# The Paradoxes of the SGDs from the Sustainable Development Report

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**Abstract**

In the last years, the entire world faced many challenges that led to the awareness by governments of the need to consider the 17 UN Sustainable Development Goals (SDGs) depending on the particularities of each country and global challenges. Therefore, our research has as its main objective the analysis of the values of the SDG Index in correlation with the particularities of the different countries subject to the research, but also according to other indices related to the SDGs. Our results proved that the Dispersal of Information is a source of the need for more interest of decision-makers at national and international levels in carrying out concrete improvement actions of SGDs, especially in many low-income countries (LICs) and lower-middle-income countries (LMICs). Therefore, the paper's originality demonstrates that the data used to calculate the SDG Index are subject to the Dispersal of Information and generate divergent decisions with negative consequences on implementing SDGs in different countries and regions. The theoretical implications of our research consist of the critical analysis of the complexity of the SDGs and how the Dispersal of Information acts on the relevance and effectiveness of some indicators of the SDGs. Finally, the practical implications are translated into recommendations for the decision-makers implementing the SDGs at the national level.

**Keywords**

Sustainable Development Goals, Sustainable Development Index, Dispersal of Information.

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## Introduction

The starting point in our research was the Sustainable Development Report 2022, from the analysis of which we observed a series of paradoxes both between the results of the SDG Index and between the results presented in this report and those presented by other researchers (i.e., Horan, 2020; Puertas and Bermúdez, 2020; Wang et al., 2020; Rocchi et al., 2022**;** Taajamaa et al., 2022).

Ever since 2015, when the 2030 Agenda for Sustainable Development was developed, the United Nations launched 17 SDGs, 169 targets, and 232 indicators (UNDP, 2023) to create a cleaner planet and a population that no longer confront poverty, lack of education, health problems and other inequalities, aiming for the demarcation line between developing and developed countries to become as imperceptible as possible.

2022 SDG Index ranking and score (Sachs et al., 2022, pp. 14-15) proves that there is no strong correlation between a country's level of development and the degree of involvement in the implementation and improvement of the SDGs. Thus, the score of the 163 countries included in the analysis varies between 86.5 (Finland) and 39.0 (South Sudan).

A careful analysis of the score and position of developed countries in comparison with developing countries leads us to several research questions as follows:

1. What are the factors that place developed countries, such as the United States (position 41, score 74.6), below developing countries, such as Romania (position 30, score 77.7) or Uruguay (position 41, score 77.0)?
2. Does the methodology used to calculate the SDG Index provide results that reflect the reality of the countries under analysis?

Starting from the concept of Dispersal of Information (DI) promoted by Burlea-Schiopoiu (2019), we established another objective of the research: evaluating how other index SDGs were developed with the aim of evaluating specific SDGs.

In the following sections, we will analyze the role of DI in promoting different approaches to the SDGs.

**The Impact of Dispersal of Information on the Sustainable Development Goals Approach**

Burlea-Schiopoiu (2019, p. 142) affirmed, "The dispersal of information is described by a large amount of information that is presented chaotically and repetitively."

Next, we will carry out a critical analysis of the SDG Index in comparison with other indexes calculated at regional and international levels to demonstrate that the Dispersal of Information is a source of the lack of interest on the part of decision-makers in carrying out concrete improvement actions of SGDs, especially in many low-income countries (LICs) and lower-middle-income countries (LMICs).

Sachs et al. (2022, p. 9) mention the methodology used to calculate the SDG Index "The SDG Index is an assessment of each country's overall performance on the 17 SDGs, giving equal weight to each Goal. The score signifies a country's position between the worst possible outcome (score of 0) and the target (score of 100)".

The data used to calculate the SDG Index are subject to the Dispersal of information because the data are provided by official statistics and "from non-traditional statistics, including research centers, universities, and non-governmental organizations" Sachs et al. (2022, p. 9).

**Methodology**

Our methodology consists of a critical analysis of literature starting from the Sustainable Development Report 2022, the 2030 Agenda for Sustainable Development, and the representative work of relevant scholars (i.e., Hwang and Yoon, 1981; Bravo, 2014; Costanza et al., 2016; Dhaoui, 2018; Ding et al., 2018; Burlea-Schiopoiu, 2019; Horan, 2020; Puertas and Bermúdez, 2020; Wang et al., 2020; Rocchi et al., 2022; Sachs et al., 2022; Taajamaa et al., 2022).

