

A Meta-Analysis of Sustainability Development Goals (SDGs) During the Covid-19 Pandemic

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Sustainability;
Development;
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Abstract: This study is a bibliometric analysis to determine the map of the development of the sustainability study of development goals during the COVID-19 pandemic by searching through Scopus with the keywords "SDGs" "COVID-19" in various international journals. The authors used the Scopus search engine to find random journals and identify publications related to sustainable development goals. This study implemented a data visualization software called VOSviewer to find out biometric Bil maps to analyze the results and trends in information production in the Sustainability Development Goals during the COVID-19 pandemic. The theme was then integrated into the Nvivo 12 plus software to produce the Sustainability Development Goals project. This study indicated that the development of research in 2021 is immensely increasing. The development of the dominant theme processed in NVivo12 Plus showed that the most prevalent word development appeared. Sustainability Switzerland journals published the most articles and were seen from research articles, followed by reviews, conference papers, notes, and editorials. The relationship theme in the Sustainability Development Goals (SDGs) studies during the COVID-19 pandemic was divided into 7 clusters or seven parts.

Kata kunci:

Meta analisis;
Pembangunan
berkelanjutan;
Covid-19.

Abstrak: Penelitian ini merupakan analisis bibliometrik untuk mengetahui peta perkembangan kajian keberlanjutan tujuan pembangunan di masa pandemi COVID-19 dengan melakukan penelusuran melalui Scopus dengan kata kunci "SDGs" "COVID-19" di berbagai jurnal internasional. Penulis menggunakan mesin pencari Scopus untuk mencari jurnal acak dan mengidentifikasi publikasi yang terkait dengan tujuan pembangunan berkelanjutan. Penelitian ini mengimplementasikan perangkat lunak visualisasi data yang disebut VOSviewer untuk mengetahui peta Bil biometrik guna menganalisis hasil dan tren produksi informasi dalam Tujuan Pembangunan Berkelanjutan di masa pandemi COVID-19. Tema tersebut kemudian diintegrasikan ke dalam perangkat lunak Nvivo 12 plus untuk menghasilkan proyek Tujuan Pembangunan Berkelanjutan. Penelitian ini menunjukkan bahwa perkembangan penelitian pada tahun 2021 meningkat pesat. Perkembangan tema dominan yang diolah dalam NVivo12 Plus menunjukkan bahwa kata development muncul paling banyak. Jurnal Sustainability Switzerland menerbitkan artikel terbanyak dan terlihat dari artikel penelitian, diikuti oleh review, conference paper, notes, dan editorial. Tema hubungan dalam studi Tujuan Pembangunan Berkelanjutan (SDGs) selama pandemi COVID-19 dibagi menjadi 7 kluster atau tujuh bagian.

INTRODUCTION

Throughout history, humankind has experienced crises that have endangered the consequences of the realization of the SDGs. Some huge global problems include influenza in 1918-1919, the Great Depression of the 1930s, and the 9 // 11 terrorist attacks in 2001, followed by the COVID -19 pandemic. (Spiteri, 2021). The World Health Organization officially declared the 2019 coronavirus disease outbreak (COVID-19) a public health emergency of international concern on January 30, 2020. the global recession caused by the COVID-19 is worrying and makes researchers question whether the sustainable development goals (SDGs) are appropriate for the post-pandemic (Munasinghe, 2020). Sustainable development goals view development as one of the entry points that offer the most significant promise to achieve

the desired transformation at the required scale and speed, the importance of sustainable development goals to become a new paradigm for future development. (Krellenberg & Koch, 2021). The United Nations approved sustainable development goals in 2015. They have been around for five years, and already many countries seem to be lagging (Valensition, 2020). Will the world's population change its consumption patterns? Will unemployment increase? When and how will the economy recover? Will working at home, the primary work modality of many engineers during a pandemic, really replace face-to-face work? Can homework be considered more sustainable than face-to-face work? Humans need to reflect and rethink how to adapt (Anholon R, Rampasso IS, Silva DAL, Leal Filho W, 2020)

