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Information Security of UN Sustainable Development Goals Implementation

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Abstract

The Goals and Targets of the 2030 Agenda for Sustainable Development are a roadmap for countries in their pursuit of prosperity. The Agenda defines the principal areas of the signatory countries' activity to build a society of prosperity regarding the level of social stability increasing in situations of uncertainty, risks, and crises. Global threats and conflicts and related humanitarian crises threaten to undo much of the development progress achieved in recent decades. For the second year, we have not seen progress in achieving the Sustainable Development Goals.

The article examines the results of information support of the UN Sustainable Development Goals at the level of scientific publications posted in the ERA (Education Research Abstracts) database in 2015–2022.

The results of the data analysis showed an uneven interest in the SDGs on the part of the scientific community and the representation of specific SDGs in scientific publications. In particular, in 2015, SDG 2, SDG 6, and SDG 7 were the «outsiders» in terms of representation in scientific publications. The difference between the lowest (260 – SDG 2) and the largest (26 305 – SDG 4) number of publications in 2015 is almost 102 times. In 2022, this difference was 80.

At the same time, the analysis of publication activity, starting from 2015, shows the most significant increase in the number of publications until 2022, specifically for SDG 2 and SDG 6, due to their relevance in the context of global processes.

Keywords: sustainable development goals, Education Research Abstracts, education, education quality, empowerment, SDGs indicator.

1. Introduction

By joining the Sustainable Development Agenda, the signatory countries joined the international coalition of UN member states for the implementation of sustainable development programs and strategies and the global process of ensuring sustainable development. Therefore, adapting the Goals and Targets of sustainable development regarding national and regional specifics has begun. As a result, national systems of Sustainable Development Goals and Targets containing the task of developing national sustainability emerged.

In particular, the President of Ukraine signed the Decree "On the Sustainable Development Goals of Ukraine for the period until 2030", which states that «The Sustainable Development Goals of Ukraine for the period until 2030 are the guidelines for the development of forecast and program document drafts, regulatory act drafts to ensure the balance of the economic, social and environmental dimensions of Ukraine sustainable development». In addition, the Presidential Decree on the Goals and Targets of Sustainable Development of Ukraine recommended that

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Ukraine's scientific and academic community consider the SDGs when determining the paradigm of their scientific research (Ukaz..., 2019).

To implement this Decree, the Government of Ukraine should analyze forecast and program documents regarding the Goals and Targets of sustainable development and take measures to improve them; develop an effective monitoring system for the implementation of the Sustainable Development Goals; ensure annual publication of its results.

A list of indicators has been approved in the context of these principles and tasks implementation. Data will be collected considering these indicators to monitor the implementing SDGs in Ukraine. Therefore, the State Statistics Service of Ukraine should ensure the collection and publication of these data, as well as coordinate the work on elaborating metadata according to indicators. Central executive bodies responsible for calculating national indicators of sustainable development, with the participation of state bodies, ensure their collection and development of metadata, which are subsequently submitted to the State Statistics Service of Ukraine (Rozporiadzhennia..., 2019).

2. Materials and methods

The article is based on the official UN documents related to the Goals and Targets of sustainable development, in particular, the principal document – 2030 Agenda for Sustainable Development (Transforming our world, 2015); annual monitoring and reports of the organization (SDG's Report, 2022a; SDG's Report, 2022b); the UNESCAP methodology for assessing the progress in achieving the Sustainable Development Goals (PAM, 2022) and others.

In addition, we analyzed an array of scientific publications in the ERA (Education Research Abstracts) database. This database contains indexed abstracts of modern international scientific studies in the field of education, including those indexed by Scopus and Web of Science databases. The ERA database provides access to more than 25 specialized datasets representing all major areas of scientific research. ERA includes a comprehensive publication archive dating back to 1995, advanced unique taxonomy, CrossRef support, and more.

We filtered all publications in the ERA database according to several parameters:

- 1) The hashtags Sustainable Development Goals, regarding specific SDGs, such as Gender equality, Industry; Innovation and Infrastructure; etc., were used;
 - 2) The array of publications was filtered by Article type;
 - 3) Limitation of publication date to 2015-2022.
 - 4) Filtering was done by publication title, keywords and abstract.
 - To analyze the information support of the UN Sustainable Development Goals, we used:
- 1) Method of system analysis for a comprehensive analysis of progress in achieving the SDGs, taking into account global and national indicators; challenges, and risks that humanity has faced in recent years;
- 2) The structural-functional method for differentiation and typology of SDGs data taken from the ERA database;
- 3) Comparative analysis to compare the level of information support and promotion of specific SDGs at the level of their scientific publication's presentation in a global dimension.