The critical analysis has a departure point, the Dispersal of Information (Burlea-Schiopoiu, 2019), in relationship with SDG Index compared to other indexes calculated at regional and international levels.

We realized a multiple comparative analysis of the SDG Index with the following tools:

1. SDG Sensemaking Tool (SST) from national level to local level (i.e., cities).
2. SDG-based Indices for Assessing Regional Sustainable Development from national level to regional level (i.e., Fujian Province, China).
3. SDGs achievement index (SDG-AI) from national level to MENA Countries (i.e., Middle East/North Africa).

**SDG Index and the SDG Sensemaking Tool**

Without considering the Dispersal of Information, Taajamaa et al. (2022) concluded that cities worldwide face similar challenges but use different ways to solve the problems. Therefore, Taajamaa et al. (2022) developed, in the context of the City of Espoo, the SDG Sensemaking Tool (SST).

The difference between SDG Index (Sachs et al., 2022) and the SDG Sensemaking Tool (SST) consists of the level of activity, because the SDG Index evaluates the progress made at the national level, the SST aims to evaluate the progress made by cities in achieving the UN Agenda's objectives.

The SDG Index synthetically presents the national trend regarding the 17 SDGs. At the same time, the SST is a tool that recommends institutional collaboration at the national, regional, and international

levels to find the most effective tools and methods aimed at accelerating global sustainable development. Another advantage of the SST compared to the SDG Index is the consideration of the particularities of each city (i.e., resources and real needs), including the cultural component.

The spirit of belonging to a community is reflected in every seven steps of the process of building SST (Taajamaa et al., 2022), starting with a compulsory definition of the objective concerning the SDGs, followed by an evaluation of the accurate dimensions of sustainability and establish the specific operational environment. The three steps are devoted to analyzing both dimensions and context, which will allow feedback and the possibility to reiterate the process. Steps four, five, six, and seven are allocated to strategic, tactical, and operational activities in the framework of the UN Agenda**.**

Taajamaa et al. (2022) recognize that SST needs improvement, even if it attracted the attention of decision-makers from several countries during the presentation at the UN High-Level Political Forum in July 2021. Thus, to avoid the Dispersal of Information, Taajamaa et al. (2022) highlight the importance of the involvement of citizens for SST to gain more credibility and strengthen the feeling of citizens belonging to a community.

Finland, the country where Taajamaa et al. (2022) conducted their research, ranks 1st with a score of 86.5 (Sachs et al., 2022, p. 14). The most significant deficiency is recorded for SGD 13 (Climate Action), where a decreasing score was recorded, indicating that its actions in improving the climate are ineffective. Furthermore, stagnation was recorded in SGD 12 (Responsible consumption and production), which directly impacts climate actions, justifying, to a certain extent, the reduced score in SDG 13 (Sachs et al., 2022, p. 21).

On the other hand, Finland registered an increasing score at the rate needed to achieve the SDG by 2030 (SDG1 - No Poverty; SDG4 - Quality education; SDG7 - Affordable and clean energy; SDG8 - Decent Work and Economic Growth), justifying the position of the leader at the World level (Sachs et al., 2022, p. 21). SST mainly refers to SDG 11: Sustainable cities and communities, for which Finland recorded a moderating increase above 50% of the required growth but, unfortunately, below the rate needed to achieve the SDG by 2030. Finally, it is necessary to mention that Finland did not register a score for any SDG to prove that the trend remains at or above SDG achievement.

The analysis of both instruments proves that the Dispersal of Information negatively influences the perceptions of the level of involvement of different decision-makers in achieving the SDG by 2030.

**SDG Index and the development index for six social goals or SDG-based Indices for Assessing Regional Sustainable Development**

Wang et al. (2020) did their research in Fujian Province, China, and as a result, they developed a Fujian index for six social goals or SDG-based Indices for Assessing Regional Sustainable Development. Wang et al. (2020) selected the indicators based on the three consecrated dimensions (i.e., social, economic, and environmental), and have already been used by many researchers (Bravo, 2014; Costanza et al., 2016; Ding et al., 2018).

Wang et al. (2020) employed in their research Shannon entropy or information entropy, and we consider that the Dispersal of Information is also presented in their three main conclusions related to (1) fluctuations of the value of the Fujian index between 2007-2017; (2) the decreasing of the index of Fujian in 2012 was the result of decreasing environmental dimensions and in 2016 was the result of decreasing of social dimension; (3) a low dimension of SDG 3 (Good Health and Well-being) and SDG 16 (Peace, Justice, and Strong Institutions).