In 2015, the UN declared 17 sustainable development goals (SDGs) to be achieved by 2030. The SDGs declaration is a universal call to end poverty and protect a fragile environment. Sustainability Development Goals (SDGs) also promote peace and harmony within the country and improve many aspects of life, humans, and other beings in the world (Gulseven et al., 2020). The sustainable development goals (SDGs) set universal goals to improve human life, improve the planet, foster prosperity, address food loss and waste, and improve health and ecosystems by reducing the negative impact of food on the environment or spreading manure. (Janet Fleetwood, 2020), increasing synergies and reducing trade-offs among the 17 sustainable development goals (SDGs) and 169 related targets adopted by world leaders from 193 countries are fundamental to realizing an ambitious and transformative vision of socio-economic and environmental Sustainability on planet Earth. Zhao et al. (2020) outlined some of the direct economic impacts of the virus, touching international trade, financial markets, air travel, and jobs. It is followed by the possible direction of the effect of the latest COVID-19 analysis, research, and information observation about the future world economy and the potential consequences for implementing the SDGs.(Filho et al., 2020). Several studies have focused on assessing the impact of the SDGs on Sustainability.

The unforeseen problems and complexity of the situation require adopting a competent approach to the confirmed case of COVID-19, which is a formidable challenge in the sustainable development process, and it is an essential task. (Pirouz et al., 2020). Sustainability Development Goals (SDGs) consist of goals, targets, and indicators. The preliminary study has assessed progress towards sustainable development using various hands relevant to the Sustainability Development Goals (SDGs). Their Sustainability Development Goals (SDGs) index correlated with other critical indicators for Sustainable Development: gross domestic per capita product, Human Development Index, and subjective well-being as Sustainability Development Goals (SDGs) embrace trade-offs. Some studies combined SDG indicators with other methods to capture the interdependence of other studies linking the SDGs with further sustainable development. (Uehara & Sakurai, 2021).

J Fleetwood (2020) explained in his research entitled *Social Justice, Food Loss, and the Sustainable Development Goals in the Era of COVID-19 Sustainable Development Goals (SDGs)* set universal goals to improve human life.

The bibliometric method allows researchers to base their findings on bibliographic data sets produced by other scientists working in the field who express their opinions through citations, collaborations, and writings. When this data is aggregated and analyzed, insights into field structure, social networks, and topic interests can be brought forward. The bibliometric analysis is increasing. The median year of publication of bibliometric studies in management and organization is 2011, which means that more than half of the articles were published in the last three years. The author's anecdotal experience also shows that management scholars are increasingly interested in using bibliometric methods to complement subjective evaluations of literature reviews. This growth has been attractive (Zupic & Čater, 2015)

RESEARCH METHODS

This research was conducted with a focus on analyzing the sustainability of development goals during the COVID-19 pandemic. In this paper, the authors dig up information related to the Sustainability Development Goals (SDGs). This study aims to find the novelty of the literature. Therefore, Literature Review is an appropriate research method chosen to achieve the objectives of this study. The data source for this research was internationally accredited articles, and data collection was searched through the database (<https://www.scopus.com/>). TITLE-ABS-KEY (((SDGs AND COVID-19))), 160 After being specified as a social science TITLE-ABS-KEY (("SDGs" AND (LIMIT-TO (SUBJAREA "SOCI"))) 90. Scopus is one of the most extensive citations and abstract databases of the review literature, such as scientific journals, books, and conference proceedings. Regarding the delivery of research map information, the data was exported in the RIS Export file format. Then, the researchers exported the data in the (RIS) format, processed using VOSviewer to find out the bibliometric map of research development based on the big theme of the Sustainability Development Goals during the COVID-19 pandemic. This study used VOSviewer to see the frequency of words most often discussed and visualize the relationship between the central theme and the latest literature. The mapping stage in this study was carried out through the following process. The first, full-text articles were imported into the VOSviewer and NVivo 12 plus software. This process was to obtain data clusters and visualize the research theme network. While the Nvivo 12 plus software was used to input learning topics, in this database using terms or keywords, social since and repository institutions through the search column "Search documents." Some of the data were analyzed descriptively based on the dominant theme, the relationship between them, the theme category, the article based on the year of publication, the organization that published it, the country that issued it, the name of the journal/publication, the type of document, and the research topic.

