-future-of-government> (Accessed Date: October 8, 2024).
- [22] What is ESG? Robeco. 2022, [Online]. <https://www.robeco.com/en-int/glossary/sustainable-investing/esg-definition> (Accessed Date: October 8, 2024).
- [23] Sustainability. Uniroyal Global. 2024, [Online]. <https://www.uniroyalglobal.co.uk/environment-and-sustainability/> (Accessed Date: October 8, 2024).
- [24] ESG Ratings. Measuring a company’s resilience to long-term, financially relevant ESG risks. MSCI. 2023, [Online]. <https://www.msci.com/sustainable-investing/esg-ratings> (Accessed Date: October 8, 2024).
- [25] Matviaková, N. Application of the ESG concept in the management of municipalities in the selected region (Aplikovanie ESG konceptu v riadení obcí vo vybranom regióne). *Grant Journal*. Vol. 12, N. 2. 2023. pp. 38-41. ISSN 1805-0638. DOI: 10.61544/mnk/ULMO7404.
- [26] Coevolutionary approach to unlock the transformative potential of nature-based solutions for more inclusive and resilient communities. Coevolvers. 2024, [Online]. <https://co-evolvers.eu/> (Accessed Date: October 8, 2024).
- [27] Quality of Life Measurements and Methodology. Final Report 2020. ESPON. 2021, [Online]. <https://archive.espon.eu/sites/default/files/atta>

[chments/ESPON%20QoL%20-%20Final%20Report%20-%2001292021-FINAL.pdf](#) (Accessed Date: October 8, 2024).

- [28] Strategic documents and programs of economic and social development of chosen municipalities. 2024. Technical notes by mayors of the chosen municipalities. (Strategické dokumenty a programy hospodárskeho a sociálneho rozvoja vybraných obcí. 2024. Technické dokumenty starostov vybraných obcí.)

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Conflict of Interest

The author has no conflicts of interest to declare.

Data Availability

The documents described in [28] are available to the readers by the authors.

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APPENDIX

Table 4. List of measures in individual municipalities according to their development plans

Measures according to development plans	1	2	3	4	5	6	7	8
Environmental								
Waste management	O		O		O	O	X	X
Home composters, a suitable method of biowaste disposal	X	X	O		X		X	X
Collection yard	X	O	O	O	X	O	X	O
Disposal of black landfills	X	X						
Waste reuse		O	X	X	X			
Completion of sewerage and WWTP						X	X	
Maintaining order in the village	X	X	X	O				X
Actions for cleaning in the village		X						
Maintenance of landscape, streams	X	X	X	X				
Support for improving air quality				O				
Support for reducing the risk of natural disasters			X	X			X	
Care of public greenery, construction of rest zones	X		X	X	X	X	X	X
Support for cultivation, gardening, and breeding	X	X	X	X				
Responsible forest management	X	X						
Repairs of forest roads and footpaths	X	X			X	X	X	
Use of alternative energy sources	X	X	X	X	X	X	X	X
Development and reconstruction of the water management infrastructure		X			X	X		X
Restoring buildings with eco. character					X	X	X	
Social								
Establishing traditions and crafts in the life of the village	O		X	X			X	
Social organizations	O	O	O	O	X		X	O
Events and free time (rest areas, activities for children...)	O	O	O	O	X	X	X	X
Renovating cultural monuments				X	X			
Promoting the village through tourism, development of tourism	X	X	X	X	X		X	X
Supporting the creation of new attractions for tourists (tourist routes...)	O	X	O	X	X	X	X	X
Supporting the business activities (for tourism, supermarket...)			X	X			X	X
Management								
Publicizing the municipal development plan	X	X	X	X	X			X
Publicizing annual reports and accounting statements		X			X	X	X	X

Source: Own construction according to free access data, [28]

Table 7. List of municipal development plans

Village	Name of the development plan	Region
Horná Mariková	Program hospodárskeho a sociálneho rozvoja obce Horná Mariková na roky 2015-2025	SR
Makov	Program hospodárskeho a sociálneho rozvoja obce Makov na roky 2022+, Strategická časť	SR
Korňa	Program hospodárskeho a sociálneho rozvoja obce Korňa na roky 2023+, Strategická časť	SR
Staré Hamry	Strategický rozvojový dokument obce Staré Hamry	ČR
Halenkov	Program rozvoje obce Halenkov na obdobie 2016-2024	ČR
Velké Karlovice	Program rozvoje obce Velké Karlovice, Návrhová časť, aktualizácia 2021	ČR
Bíla	Strategický plán obce Bíla	ČR
Huslenky	Strategický rozvojový dokument obce Huslenky 2021-2027	ČR

Source: Own construction according to free access data, [28]

Table 8. List of municipal mayors

Village	Municipal mayor	Region
Horná Mariková	Ing. Miroslav Hamar	SR
Makov	Ing. Stanislav Gašparík	SR
Korňa	Ing. Marianna Bebčáková	SR
Staré Hamry	Bc. Eva Tořová	ČR
Halenkov	Ing. Radek Chromčák	ČR
Velké Karlovice	Miroslav Koňářík	ČR
Bíla	Ing. Tomáš Kubačák	ČR
Huslenky	Oldřich Surala	ČR

Source: Own construction according to free access data, [28]