3. Discussion

The theme of achieving the Sustainable Development Goals is gaining particular importance today, first of all, in the context of global challenges related to climate change, pandemics, armed conflicts, etc. Hence, the ambitious Goals and Targets announced at the UN General Assembly in 2000 (Millennium Goals) and 2015 (Sustainable Development Agenda) need to be comprehended not only from the point of view of value aspects but also as standards and guiding rules for practical implementation. The relevance of the theme concerning sustainable development goals at the global, regional, and local levels is evidenced by the fact that the total number of scientific publications with the Sustainable Development Goals hashtag is about 130,000 since the announcement of these Goals in 2015 (Education Research Abstracts).

Therefore, the entire array of scientific publications in ERA related to the SDGs can be divided into specific groups: publications that deal with the general principles of the UN SDGs, algorithms and methodology of their indexing at the global and national level, problems related to the implementation of the SDGs, etc. Also, the database presents scientific articles that relate to specific SDGs: poverty alleviation, gender equality, qualitative education, etc.

For example, Addo R. et al. emphasize social development prospects in the context of achieving the SDGs. The authors underline that SDGs are very important in the international practice of social work. Hence, teaching SDGs and social development requires social work teachers to use pedagogical approaches that provide a comprehensive understanding of real-life scenarios. The authors contextualize teaching based on the analysis of specific situations and project management within the framework of constructivist pedagogy, which promotes the development of critical thinking, cooperation, and problem-solving (Addo et al., 2022; Lebid, Shevchenko, 2020; Lebid et al., 2020).

Wynn M. and Jones P. assess the major industries' different approaches to the SDGs; they identify and discuss broader issues regarding the future implementation of the SDGs (Wynn, Jones, 2022).

Guo H. and other Chinese researchers discuss the challenges of Big Data about the Earth and the concerted efforts needed to achieve and measure progress towards the SDGs. They emphasize that important problems for achieving the Sustainable Development Goals are the lack of data for indicators of progress in achieving each goal and the different capabilities of countries in conducting such assessments. The scientists analyze the potential of the Big Data Earth Science Engineering Program of the Chinese Academy of Sciences (CASEarth) and other case studies on Big Earth Data to support the SDGs (Guo et al., 2021).

Overcoming poverty is one of the biggest challenges facing low- and middle-income countries, according to scientists from China, which had the largest number of rural poor. The authors of the study (Jiang et al., 2021) proposed an inexpensive, timely, and accurate method that can be applied to other low- and middle-income countries to assess well-being on the way to the implementation of SDG 2: Erase Hunger.

Tura H. examines a human rights approach to food security using the example of Ethiopia. It has been established that a human rights-based approach to food security aims to empower vulnerable populations to assert their rights. This approach reinforces the obligation of governments to respect, protect and fulfill citizens' right to food. In addition, it encourages the implementation and integration of this right into the development and implementation of food security policies (Tura, 2019).

In their study, Given F. et al. conclude that increasing access to multimodal communication strategies and communication technologies, as well as user-centered co-design that enables digital autonomy in health care, will contribute to further progress towards reducing inequalities – SDG 10 and ensuring good health and well-being – SDG 3 (Given et al., 2022).

Using data from the World Bank, Wilson E., Verma R., and Jayanthakumaran K. estimate the elasticity of losses from poverty based on microeconomic utility and provide a better understanding of possible rural and urban policy directions for India and China. Elasticity indicators presented in the study show that a reorientation of priorities from promoting future urban growth to reducing urban-rural inequality can substantially reduce poverty-induced incapacity (Wilson et al., 2022).

In times of global pandemics and the climate crisis, social sustainability has become a key issue for various sectors and disciplines. In this context, the article by Barthel S. et al. aims to broaden the discussion about social sustainability in general and concerning working with communities in particular (Barthel et al., 2022).

J. Fitzgerald analyzed five US cities' climate action planning process to determine how planners and politicians make the planning process more inclusive for marginalized groups and incorporate equity issues into the plan's goals (Fitzgerald, 2022).