RESULTS AND DISCUSSION

Scientific journals have become a parameter of scientific development in institutions (educational institutions and non-educational institutions). Journals can also be the requirements recognized by institutions (especially educational institutions or universities) (Pama'tan & Panca, 2020)

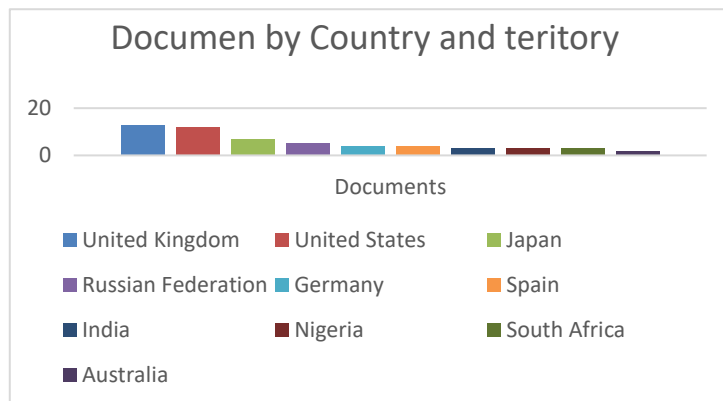


Figure 1. Countries Publishing the Most Journals About Sustainability Development Goals during the COVID-19 Pandemic

They are presenting the conclusions, implications, limitations, and suggestions of the research in sequence. Implications are practical advice from the research results. Research limitations include things that researchers can do when conducting their research. At the same time, suggestions are suggestions for further research based on constraints that researchers cannot do in their study.

Table 1. Countries Publishing the Most Journals About Sustainability Development Goals during the COVID-19 Pandemic

Country	Documents
United Kingdom	13
United States	12
Japan	7
Russian Federation	5
Germany	4
Spain	4
India	3
Nigeria	3
South Africa	3
Australia	2

Source : Seconadry Data, 2022

Every country competes in publishing scientific papers from every educational institution in a country. In addition, regarding the country that issued the most articles regarding "Sustainability Development Goals in the COVID-19 pandemic era", United Kingdom has 13 documents, followed by the United States with 12 papers. Japan has seven papers from the Russian Federation, followed by five papers from Germany, four papers from Spain, India, three documents from Nigeria, three documents from South Africa, and two papers from Australia. Figure 8 and Table 2 reveal more detailed information on country rankings published on "social media sites" Social Change in Indonesia."

In this section, concepts are described in several visualizations related to the theme of this study. Forty-nine (49) of them were identified in 58 articles. Furthermore, their review with VOSviewer revealed seven concept groups (see Table 1). Figure 1 shows the concepts derived from the cluster density display. Moreover, the color code used is used to see a list of images that stand out from each cluster. The aim is to identify as many themes as possible that are often discussed in previous research and used in future research. Figure 1 shows a different color that distinguishes the cluster density from each cluster.

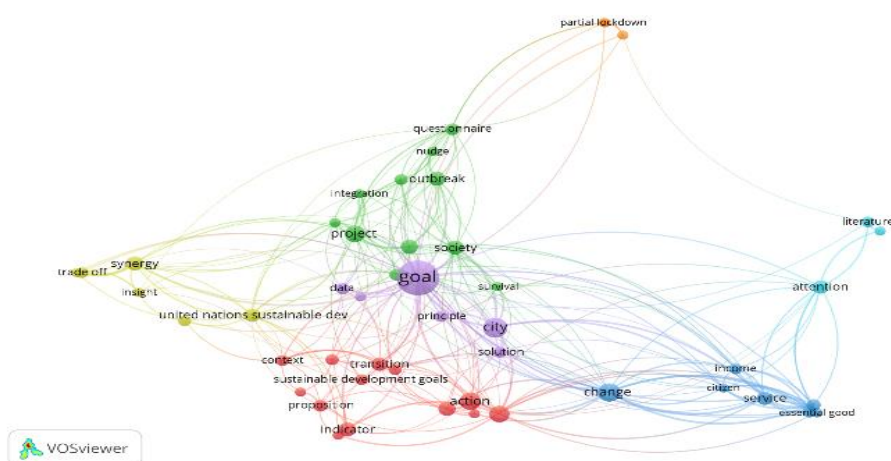


Figure 2. Relationship of Themes in the Study of Sustainability Development Goals in the Covid-19 Period