Wang et al. (2020) made as main recommendations to decision-makers of Fujian Province to take care of community members in terms of well-being and social security. Wang et al. (2020) recognize the classification of indicators as a main limitation of their research and recommend using the same indicator for many SDGs.

The results obtained by Wang et al. (2020) concluded that SDG3 (Good Health and Well-being) and SDG16 (Peace, Justice, and Strong Institutions) registered a low score, and the SDG Index 2022 also indicated that the weaknesses of the two SDGs.

China, the country where Wang et al. (2020) conducted their research, ranks 56 with a score of 72.4 (Sachs et al. (2022, p. 14). The most significant deficiencies are recorded for SGD 14 (Life below water) and SDG 15 (Life on land), where a decreasing score was recorded, indicating that its actions in improving life both below water and on land are ineffective. Furthermore, significant challenges were recorded in SDG3 (Good Health and Well-Being), SDG5 (Gender equality), SDG6 (Clean water and sanitation), SDG7 (Affordable and clean energy), SDG8 (Decent Work and Economic Growth), SDG10 (Reduced inequalities), SDG11

(Sustainable cities and communities), SDG16 (Peace, justice and strong institutions) SDG17 (Partnerships for the goals) which directly impacts different dimensions of the sustainable development, justifying, to a certain extent, the general score (Sachs et al., 2022, p. 22).

Moreover, China registered an increasing score at the rate needed to achieve the SDG by 2030 for SDG1 - No Poverty (Sachs et al., 2022, p. 22). Finally, it is necessary to mention that China did not register a score for any SDG to prove that the trend remains at or above SDG achievement, and also, for a few SDGs, the data were not available (i.e., SDG4 - Quality education, and SDG10 - Reduced inequalities) that prove the presence of Dispersal of Information phenomenon again.

**SDG Index and the SDGs achievement index**

The differences in sustainable development across the EU countries determined Rocchi et al. (2022) to elaborate the SDGs achievement index (SDG-AI), a multicriteria-based index. Starting from Dhaoui (2018), the SDG achievement index for the assessment of inclusive growth in MENA Countries (Middle East/North Africa), Rocchi et al. (2022) adapted an existing sustainability index to measure the progress of the EU countries toward achieving the objectives of Agenda 2030.

Starting from the six core dimensions (i.e., Education: SDG4 - Quality education; SDG8 - Decent Work and Economic Growth, Employment: SDG8 - Decent Work and Economic Growth, Environment: SDG13 - Climate Action; SDG15 - Life on land, Equality: SDG1 - No Poverty; SDG5 - Gender equality; SDG10 - Reduced inequalities, Health – SDG3- Good Health and Well-Being, and Service: SDG6 - Clean water and sanitation; SDG7- Affordable and clean energy; SDG9 - Industry, innovation andinfrastructure; SDG11 - Sustainable cities and communities), Rocchi et al. (2022) changed the indicators and eliminated the subdimensions at the same time as changing the aggregation algorithm using the TOPSIS method for aggregating criteria (Hwang and Yoon, 1981).

The results proved that the Nordic countries are at the front of the ranking for all the dimensions, but Denmark has some issues related to the Environmental dimension. The EU Baltic countries and the former Eastern bloc countries are at the opposite pole. Therefore, the main recommendations are for countries with sustainable development problems to elaborate and implement a strategy for improving all dimensions, especially the Equality dimension (mainly gender equality, immigrant inclusion, and income distribution (Rocchi et al., 2022).