4. Results

The Goals and Targets of the 2030 Agenda for Sustainable Development are a roadmap for countries in their pursuit of prosperity, inclusion, and equality, leaving no one behind, and no one is forgotten. On September 25, 2015, the UN General Assembly adopted the Resolution «Transforming our world: the 2030 Agenda for sustainable development», which is an action plan and a guide on the way to global prosperity, improving life, and strengthening peace in conditions of growing freedom (Agenda..., 2015).

The countries should implement this plan based on the principles of social partnership, cooperation, and interaction with the goal of comprehensive prospects for the sustainable development of states, communities, people in the communities, and the world as a whole. The adopted Agenda consists of 17 Sustainable Development Goals and 169 Targets, which are of

great ambition, far-reaching and large-scale. All Goals and Targets are oriented towards the development of tasks and results, actualized within the framework of the Millennium Development Goals (MDG, 2015).

The seventeen Sustainable Development Goals and the 169 Targets associated with them are comprehensive and indivisible. These Goals and Targets entered into force on January 1, 2016, and for the next 15 years, the signatory countries will be guided by them in their decision-making. The Goals and Targets of sustainable development are aimed at realizing human rights, achieving gender equality, expanding women's rights and opportunities, etc. Having a complex and indivisible character, they ensure the balancing of three dimensions of sustainable development: economic, social, and environmental.

The Agenda defines the principal areas of the signatory countries' activity to build a society of prosperity regarding the level of social stability increasing in situations of uncertainty, risks, and crises. These areas of activity are:

- People;
- Planet:
- Prosperity;
- Peace:
- Partnership (Agenda..., 2015).

As defined by the Agender, countries «are determined to protect the planet from degradation, in particular, through rational consumption and production, rational use of its natural resources, and taking urgent measures regarding climate change so that the planet can meet the needs of present and future generations» (UN Declaration..., 1948).

In addition, the Agenda provides for the efforts of states to ensure a prosperous life for everyone, to promote the construction of a peaceful and just society, the activation of global partnerships in the interests of sustainable development, which is based on the principles of strengthening international solidarity, etc.

Table 1. Areas of activity and Goals of sustainable development by the 2030 Agenda

People	Planet	Prosperity	Peace	Partnership
SDG 1: Eliminate	SDG 14: Influence	SDG 1: Eliminate	SDG 1: Eliminate	SDG 4: Provide
Poverty	Responsible	Poverty	Poverty	Quality Education
SDG 2: Erase	Consumption and	SDG 4: Provide	SDG 2: Erase	SDG 5: Enforce
Hunger	Production	Quality Education	Hunger	Gender Equality
SDG 3: Establish	SDG 15: Organize	SDG 5: Enforce	SDG 7: Grow	SDG 10: Reduce
Good Health and	Climate Action	Gender Equality	Affordable and	Inequality
Well-Being	SDG 16: Develop	SDG 8: Create	Clean Energy	SDG 11: Mobilize
SDG 4: Provide	Life Below Water	Decent Work and	SDG 10: Reduce	Sustainable Cities
Quality	SDG 17: Advance	Economic Growth	Inequality	and Communities
Education	Life On Land	SDG 9: Increase	SDG 11: Mobilize	SDG 16: Guarantee
SDG 5: Enforce		Industry,	Sustainable Cities	Peace, Justice, and
Gender Equality		Innovation, and	and Communities	Strong Institutions
SDG 6: Improve		Infrastructure	SDG 16: Guarantee	SDG 7: Build
Clean Water and		SDG 10: Reduce	Peace, Justice, and	Partnerships for the
Sanitation		Inequality	Strong Institutions	Goals
SDG 7: Grow		SDG 11: Mobilize	SDG 7: Build	
Affordable and		Sustainable Cities	Partnerships for	
Clean Energy		and Communities	the Goals	
		SDG 16: Guarantee		
		Peace, Justice, and		
		Strong Institutions		

The Goals and Targets of Sustainable Development define a vision of a future global world in which there is no place for need, fear, and violence. This is a world of universal literacy, where equal access to quality education and social protection is ensured, where physical, spiritual, and social well-being is guaranteed, where the living environment is safe and sustainable.

Essential aspects of achieving these ambitious goals are, in particular, respect for human rights and human dignity, the rule of law as opposed to the human rule, justice, equality, and non-discrimination.

Investments in social and human capital: elimination of legal, social, and economic obstacles to expanding the rights and opportunities of the most vulnerable population groups are also considered fundamental for implementing sustainable development Goals and Targets.