Mapping identification in Figure 2 can help researchers, especially those who start their research from scratch. When they find a topic of interest in a particular area, they can read articles related to that topic with the help of this study. In Cluster 1, the related concepts are

Action, beginning, Britain, context, future, indicators, critical Islamic banking sustainability indicators, peace, person, proposition, sustainable development goals, sustainable word, transition. In contrast, Cluster 2 emphasizes the concept of Sustainability Development Goals, Climate, household, integration, nudge, order, outbreak, project, questionnaire, society, student, survival. In Cluster 3, the concept is aimed at the community or Sustainability Development, Change, citizen, essential good, income, inequality, intervention, service. Cluster 4 focuses on Insight, organization, spillover system, synergy trade-off.

Furthermore, Cluster 5 focuses on City, data, goals, principle, solution, value, while Cluster 6 shows the goals of Sustainability Development. Goals, namely Attention, literature, tertiary education. While Cluster 7 is more about Sustainability Development during the COVID-19 pandemic. For researchers who want to discuss the theme of the Sustainability Development Goals, this clustering will help analyze any related concepts. For example, when researchers choose cluster 6, the starting point that needs to be used as body literature is the main objective of the Sustainability Development Goals. In addition, researchers can also search for related literature in the reference manager

Table 2. Themes Clustering in Sustainability Development Goals

Cluster	Concept Name	Total
Cluster 1	Action, beginning, Britain, context, future, indicator, key Islamic banking sustainability indicator, peace, person, proposition, sustainable development goals, sustainable word, transition	13
Cluster 2	Climate, household, integration, nudge, order, outbreak, project, questionnaire, society, student, survival	11
Cluster 3	Change, citizen, essential good, income, inequality, intervention, service.	7
Cluster 4	Insight, organization, spillover system, synergy trade-off	6
Cluster 5	City, data, goals, principle, solution, value	6
Cluster 6	Attention, literature, tertiary education,	3
Cluster 7	Partial lockdown, public perception, social distancing	3

Source: SDGs Global, 2022

For Cluster 1 related to the Sustainability Development Goals during the pandemic, the relevant articles as references, for example, those written by Krellenberg and Koch (2021). The sustainable development goals pursue indicators, actions in the beginning to support the future and the transition, demonstrates the shift towards urban dimensions to a sustainable political plan to make cities and human settlements inclusive, safe, resilient, and sustainable urban areas as an arena for implementation and demonstration.

In Cluster 2, it is necessary to see that the climate in development requires collaborative efforts from the community and integrity for survival as described in Ecosystem-centric business continuity planning (eco-centric BCP). A post-COVID-19 new regular explains that people have a decade remaining to combat the adverse effects of the climate crisis. The environmental improvement provides an example that a change in approach can show tangible results so that integration in living sustainability has a more positive effect impetus (Mukherjee et al., 2020). Cluster 3 deals with change, citizens, essential, income, inequality, interventions, services. The shift from state action to social action by violating state monopolies allows charities, social enterprises, and corporations to provide citizens with facilities to move away from inequality in services, devolving power to the environment and making government more accountable (Mycock & Tonge, 2011). Cluster 4 shows the insights from an organization needed to foster the necessary systemic and transformative approaches (Moreno-Serna et al., 2020). Cluster 5 aims, principles, solutions, and values with an open mindset, agreeing on a common language, and developing stories about the future.

COVID-19 in 2019 has closed access in Sustainability Development Goals so that economic sustainability decreases.

Theme Category Studies in the Sustainability Development Goals

Based on cluster analysis with NVivo 12 plus sourced from 58 Scopus indexed articles, there are seven main clusters in the Sustainability Development Goals study (Figure 3), namely development, sustainable, sustainable development, policy, pandemic, impact, Coronavirus. Furthermore, categorizing the research themes shows that the research on the Sustainability Development Goals is about six pieces.

