

PREFACE

In order to conduct research and analysis on sustainable development, it is worth introducing the concept of this idea first. Sustainable development is the idea that “human societies must live and meet their needs without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- 1) the concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given;
- 2) the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs” (*Report of the World Commission*).

Thus, sustainable development is a way of organizing society so that it can exist in the long term. This means that the protection of the environment and natural resources as well as social and economic equity should become the most important standards guiding the behavior of all individuals.

The Agenda for Sustainable Development 2030 defines 17 goals that are to be achieved by the world by 2030. They were adopted by all UN Member States in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the goals.

The goals address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. As a result, they concern achievements in 5 areas: people, planet, prosperity, peace, partnership. They are presented in Table 1.

Systematic research and comprehensive analyses allow to monitor the implementation of the sustainable development goals. Systematic analysis of the changes taking place is the basis for coordinating programs aimed at sustainable development.

Obviously, when you are interested in the selected issue of sustainable development, it is worth using data from the secondary sources in the first place. The main secondary resources on sustainable development include international reports, government reports and statistics, reports from institutions or organizations, as well as articles in scientific journals, newspapers and magazines.

Table 1. Sustainable development—goals

Goal	Content
1	End poverty in all its forms everywhere: <i>economic growth must be inclusive to provide sustainable jobs and promote equality</i>
2	End hunger , achieve food security and improved nutrition and promote sustainable agriculture: <i>the food and agriculture sector offers key solutions for development, and is central for hunger and poverty eradication</i>
3	Ensure healthy lives and promote well-being for all at all ages
4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5	Achieve gender equality and empower all women and girls: <i>gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world</i>
6	Avoid wasting water . Ensure availability and sustainable management of water and sanitation for all: <i>clean, accessible water for all is an essential part of the world we want to live in</i>
7	Ensure access to affordable, reliable, sustainable and modern energy for all
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9	Build resilient infrastructure , promote inclusive and sustainable industrialization and foster innovation
10	Reduce inequality within and among countries: <i>to reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations</i>
11	Sustainable cities and communities . Make cities and human settlements inclusive, safe, resilient and sustainable: <i>there needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing, transportation and more</i>
12	Ensure sustainable, responsible consumption and production patterns
13	Climate action . Take urgent action to combat climate change and its impacts
14	Life below water . Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15	Life on land . Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss: <i>plant a tree and help protect the environment</i>
16	Peace, justice and strong institutions . Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Source: (Global indicator framework; <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>).

Quite often, however, the problem you are interested in, may concern a very specific issue or area in which no research has been conducted so far, e.g., research on equality in a specific enterprise or group of enterprises, or on wasting water in households in a certain region of your interest. Then primary research methods need to be used.

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How to gather data and how to analyse them? This e-book presents a few selected methods that will allow you to answer these questions at least partially. Among the data collection methods presented, in this book, we have chosen both: qualitative, in particular focused group interviews, and quantitative—based on a questionnaire. In terms of data analysis methods, we present three methods: factor analysis, structural equation modelling and data envelopment analysis. The examples presented in this book relate to sustainable development, e.g.: sustainable consumption, ecological culture, better nutrition, agricultural development and many more.

Acknowledgements

The book was created thanks to the involvement of many people from several universities: University of Zagreb, Croatia, The D. A. Tsenov Academy of Economics, Bulgaria, as well as the Poznań University of Economics and Business, Poland.

I would like to sincerely thank all the authors for their commitment. In the first part, concerning primary research, Atanaska Reshetkova and Iwona Olejnik prepared texts on designing and conducting qualitative research. In this part of the e-book, Sylwester Białowąs, Blaženka Knežević, Magdalena Stefańska and Iwona Olejnik also prepared texts on quantitative research, introducing the reader to the levels of measurement, the principles of constructing the questionnaire, sample selection and methods of presenting research results.

The second part of the e-book presents three selected methods of analysing primary or secondary data. Blaženka Knežević, Todor Krastevich, Atanaska Reshetkova, Agnieszka Sapa, Katarzyna Smędzik-Ambroży, Magdalena Stefańska and Iwona Olejnik took up the challenge of explaining the essence of three methods of analysis: factor analysis, structural equation modelling and data envelopment in sustainable development research. Thank you all.

This publication would not have been written if it had not been for the international project, coordinated by Barbara Borusiak. It is thanks to her efforts and commitment that cooperation between universities from Croatia, the Czech Republic, Bulgaria, the Ukraine, Slovakia, Hungary and Poland has been established and strengthened. The project entitled Central European Network for Sustainable and Innovative Economy (CENETSIE) is financed by NAWA funds intended for the development of international cooperation. The project has been implemented in the years 2020–2022.

On behalf of the entire team of authors, I would like to thank the reviewer Ing. Martina Hanová, Ph.D., Slovak University of Agriculture in Nitra for the valuable comments.

We would also like to thank the employees of the Publishing House of the Poznań University of Economics and Business for their help in publishing the e-book, in particular the editor Marta Dobrecka.

We hope, as a team of authors, that thanks to international cooperation on the book, a series of joint research, organisational and teaching works will be continued.

We sincerely hope that our publication will be useful for both students and other interested people, especially those who would like to apply qualitative or quantitative research methods in the area of sustainable development problems on their own.

Iwona Olejnik

References

- Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*. Retrieved October, 2020 from https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework%20after%202020%20review_Eng.pdf
- <https://www.un.org/sustainabledevelopment/sustainable-development-goals/> Retrieved January, 2021.
- Report of the World Commission on Environment and Development: Our Common Future*. Retrieved January, 2021 from <http://www.un-documents.net/our-common-future.pdf>