**Table no. 1. The SDG ranking of EU countries based on SDG-AI and SDG Index**

| Countries | SDG-AI Ranking | SDG Index Ranking | Observation |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Finland | 1 | 1 (86.5) | Very High |
| Sweden | 2 | 3 (85.2) | Very High |
| Denmark | 3 | 2 (85.6) | Very High |
| Netherlands | 4 | 17 (79.9) | High (in SDG Index ranking, the following EU countries are placed above the Netherlands as follows: Austria (82.3); Germany (82.2); France (81.2); Estonia (80.6); Poland (80.5); Czech Republic (80.5); Latvia (80.3); Slovenia (80.0); and Spain (79.9) |
| Austria | 5 | 5 (82.3) | High |
| Germany | 6 | 6 (82.2) | Medium |
| Portugal | 7 | 20 (79.2) | Medium (in SDG Index ranking, the following EU countries are placed above the Portugal as follows: Estonia (80.6), Poland (80.5), Czechia (80.5), Latvia (80.3), Slovenia (80.0), Spain (79.9), Belgium (79.7) |
| Estonia | 8 | 10 (80.6) | Medium |
| Luxembourg | 9 | 36 (75.7) | Medium (in SDG Index ranking, the following EU countries are placed above the Luxembourg as follows: France (81.2), Ireland (80.7), Poland (80.5), Czechia (80.5), Latvia (80.3), Slovenia (80.0), Spain (79.9), Belgium (79.7), Hungary (71.0), Croatia (78.8), Slovakia (78.7), Italy (78.3), Romania (77.7), Greece (76.8), Malta (76.8) |

Table no. 1. (continued)

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| Slovenia | 10 | 15 (80.0) | Medium (in SDG Index ranking, the following EU countries are placed above the Slovenia as follows: France (81.2), Ireland (80.7), Poland (80.5), Czechia (80.5), Latvia (80.3) |
| France | 11 | 7 (81.2) | Medium |
| Spain | 12 | 16 (79.9) | Medium (in SDG Index ranking, the following EU countries are placed above the Spain as follows: Ireland (80.7), Poland (80.5), Czechia (80.5), Latvia (80.3) |
| Latvia | 13 | 14 (80.3) | Medium (in SDG Index ranking, the following EU countries are placed above the Latvia as follows: Ireland (80.7), Poland (80.5), Czechia (80.5) |
| Belgium | 14 | 18 (79.7) | Medium (in SDG Index ranking, the following EU countries are placed above the Belgium as follows: Ireland (80.7), Poland (80.5), Czechia (80.5) |
| Malta | 15 | 33 (76.8) | Medium (in SDG Index ranking, the following EU countries are placed above the Malta as follows: Slovakia (80.5), Croatia (78.8), Italy (78.3), Romania (77.7), Greece (76.8), Lithuania (75.4), Hungary (71.0) |
| Ireland | 16 | 9 (80.7) | Low |
| Italy | 17 | 25 (78.3) | Low |
| Czechia | 18 | 13 (80.5) | Low |
| Lithuania | 19 | 39 (75.4) | Low |
| Slovakia | 20 | 24 (78.7) | Low |
| Poland | 21 | 12 (80.5) | Very Low |
| Croatia | 22 | 23 (78.8) | Very Low |
| Hungary | 23 | 21 (71.0) | Very Low |
| Romania | 24 | 30 (77.7) | Very Low |
| Bulgaria | 25 | 42 (74.3) | Very Low |
| Cyprus | 26 | 43 (74.2) | Very Low |
| Greece | 27 | 32 (76.8) | Very Low |

*Source: Authors adapted from Sachs et al., 2022, pp. 9-10; Rocchi et al., 2022, p. 14.*

The differences between the two rankings prove the impact of the Dispersal of Information on the accuracy of data and the methodology employed for calculating the index.

**Abbreviations and acronyms**

DI. – Dispersal of Information

LICs. – Low Income Countries

LMICs. – Lower-Middle Income Countries

SDG-AI – SDGs achievement Index

SDGs. – Sustainable Development Goals

SST. – SDG Sensemaking Tool

UNDP. – United Nations Development Programme

## Conclusions

Starting from the analysis of the Sustainable Development Report 2022, in parallel with other studies developed on the world map, we came to the conclusion that the SDGs generated, on the one hand, many topics for discussion and analysis, and on the other hand, imposed different measurement tools, such as the SDG Index (Sachs et al., 2022), SDG Sensemaking Tool – SST (Taajamaa et al., 2022), the development index for six social goals or SDG-based Indices for Assessing Regional Sustainable Development (Wang et al., 2020 ), the Global SDG Progress Index - GSPI (Puertas and Bermúdez, 2020), New Integrated SDG Index (Horan, 2020), and the SDGs achievement index - SDG-AI (Rocchi et al., 2022).

In the framework of the results presented in Sustainable Development Report 2022, we agree with Burlea-Schiopoiu and Remme (2017), that found information asymmetry as the main source of DI.