The Agenda is based on the goals and principles of the UN Charter in compliance with the norms of international law. This is what determines common principles and commitments on the way to sustainable development Goals and Targets implementation and increasing the level of social sustainability. The Agenda reflects the values of the Universal Declaration of Human Rights, international treaties in the field of human rights, the Millennium Declaration, and the Outcome Document of the 2005 World Summit. It also considers the provisions of other documents, particularly the Declaration on the Right to Development. The problems and obligations defined by UN documents are interrelated and require comprehensive solutions. To manage them effectively, a new approach is needed.

Today, the global community on the path to sustainable development faces serious challenges related to the COVID-19 pandemic, the Russian-Ukrainian war, the aggravation of global conflicts among countries, the crisis of international institutions, etc. Internal and external disparities and inequality among countries are highlighted, particularly regarding the distribution of opportunities, resources, values, and power. Gender inequality remains one of the critical challenges. Unemployment, especially among the youth, is a deep concern.

Global threats and conflicts, extremism and terrorism and related humanitarian crises, and forced population displacement threaten to undo much of the development progress achieved in recent decades. For the second year, we have not seen progress in achieving the Sustainable Development Goals (SDG Report, 2022b; Figure 1). In 2021, the average of the SDG index declined slightly, in particular, due to the slow or absence of recovery in poor and vulnerable countries. It is a severe failure, especially if we consider that before the pandemic, from 2015 to 2019, the world progressed towards implementing the SDGs by half a point per year, which is not enough to achieve them by 2030. Moreover, the progress of poor countries was more evident than in developed countries.

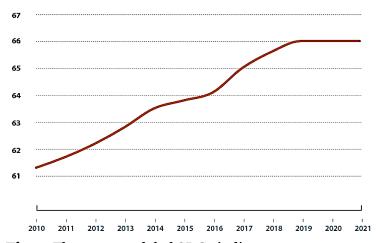


Fig. 1. The average global SDGs indicator

Today, political efforts and commitments to support the SDGs differ regionally, particularly among the G20 countries. In 2022, the ranking of the commitment and efforts of governments to achieve the SDGs, compiled in more than 60 countries. It showed that among the G20 member states, the USA, Brazil, and the Russian Federation offer minor support for the 2030 Agenda and the SDGs. On the other hand, the countries of Northern Europe show relatively high support for the SDGs, as well as Argentina, Germany, Japan, and Mexico. Some countries, such as Benin and Nigeria, for example, have large gaps in the SDG index, yet score relatively high for policy efforts to achieve the SDGs (SDG Report, 2022b; Figure 2). It can potentially help them get better results.

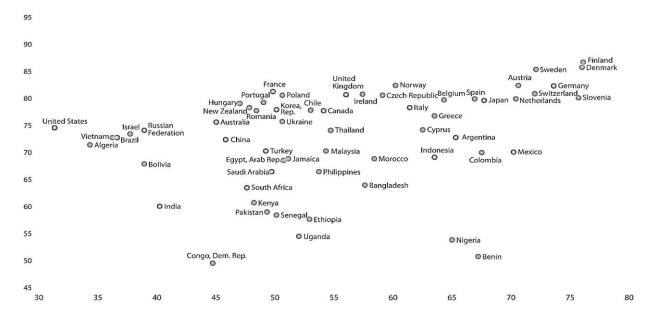


Fig. 2. Assessment of governments' commitments and efforts to achieve the SDGs

Nevertheless, it was possible to achieve tangible progress in solving the cross-cutting global development problems. In particular, millions of people have overcome extreme poverty; opportunities for access to education have significantly expanded; the spread of information and communication technologies and scientific and technical innovations significantly affect the progress of human civilization, accelerating it; there is a softening of the digital differences among countries, and increasing of the level of civil society and social stability development.

However, this process is still uneven, especially in African countries; developing countries; landlocked countries; small island states. Thus, some Millennium Development Goals have not yet been achieved in these territories, particularly those related to maternal, newborn, and reproductive health care.