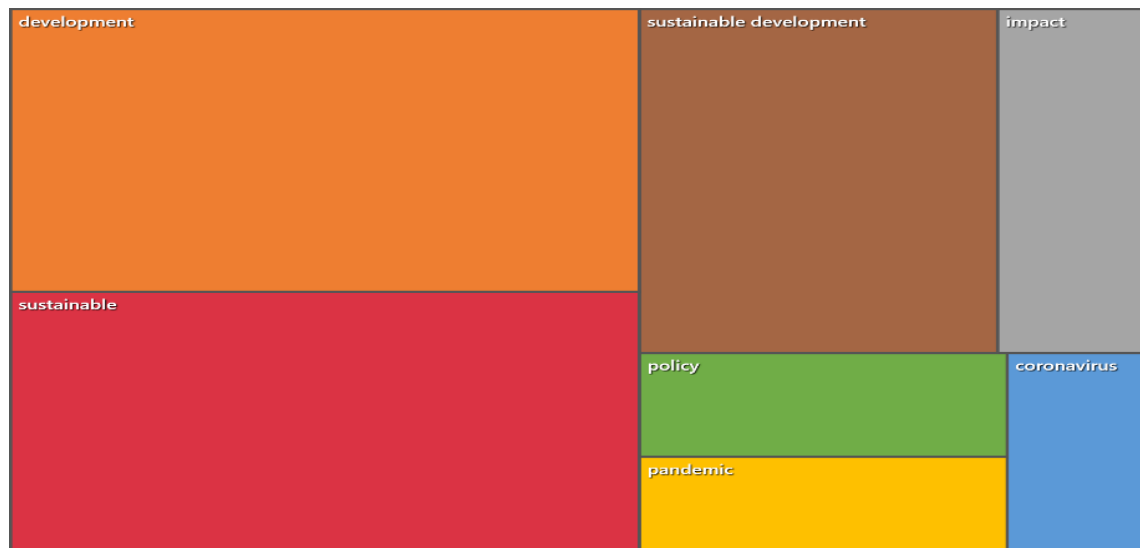


Figure 5. Categories of Study Themes in the Sustainability Development Goals

The theme of this research discusses Development, Sustainability, policy, pandemic impact, Coronavirus related to the Sustainability Development Goals to strengthen the Sustainability of SDGs until the targeted time, in terms of policies on the effects of the COVID-19 pandemic. Therefore, government science policies on biodiversity and ecosystem services call it that countries have not achieved the relevant results in SDG 13, SDG 14, and SDG 15 even though the efforts appear to be effective. (Alvarez-Risco et al., 2021), Then, it is developed to address the problems and solutions related to the objectives stated in the section. (Shahidul MI, 2020), after the COVID-19 pandemic, postgraduate projects should be deliberately encouraged to tackle the SDGs. Make a positive social impact on us contributes a lot to human capital and social development. (Useh, 2021). There are several effects of COVID-19 in Indonesia on the SDGs target at several points, such as affecting poverty and hunger levels and affecting inequality. The number of unemployed increased due to lockdown at the beginning of 2020, confirmed by the President of the Republic of Indonesia, Jokowi Widodo, on Monday, August 24, August 24, 2020. The COVID-19 pandemic hurt both the health sector and the economy. According to him, this crisis condition makes the Sustainable Development Goals (SDGs) challenging to achieve. (Jokowi-Crisis-Result-Pandemic-Covid-19-Worsen-Achievement-SDGs @ Www.Liputan6.Com, nd).

So from that, the regional government is a critical player in the achievement of TPB because they distribute public services directly to citizens. The effort to involve provincial governments to be more active in achieving the TPB is advocacy by the LOCALISE SDGs program. This program is implemented by UCLG ASPAC in collaboration with APEKSI and links regional government associations and the DPRD with financial support from the European Union. This program emphasizes the meaning of localizing the TPB in the planning process and implementing development in the region.

With the COVID-19 pandemic, which began to be experienced by global citizens at the end of 2019, people inevitably want to influence various international and national development

schemes. The energy sources currently available will be prioritized more in dealing with the Covid-19 pandemic and supporting the economies of many affected residents. FAO (2020) reported that the pandemic affected the fishery zone, but not the fish. This statement must undoubtedly be supported by studies, as well as sufficient information. No studies have analytically reviewed the impact of COVID-19 on achieving the SDGs targets, especially the SDGs. However, this situation certainly does not dampen fisheries and marine activists from continuing to strive to support the target of achieving the SDGs in 2030, with the challenges of this pandemic. The dialogue is related to achieving the SDGs goals during the COVID-19 pandemic from the perspective of activists. Of course, it will be beneficial as input for policymakers and other stakeholders who continue to support the achievement of SDGs targets.

