The implementation of the Sustainable Development Goals and its relationship with Library Science: an analysis

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Abstract: This study presents the result of a bibliographic research on scientific production on the theme of Library Science and 2030 Agenda and the Sustainable Development Goals, indexed in the Web of Science and Scopus between 2015 and 2021. The 2030 Agenda, set in 2015, presents the Sustainable Development Goals covering economic, cultural, environmental and social development. This study shows how libraries help to achieve these objectives using practical examples of cases verified all over the world. This is a descriptive study, with a qualitative methodological approach with quantitative support, but with emphasis on content analysis.

1. Introduction

The research has made it possible, among other aspects, to undertake an analysis of the number of articles published, per year, about the Sustainable Development Goals (SDGs) and it has shown a growing evolution in the interest of researchers concerning libraries issues, the 2030 Agenda and SDGs, in recent years.

This research aims to raise awareness of the Sustainable Development Goals and targets most associated with libraries concerning research and main issues,

since libraries are privileged agents for implementing and supporting the implementation of the 2030 Agenda
This is a descriptive study that reflects on the role of libraries as agents for sustainable development, in accordance with the 2030 Agenda and the SDGs, based on the results of a bibliographic search of the scientific production on this theme indexed in the Web of Science (WoS) and Scopus, between 2015 and 2021.

2. 2030 Agenda and the Sustainable Development Goals

The 2030 Agenda, proposed by the United Nations (UN) in 2015 was presented to countries as a sustainability plan, to be implemented through development goals. It is a universal plan that aims to improve the world in environmental, economic, and social aspects so that the lives of citizens in different countries are transformed and developed.
These SDGs formed a new proposal to upgrade those previously put forward by the UN between 2000 and 2015, the 8 Millennium Development Goals which similarly proposed social and economic targets to political rulers, and others, to reform the world (United Nations, 2000).
Seventeen Sustainable Development Goals and 169 corresponding targets have been created for national and local governments, public and private institutions, and individuals to implement and have them enforced through innovative and sustainable decision-making. The SDGs have the scope of the year 2030, by which time developed and developing countries will have proactively been able to work on the SDGs they most need, from the most global to the most local, in an inter-relational and/or integrated manner. The suggestion is to work on one SDG in particular, or, in an holistic manner, on all the SDGs, making the world in general, or in a more regional and local aspect of the world, more sustainable and inclusive. Sustainability is the motto for the promotion of the Goals, so that poverty and hunger are eradicated; the environment, terrestrial and marine life are protected, renewable energy is plentiful; the fight against climate change is carried out, education and health are effective; gender equality and dignified work are achieved; industry and infrastructure, drinking water and sanitation, as well as sustainable cities are possible; a less unequal world, living in peace and with justice, strengthening the means to implement these SDGs with partnerships of all kinds, are the aspirations of the UN and all entities that have come together to construct policies, measures and actions to achieve the fulfilment of the Goals (United Nations, 2016). The UN's annual reports have shown some progress in certain areas, such as a reduction in extreme poverty, a decrease in infant/child mortality rates and an increase in individuals' access to electricity. These reports show that the global response is still not ambitious enough, and there are still many vulnerable people and countries (United Nations, 2020). These SDGs are a challenge for the general transformation of societies, with micro and macro, economic and environmental implementations, so that the well-being of all is achieved.

3.   The role of IFLA and libraries as agents for sustainable development

The 2030 Agenda and the Sustainable Development Goals are a commitment to the ideal of improving the human condition in all aspects, with the main aim being peace, justice and social equality for all. This wish is expressed in Goal 16, which aims to promote peaceful and inclusive societies for sustainable development. Target 16.10 states that ensuring public access to information and protecting fundamental freedoms is the primary path to transforming the world.

Libraries and documentation centers are essential partners in and for sustainable development and the implementation of the 2030 Agenda, through the availability of their services in to providing access to information. The importance of IFLA (International Federation of Library Associations and Institutions), to the UN and information professionals, is mentioned to highlight the essential role that libraries and information centers play in the access to information and the networked services that support development.

Through the International Advocacy Programme (IAP), IFLA undertakes awareness raising on the SDG among information professionals worldwide, promoting the role that libraries can play in development at local and national levels, not only in access to information, but also in the development of SDG, particularly in information literacy, in helping local governments understanding the information needs of communities, promoting networked services, digital inclusion and Information and Communication Technologies.

According to IFLA, public libraries are at the forefront of implementing the SDG, with accessible information services responding to the interests and needs of different groups and institutions that make up the communities in which they are located. Their actions favor dialogue between citizens and local authorities, a key relationship that makes it possible to carry out social projects in line with the goals of the 2030 Agenda.

Public libraries can make a clear contribution to the 2030 Agenda Goals, not as isolated entities, but as agglutinating and social involvement centers for, and with, communities in direct contact with public administrations and local development projects.