In this context, several priority directions in solving problems related to the implementation of sustainable development Goals and Targets have been identified, in particular:

- 1. Financing the SDGs: an international agreement on introducing a global minimum corporate tax rate is the right step, but it will require effective implementation.
- 2. Technical cooperation and diplomacy of the SDGs: technical collaboration and knowledge transfer will increase social sustainability in producing countries. It is crucial that sizeable international investment programs «Build Back Better», «Global Gateway», «Belt and Road Initiative» and others were responsible for the SDGs. Countries should use diplomacy to promote multilateral processes for achieving the SDGs at the UN General Assembly, the Political Forum on Sustainable Development, the G7, the G20, the annual meetings of the IMF, and the World Bank.
- 3. National goals and tools can contribute to the activation of actions on the way to the implementation of sustainable development Goals and Targets, which increase the level of social sustainability not only at the global but also at the national, regional, and local levels. An important component of this process is effective tools for monitoring the fulfillment of commitments.
- 4. Accountability, open data, and statistics: robust data systems should be paramount at all levels to track challenges and risks and coordinate global action to eliminate side effects.

In addition to global progress and regional differentiation in implementing the Goals and Targets of sustainable development, it is important to emphasize those differences that relate to the implementation of specific SDGs (SDG Report, 2022a; Figure 3).

As we can see, the global world has achieved tremendous success in the implementation of five SDGs, namely: SDG 3: Establish Good Health and Well-Being; SDG 6: Improve Clean Water and Sanitation; SDG 7: Grow Affordable and Clean Energy; SDG: Increase Industry, Innovation, and Infrastructure; SDG 15: Advance Life On Land

The least implementation of the SDGs also concerns five items: SDG 2: Erase Hunger; SDG: 5: Enforce Gender Equality; SDG 11: Mobilize Sustainable Cities and Communities; SDG 16: Guarantee Peace, Justice, and Strong Institutions and the worst situation with SDG 13: Organize Climate Action.

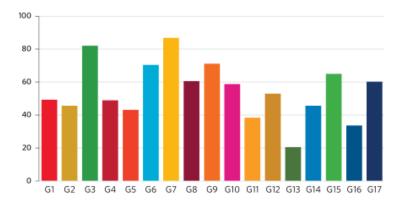


Fig. 3. Achieving SDGs, 2022

However, in this situation, it is vital to consider some other factors, not only the ability and political will of governments to implement the Goals and Targets of sustainable development. Thus, significant progress has been made in ensuring the availability of internationally comparable data for monitoring the SDGs: the number of indicators included in the global SDG database has increased from 115 in 2016 to 217 in 2022 (SDG Report, 2022a: 4). However, there are still significant data gaps in geographic coverage, timeliness, and level of disaggregation, making it difficult to understand the pace of progress toward implementing the 2030 Agenda, regional differences, etc.

Less than half of the 193 countries have internationally comparable data on 8 of the 17 Sustainable Development Goals for 2015 or later. Hence, data on SDG 3: Establish Good Health and Well-Being and SDG 7: Grow Affordable and Clean Energy have the highest availability (more than 80 % of countries). While only about 20 % of countries have internationally comparable data on SDG: 13: Organize Climate Action.

There is also insufficient disaggregated data to monitor progress on government policies and the situation of vulnerable populations. Among the 32 SDG indicators by gender, only 21 indicators have new disaggregated data available in most countries (more than 80 %). For 8 indicators, there are no such data at all. When considering other disaggregation parameters, such as disability status, the picture is even more uncertain: of the 10 SDG indicators that require disaggregation by disability status, only two of them have internationally comparable data.

This situation directly depends on the challenges and risks that the global world faced at the beginning of the pandemic, which significantly affected the regions and caused irreparable damage, especially to states with weak economies. These states were deliberately forced to suspend the implementation of sustainable development programs, directing partly limited resources to overcome or mitigate the consequences of the pandemic. Some resorted to authoritarian management methods, which affected other parameters of national, regional, and local stability and sustainability.

The global indicator system includes 231 unique indicators. But the total number of indicators listed in the global system of SDG indicators is 248, and 13 indicators are repeated within 2-3 different goals:

7.b.1/12.a.1 8.4.1/12.2.1 8.4.2/12.2.2 10.3.1/16.b.1 10.6.1/16.8.1 13.2.1/13.b.1 15.7.1/15.c.1 15.a.1/15.b.1 1.5.1/11.5.1/13.1.1 1.5.2/11.5.2 1.5.3/11.b.1/13.1.2 1.5.4/11.b.2/13.1.3 4.7.1/12.8.1/13.3.1 The assessment of progress in achieving the SDGs is based on the global system of indicators fixed in the 2030 Agenda for Sustainable Development, adopted by the General Assembly on July 6, 2017. The data are published in the Global Database of SDG Indicators, which is maintained by the Statistics Division of the United Nations Department of Economic and Social Affairs. In the absence of sufficient data for a specific SDG indicator, additional indicators from internationally recognized sources on the ESCAP SDG Gateway Data Explorer portal are used.