Overlay visualization of 58 documents published in 2020-2021

Based on the analysis, the imported metadata into VOSviewer will also be generated Visualization overlays. In this visualization, the node's color represents the keyword and the year the article containing the keyword. The darker the color, the more topics on the node discussed in the research.

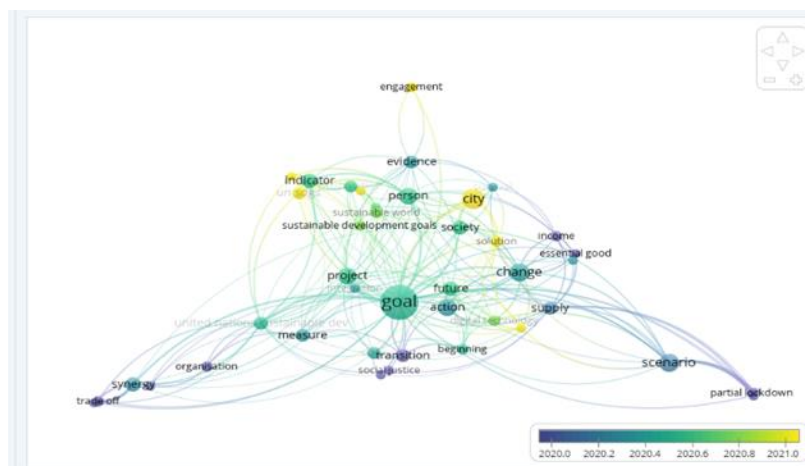


Figure 6. Overlay visualization of 58 documents published in 2020-2021

Figure 6 shows the issues related to the city, solutions, and purple knots that are the topics discussed this year from 2020 to 2021. Topics include blue, green, and yellow nodes. This topic was discussed extensively between 2020 and 2021. Our groupings typically identify larger clusters in a relatively limited number and a more substantial number of smaller groups. (van Eck & Waltman, 2017)

In Figure 6, the saturation level indicated by the number of keywords that often appear can be marked by the yellow color around the labels goals, person, society, evidence, project. This area is a topic that has been widely researched. In contrast to the issues covered in green and yellow, such as City, solutions, management, word sustainability, and Sustainability. Development Goals. The topics mentioned last have not been widely researched because many researchers prefer to study development goals during the COVID-19 pandemic. It indicates the distance in onomastic research at this time so that the opportunity to investigate the same topic.

Density Visualization

The cluster density view is the item (label) marked the same as the visible item. Each item dot has a color depending on the Density of the thing at that time. It identifies that the color of the points on the map depends on the number of items associated with other topics. This section is handy for getting an overview of the general structure of the map. Bibliometric Scopus indexed visualization of the Density of agricultural research developments by paying attention to the items considered essential to be analyzed (Tupan, 2016).

In addition to visualization based on title and abstract, the authors also performed visualization based on co-occurrence with keywords as a unit of analysis. In this analysis, the authors used the complete counting calculation method to see which keywords appear the most frequently in the 2020-2021 period. The results of the Co-Authorship analysis on the search results obtained 77 keywords. The minimum number of keywords for publication of each document is three keywords. From this analysis, seven clusters were color-coded red, dark blue, light blue, green, yellow, and purple (Figure 1)