Academic libraries can also contribute to sustainable development by offering products and services to their communities. Making information available and training users to access information is a way of exercising its social function and enabling individuals to exercise their civil, political, and cultural rights.

4. Sustainable Development Goals and Library Science

In this study, we sought to know the scientific output, particularly scientific articles, published on this topic within the scope of Library Science, especially because the value of libraries, archives, documentation centers, and others, in the implementation of the guidelines of the 2030 Agenda and the 17 SDGs, is recognized and assumed.

More than ideological the 2030 Agenda is a commitment to a common ideal for the improvement of the human condition in all aspects, aiming above all at social justice and equality. And libraries and documentation centers assume themselves as fundamental partners in and for sustainable development and implementation of the 2030 Agenda.

In many places around the world and in many local communities, information and documentation centers are the only space where citizens can access information to help them improve their education, develop new skills, find jobs, build businesses, make informed decisions about agriculture and health or get information on environmental issues, and to improve their lives.

Access to information is not an end in itself but is the driver of progress to empower communities and sustain equality for all individuals as advocated in the holistic approach of the 2030 Agenda.

To implement the SDG, libraries and information centers support access to information, develop literacy actions, help local governments fulfil the information needs of communities, promote networking services, digital inclusion and Information and Communication Technology (ICT), among others.

5. Method

To obtain the articles to be analysed, an exploratory and bibliographic search was conducted in the Scopus and Web of Science databases from 19 January 2022. The search expression was ("2030 Agenda") OR ALL FIELDS: ("17 Sustainable Development Goals") AND (Librar* OR Archiv*) conducted in "all fields" with the time limit 2015-2020, with the results subsequently limited to the documentary typology article. This strategy allowed to retrieve a total of 74 articles.

The extraction and analysis of data from each article was carried out using the Microsoft Excel program, for which purpose a file was created with the following information: database, year, author(s), article title, journal of publication, SDGs and targets, subjects, keywords, library typology, countries, and continents.

After collecting the information, data were processed using pivot tables to prepare the various tables and graphs that support the article and help not only in the analysis of the data obtained, but also in its visualization and interpretation. However, and despite the quantitative support, this study was configured as a qualitative research approach using content analysis of the retrieved articles.

6. Results

With this research, we aim to raise awareness of which are the Sustainable Development Goals and targets most associated with libraries concerning research and main issues, since libraries are privileged agents for implementing and supporting the implementation of the 2030 Agenda. In the Information

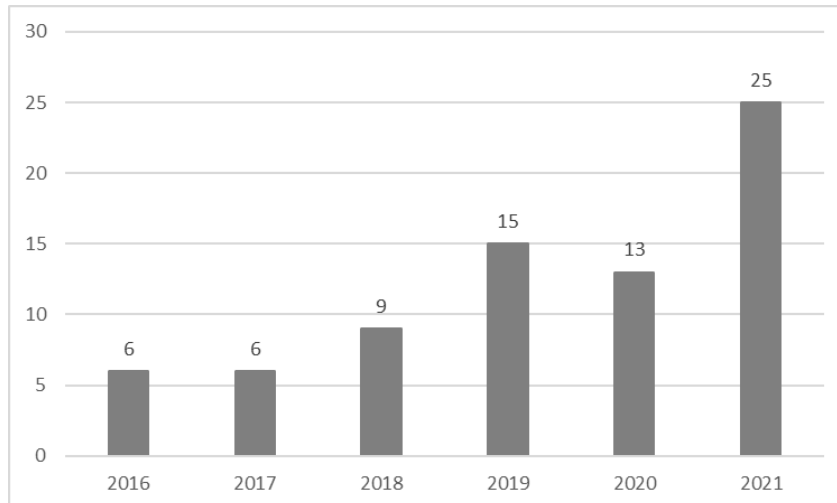Science research area, we noticed that the number of articles published on this

Figure 1 – Number of articles per year

topic is increasing as it can be seen in Figure 1.

6.1 Number of articles per SDG

Regarding articles per SDGs, it was found that 23 of the total covered the SDGs holistically (Table 1). However, on an individual level, we can highlight SDG 4 - Ensure inclusive education, which appears in 19 articles. Within this SDG, target 4.3 - Ensure equal access for all to quality technical, vocational and higher education - is identified in 9 articles. For Osuchukwu and Nebolise (2019) libraries play an important role in promoting education through the provision of resources such as information and communication technologies and other alphabetisation and literacy activities.

Also SDG 16 - Promote peaceful and inclusive societies - stands out, with particular emphasis on target 16.10 - Ensure access to information, on which information was found in 15 articles. In fact, access to information (regardless of the medium) is seen as the key to achieve the other SDGs and their respective targets (Wellems, 2017).