In order to understand whether the country is moving towards the goal at a sufficient pace, a methodology for assessing the progress of countries in achieving the Goals and Targets of sustainable development has been developed. Two leading indicators are used to evaluate regional and subregional progress in achieving the SDGs: the current state index and the expected progress index (Figure 4).



Fig. 4. Scheme of the current state index and the expected progress index

The Current Status Index shows how much progress has been made since 2000. The Expected Progress Index shows the likelihood of achieving goals by 2030. The Expected Progress Index measures the gap between the predicted value of the indicator and the set target value. In an ideal situation, the Current Status Index would provide a reliable indicator that can be compared to all 17 goals. However, regarding that data availability is limited for some targets and the assessment is sensitive to adding new indicators, the results should be interpreted with caution.

Indicators are selected based on two criteria:

- 1) The presence of two or more data points for more than 50 % of the countries of the relevant region or subregion;
 - 2) The possibility of setting a quantitative target value.

Any indicator that does not meet any of these criteria is excluded from the analysis. If there are no index values for specific years, then available data are used. If the target value for the indicator is not set, it can be calculated based on the values and dynamics of the indicator in other countries of the region.

Denoting the indicator values for 2000 and the current year by I_{00} and I_{cv} , and the target value for 2030 as TV, and setting the normalized indicator values in 2000 and 2030 to 0 and 10, respectively, the normalized indicator value in the current year on a scale of 0 to 10 can be calculated as follows:

$$P_{cs} = \frac{I_{cv} - I_{00}}{|TV - I_{00}|} \times D$$

where D = -10 (desired decreasing index); D = 10 (desired increasing index).

The above values are calculated for each indicator and averaged over the targets and objectives to measure «average progress» in achieving each goal. If the region (or subregion) has progressed since 2000, then the average value of the normalized indicators for each goal gives an index ranging from 0 to 10. If it has regressed, the value is negative and indicates the size of the regression.

An essential aspect of the UNESCAP methodology is the inclusive measurement of progress in achieving the SDGs. The 2030 Agenda is a human-centered program document. Its main principle is not to leave anyone behind. The world will not be able to follow this principle if the assessment of progress toward achieving the SDGs is not based on it. The idea is to introduce a coefficient that adjusts the overall progress made on one indicator to the progress of the most vulnerable group. In this context, it is appropriate to consider personal and social sustainability as

fundamental categories, as the goal and task of governments to achieve the Sustainable Development Goals.

Thus, each Sustainable Development Goals is a system-forming union of tasks, indicators, and metadata that attribute a specific SDG (Metadata..., 2018). Undeniably, the level of social sustainability is determined by all the Goals and Targets of sustainable development. All of them, to some degree, are implemented according to the principle «No one will be left behind», which testifies to the fact that «People» is one of the most critical for humanity and planet, spheres of activity in which the Sustainable Development Goals and Targets, at least until 2030, will stimulate activity in this area. Therefore, the sphere of «People» in the 2030 Agenda for Sustainable Development occupies the first position as the most relevant direction (Agenda..., 2015).

Information support for the implementation of the SDGs with the help of national indicators of the SDGs makes it possible to assess progress in achieving sustainable development, timely identify current problems, prioritize the solution of economic policy tasks, establish relationships between sectors to ensure a synergistic effect and smooth out potential contradictions. It will also ensure accountability in the relationship between governments and citizens and contribute to raising awareness and mobilizing political support, stimulating sustainable development, and increasing social sustainability at all levels.

The scale and ambition of the Agenda require intensifying the work of the Global Partnership to ensure its implementation. This partnership will operate in a spirit of global solidarity. It will promote active broad participation in support of the achievement of all Sustainable Development Goals and Targets, involving governments, the private sector, civil society, international and other institutions, and mobilizing available resources. Sustainable development Goals and related Targets, considering different national realities, capacities, and levels of development, and considering national strategies and priorities, are comprehensive, indivisible, global in nature, and universally applicable.