The results prove that the Dispersal of Information is a phenomenon that is present in the ranking of the countries based on the different rankings of SDGs. Therefore, to increase the accuracy of the SDGs countries ranking, it is necessary to use databases that include the same indicators for every country and to find a viable method to calculate the SDGs Index for the countries where some data for some SDGs are missing.

The stages that decision-makers must go through to achieve real success in sustainable development are as follows: scanning international reports and objectively assessing the degree of achievement of each SDG; identifying those SDGs that are in a critical situation and developing and implementing a strategy to transform these SDGs into successful ones; the development of a national index of Sustainable Development.

Therefore, our future research will focus on the study of SDGs in Romania, and we will compare our results with those from international sustainable development reports.

## References

Bravo, G., 2014. The Human Sustainable Development Index: New calculations and a first critical analysis. *Ecological Indicators*, 37, pp.145–150. https://doi.org/10.1016/j.ecolind.2013.10.020.

Burlea-Schiopoiu, A. and Remme, J., 2017. The Dangers of Dispersal of Responsibilities. *Amfiteatru Economic*, 19(45), pp. 464-476.

Burlea-Schiopoiu, A., 2019. The Impact of Triple Bottom Dispersal of Actions on Integrated Reporting: A Critical Perspective. In: S.O. Idowu and M. Del Baldo, eds. Integrated Reporting. *Cham: Springer International Publishing*. pp.141–152. https://doi.org/10.1007/978-3-030-01719-4_7.

Costanza, R., Daly, L., Fioramonti, L., Giovannini, E., Kubiszewski, I., Mortensen, L.F., Pickett, K.E., Ragnarsdottir, K.V., De Vogli, R. and Wilkinson, R., 2016. Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals. *Ecological Economics*, 130, pp.350–355. https://doi.org/10.1016/j.ecolecon.2016.07.009.

Dhaoui, I., 2018. *Achieving Sustainable Development Goals in MENA countries: an Analytical and Econometric Approach*. [online] Available at: <https://mpra.ub.uni-muenchen.de/92471/> [Accessed 20 February 2023].

Ding, Y., Fu, Y., Lai, K.K. and John Leung, W.K., 2018. Using Ranked Weights and Acceptability Analysis to Construct Composite Indicators: A Case Study of Regional Sustainable Society Index. *Social Indicators Research*, 139(3), pp.871–885. https://doi.org/10.1007/s11205-017-1765-3.

Horan, D., 2020. National Baselines for Integrated Implementation of an Environmental Sustainable Development Goal Assessed in a New Integrated SDG Index. *Sustainability*, 12(17), p.6955. https://doi.org/10.3390/su12176955.

Hwang, C.-L. and Yoon, K., 1981. Methods for Multiple Attribute Decision Making. In: *Multiple Attribute Decision Making*. Berlin, Heidelberg: Springer Berlin Heidelberg. pp.58–191. https://doi.org/10.1007/978-3-642-48318-9_3.

Puertas, J. and Bermúdez, M., 2020. Development of a Global SDG Progress Index Aimed at "Leaving No One Behind". *Sustainability*, 12(10), p.4085. https://doi.org/10.3390/su12104085.

Rocchi, L., Ricciolini, E., Massei, G., Paolotti, L. and Boggia, A., 2022. Towards the 2030 Agenda: Measuring the Progress of the European Union Countries through the SDGs Achievement Index. *Sustainability*, 14(6), p.3563. https://doi.org/10.3390/su14063563.

Sachs, J., Kroll, C., Lafortune, G., Fuller, G. and Woelm, F., 2022. *Sustainable Development Report 2022*. 1st ed. Cambridge University Press. https://doi.org/10.1017/9781009210058.

Taajamaa, V., Joensuu, M., Karanian, B. and Bettencourt, L., 2022. Seven Steps to Strategic SDG Sensemaking for Cities. *Administrative Sciences*, 12(1), p.33. https://doi.org/10.3390/admsci12010033.

United Nations Development Programme (UNDP), 2023. *United Nations Development Programme* [online] Available at <https://www.undp.org/sustainable-development-goals> [Accessed 10 February 2023].

Wang, X., Gao, P., Song, C. and Cheng, C., 2020. Use of Entropy in Developing SDG-based Indices for Assessing Regional Sustainable Development: A Provincial Case Study of China. *Entropy*, 22(4), p.406. https://doi.org/10.3390/e22040406.