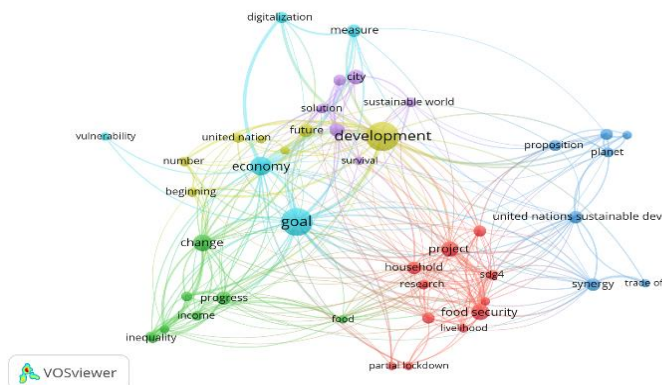


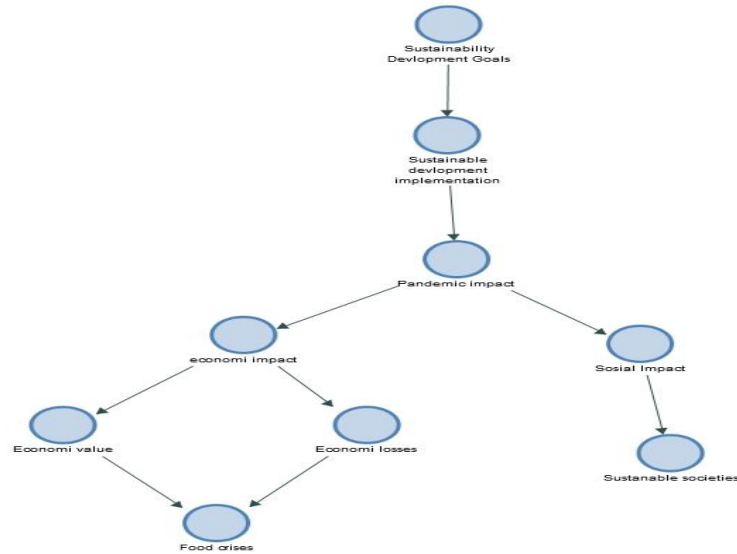
Figure 8. Visualization based on keywords

The relationship between the cluster and each document is visualized from a close distance (Yuliani et al., 2020). Based on the visualization results on keywords, the image above that the development keyword becomes the largest node indicates that the word development is the most frequently used keyword. Furthermore, keywords with large nodes are often used, namely goal, economy, change, and scenario. The non-standardized keywords will result in non-standardized terms. a Thesaurus should be used to standardize them. A thesaurus is a glossary of times with a specific field. Standardization of keywords with a thesaurus aims to maintain consistency in words used so that only one time is used for concepts expressed in different works and has the same meaning. (Farida & Firmansyah, 2020).

The means needed to deal with the COVID-19 pandemic is global solidarity. This pandemic has incredibly triggered an economic crisis globally, only to be handled through international cooperation. For example, starting with the most straightforward deed, like sharing information about the development of the Coronavirus in each country. Each country must begin to be open to other countries. In addition, in various other fields such as economy, transportation, health, politics, tourism, and research, global cooperation is also needed. Cultural values can become the foundation of international solidarity or the spirit of collaboration (*gotong royong*). If *gotong royong* covers only one village, then to build global unity, it needs to be extended to various countries. This kind of cooperation is a valuable cultural asset, and people must help it build a world civilization towards global unity. (Purwanto & Emilia, 2020).

SDGs Project pandemic impact

The current pandemic has hit the economic and social sectors, and this issue can have implications for society, namely the increasing unemployment rate in the world



Based on Figure 9, the Sustainability Development Goals during the pandemic had a significant impact. Several obstacles were experienced in developing the 17 SDGs indicators targeted until 2030 due to large-scale social restrictions (PSBB) in every region or country, not only the economic impact. The most felt is the social impact so that the community touches no social life during the COVID-19 pandemic.

Conclusion

From the discussion, 58 documents were retrieved from the database (<https://www.scopus.com/>). Related to the Sustainability Development Goals during the COVID-19 pandemic, seen from the relationship between the themes divided by several analysis clusters and the dominant themes, researchers often discuss these themes. Researchers in 2021 tend not to do much research on Sustainability Development Goals during the COVID-19 pandemic. In the density visualization, the keywords for lockdown, organization, beginning, solution, supply have not been studied much. Keywords that are often used or frequently appear, such as Goals, Development, economy, change, have been widely used. Organizations from several countries publish articles on Sustainability Development Goals during the COVID-19 pandemic. The results showed that the pandemic is an ecological situation due to large-scale social restrictions in every region or country. The most affected is the society where the community barely has social life during the COVID-19 pandemic.

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