The number of publications on sustainable development goals in the period from 2015 to 2022 was uneven.

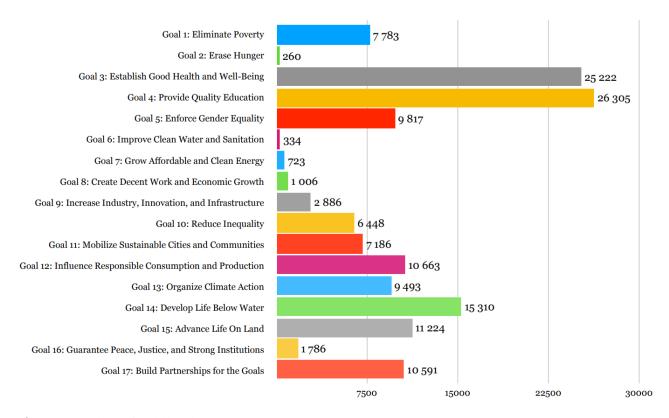


Fig. 5. Number of publications (ERA, 2015)

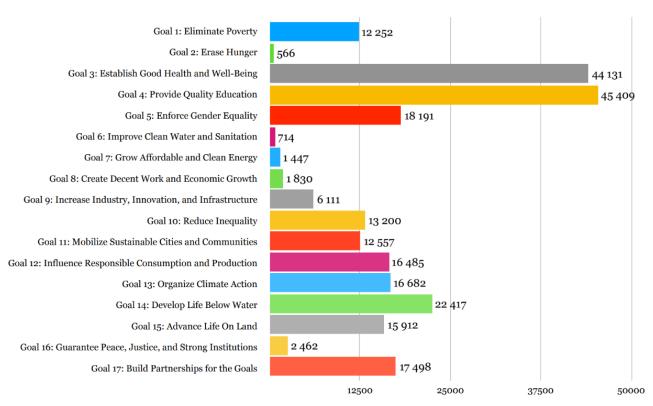


Fig. 6. Number of publications (ERA, 2022)

5. Conclusion

Thus, the UN Sustainable Development Goals are unevenly represented in scientific publications (Figure 5; Figure 6). For 10 months of 2022 among the most popular Goals which are under the research interests of scientists, we have singled out the following: SDG 4: Provide Quality Education – 45 409 publications; SDG 3: Establish Good Health and Well-Being – 44 131 publications and SDG 14: Develop Life Below Water- 22 417 publications.

The smallest number of publications covers SDG 2: Erase Hunger – 566 positions and SDG 6: Improve Clean Water and Sanitation – 714 (Figure 5).

As for the number of publications from 2015 to 2022, we observe an increase in all sustainable development goals. However, this growth was not uniform:

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SDG 1: 57,4 %
SDG 2: 117 %
SDG 3: 74,9 %
SDG 4: 72,6 %
SDG 5: 85,3 %
SDG 6: 113,7 %
SDG 7: 100,1 %
SDG 8: 81,9 %
SDG 9: 111,7 %
SDG 10: 104,7 %
SDG 11: 74,7 %
SDG 12: 54,6 %
SDG 13: 75,7 %
SDG 14: 46,4 %
SDG 15: 41,7 %
SDG 16: 37,8 %
SDG 17: 65,2 %
2015 – 140 037 publications, 2022 – 247 864 publications (growth – 76,9 %).
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References

Addo et al., 2022 – Addo, R., Koers, G., Timpson, W. (2022). Teaching sustainable development goals and social development: a Case study teaching method. *The International Journal*. 41(7): 1478-1488.

Agenda..., 2015 – Transforming our world: the 2030 Agenda for sustainable development. A/RES/70/1f. New York: United Nation, 2015. 40 p.

Barthel et al., 2022 – Barthel, S., Colding, J., Hiswals, A-S., Thalen, P., Turunen, P. (2022). Urban green commons for socially sustainable cities and communities. Nordic Social Work Research. 12(2): 310-322.