Goal		Nr of articles
1	No poverty	2
3	Good health and weel-being	1
4	Quality education	19
5	Gender equality	1
6	Clean water and sanitation	1
9	Industry, innovation and infrastructure	3
10	Reduce inequalities	2
11	Sustainable cities and communities	4
13	Climate action	2
16	Peace, justice and strong institutions	15
17	Partnership for the goals	1
All SDGs	17 Sustainable Development Goals	23
		74

Table 1- Number of articles per SDG

With the aim of integrating libraries into the theme of sustainability, IFLA published in 2002 the *Declaration on Libraries and Sustainable Development*, years before the release of the 2030 Agenda. In this document, IFLA urged libraries and information services to advocate and promote sustainable development, stating that "library and information services promote sustainable development by ensuring freedom of access to information" (IFLA/FAIFE, 2002).

Of the 74 articles retrieved, regarding the contents and subjects, a general view on Sustainable Development Goals mostly prevails. This holistic vision confirms their philosophy in that they are understood in an integral and indivisible manner.

6.2 Number of articles per type of library

Looking at the results from Table 2, the number of articles in terms of type of library, it can be seen that 23 of the articles are about public libraries (of which two are about rural public libraries). According to IFLA, public libraries are at the forefront of implementing the SDGs, with accessible information services responding to the interests and needs of different groups and institutions that make up the communities in which they are located. Their actions favour dialogue between citizens and local authorities, a key relationship that makes it possible to carry out social projects in line with the goals of the 2030 Agenda. These institutions can make a clear contribution to the 2030 Agenda Goals, not as isolated entities, but as agglutinating and social involvement centres for, and with, communities in direct contact with public administrations and local development projects (Fernández-Hernández, Lobelle-Fernández, Rivera, 2018).

Higher education libraries are also noteworthy with seventeen articles, highlighting the important role of librarians in supporting teaching and research, thanks to their skills in searching and accessing information, as well as in the use of Information and Communication Technologies (ICT).

As stated by Silveira, Juliani, and Chagas (2016): "University libraries can contribute to sustainable development by offering products and services to their community. Making information available and training users to access information is a way of exercising its social function and enabling individuals to exercise their civil, political and cultural rights. It also enables these individuals to exercise their citizenship and reaffirm their identities as participating subjects within society" (p. 6).

Type of institutions	Nr. of articles
Municipal archive	1
Libraries	16
Public libraries	21
Higher education libraries	17
Libraries & Archives	4
School libraries	3
Public rural libraries	2
National library	1
Digital libraries	1
Public libraries & Higher education libraries	1
Public libraries & Mobile libraries	1
Informations center	1
N/A	1
Total	74

Table 2– Number of articles per type of institutions

In 16 of the articles libraries are mentioned as a whole with no mention of their typology, but in most of these cases they are articles about public libraries, without however, not being identified as such.

6.3. Number of articles per subject

It was possible to identify 16 subjects covered in one or more of the 74 articles retrieved. As can be seen in Table 3, the most identified issue was the importance of Information and Communication Technologies (ICT) in providing support so that libraries can provide SDGs (14 out of 74), followed by Socio-economic Development with nine, Literacy with eight, Advocacy and

Librarian training/skills with seven, Green libraries with six articles and Public policies and Lifelong learning with five articles each.

Also important is the protection of the environment, linked to green libraries and climate change, as well as Lifelong Learning and Social Inclusion, very much present in the 17 SDGs and their 169 targets.

Subject	Nr of articles
ICT	14
Socio-economic development	9
Literacy	9
Advocacy Agenda 2030	7
Librarian training/skills	7
Green Libraries	6
Public Policies	6
Lifelong learning	5
Protection of the Environment	4
Social inclusion	3
Open Access	3
Collection development	2
Gender equality	2
Social inclusion	1
Preservation of cultural heritage	1
SDG strategic management	1

Table 3 – Number of articles per subject

6.4. Number of articles per continent

The 2030 Agenda aims for global, universal coverage, with application throughout the world. Thus, it is not surprising that articles with a global vision in geographical terms have been retrieved, aiming at the SDG implementation on various continents, countries, or cities. However, we can emphasize the African countries, mainly Nigeria with 21 of the 22 articles that mention African experiences.

Continent	Nr. of articles
Africa	22
America	8
Asia	5
Europe	15
Oceania	3
Several	8
Sine loco	13
Total	74

Table 4 – Number of articles per continent

Conclusions

In 2015, world leaders adopted an ambitious Agenda with 17 Sustainable Development Goals. This global plan aims to transform the world by 2030, to ultimately create dignified lives for all. It is a universal, integrated, and transformative vision for a better world. This research has made possible, among other aspects, to undertake an analysis of the number of articles published, per year, on this topic, and has shown a growing evolution in the interest of researchers concerning libraries and the 2030 Agenda and SDGs, in recent years.

Analysis of the evolution of the 2030 Agenda and its academic, professional, and social importance among Information Science researchers based on the experiences and reports from several libraries, in several countries around the world, allows us to highlight the beginning of a basis for the construction of a research field regarding Sustainable Development and the 2030 Agenda.

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