Deklaratsiia..., 2000 – Deklaratsiia tysiacholittia OON. Rezoliutsiia 55/2 Heneralnoi Asamblei OON [UN Millennium Declaration. Resolution 55/2 of the UN General Assembly]. [Electronic resource]. URL: https://www.un.org/ru/documents/decl_conv/declarations/summitdecl.shtml [in Ukrainian]

Deklaratsiia..., 2005 – Deklaratsiia tysiacholittia OON. Rezoliutsiia 55/2 Heneralnoi Asamblei OON [Outcome document of the 2005 World Summit. Resolution 60/1 of the UN General Assembly]. [Electronic resource]. URL: https://www.un.org/ru/documents/decl_conv/declarations/outcome2005.shtml [in Ukrainian]

Fitzgerald, 2022 – Fitzgerald, J. (2022). Transitioning From Urban Climate Action to Climate Equity. *Journal of the American Planning Association*. 88(4): 508-523.

GAR, 1948 – December 1948 (General Assembly resolution 217A). [Electronic resource]. URL: https://www.un.org/en/about-us/universal-declaration-of-human-rights

GAR, 1986 – Declaration on the Right to Development. General Assembly resolution 41/128 (04 December 1986). [Electronic resource]. URL: https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-right-development

Given et al., 2022 – Given, F., Allan, M., Mccarthy, S., Hemsley, B. (2022). Digital health autonomy for people with communication or swallowing disability and the Sustainable Development Goal 10 of reducing inequalities and goal 3 of good health and well-being. International Journal of Speech-Language Pathology. July 8.

Guo et al., 2021 – Guo, H., Liang, D., Chen, F., Shirazi, Z. (2021). Innovative approaches to the Sustainable Development Goals using Big Earth Data. *Big Earth Data*. 5(3): 263-276.

Jiang et al., 2021 – Jiang, Y., Zhang, L., Li, Y., Lin, J., Li, J., Zhou, G. (2021). Evaluation of county-level poverty alleviation progress by deep learning and satellite observations. *Big Earth Data*. 5(4): 576-592.

Lebid et al., 2020 – *Lebid, A., Degtyarev, S., Polyakova, L.* (2020). A study into the skills of using data verification tools as a media information literacy instrument for university students. *International Journal of Media and Information Literacy.* 5(2): 184-190.

Lebid, Shevchenko, 2020 – Lebid, A., Shevchenko, N. (2020). Cultivation of the skills of design thinking via the project-based method as a component of the dual model of learning. European Journal of Contemporary Education. 9(3): 572-583.

MDG, 2015 – Millennium Development Goal 8. Taking Stock of the Global Partnership for Development. MDG Gap Task Force Report 2015. New York: United Nation. 2015. 75 p.

Metadata..., 2018 – Metadata for the global and thematic indicators for the follow-up and review of SDG 4 and Education 2030. UNESCO Institute for Statistics. 2018. 108 p.

PAM, 2022 – Progress Assessment Methodology. [Electronic resource]. URL: https://data.unescap.org/resource-guides/progress-assessment-methodology

Rozporiadzhennia..., 2019 – Rozporiadzhennia Kabinetu Ministriv Ukrainy «Pytannia zboru danykh dlia monitorynhu realizatsii tsilei staloho rozvytku» [Order of the Cabinet of Ministers of Ukraine "Issues of data collection for monitoring the implementation of sustainable development goals"]. [in Ukrainian]

SDG's Report, 2022a – Sustainable Development Goals Report 2022. New York: United Nation, 2022. 65 p.

SDG's Report, 2022b – Sustainable development report 2022. From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond. Cambridge: University Printing House, 2022. 494 p.

Tura, 2019 – Tura, H.A. (2019). Achieving zero hunger: implementing a human rights approach to food security in Ethiopia. *Third World Quarterly*. 40(9): 1613-1633.

Ukaz..., 2019 – Ukaz Prezydenta Ukrainy «Pro Tsili staloho rozvytku Ukrainy na period do 2030 roku» [Decree of the President of Ukraine "On sustainable development goals until 2030"]. [Electronic resource]. URL: https://www.president.gov.ua/documents/7222019-29825 [in Ukrainian]

UN Declaration..., 1948 – The Universal Declaration of Human Rights. United Nations General Assembly in Paris on 10 December 1948 (General Assembly resolution 217A). [Electronic resource]. URL: https://www.un.org/en/about-us/universal-declaration-of-human-rights

Wilson et al., 2022 – Wilson, E., Verma, R., Jayanthakumaran, K. (2022). Can reducing inequality reduce the disutility of the poor? *Applied Economics Letters*. Jan. 10

Wynn et al., 2022 – Wynn, M., Jones, P. (2022). Industry approaches to the Sustainable Development Goals. International *Journal of Environmental Studies*. 79(1): 134-148.