Study on the perception of South Korean librarians of the *UN Sustainable Development Goals* (*SDGs*) and the strategy to support libraries

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Abstract

This study made an attempt to understand the level of South Korean librarians' awareness of the *United Nations' Sustainable Development Goals* (*SDGs*) and *IFLA*'s support strategy for the *SDGs*, the degree of implementation of the *UN's SDGs* support strategy by individual libraries, and how much the librarians agree with *IFLA*'s support strategy. As a result, first, this study revealed that public librarians had little knowledge of the *UN SDGs 2030* agenda or the fact that *IFLA* has proposed support strategies for the *UN's SDGs*. Second, this study found a high level of agreement among librarians with *IFLA*'s support strategies set for libraries to achieve the *UN SDGs* . Reflecting the two results above, it can be understood that librarians, though they were not well aware of the agenda of the *UN SDGs 2030* or the library's support strategies set by *IFLA* for the agenda, highly agree that the library's support strategies suggested by *IFLA* are the role of libraries. Therefore, widely promoting the library's support strategies proposed by *IFLA* for the *UN SDGs 2030* is highly likely to encourage many librarians to participate actively.

Keywords

1. Introduction

The *United Nations' Sustainable Development Goals* (*SDGs*) cover all issues around the world and address the willingness to resolve them, focusing on inclusive economic development, sustainable development, peace, and security. The government of South Korea has implemented plans and systems for the *SDGs*, such as global-level cooperation policy for implementation of the *SDGs*, support for implementation of the *SDGs* in developing countries in terms of international development cooperation, and establishment of domestic policy and governance system in line with the *SDGs* (**Park**; **Jung**; **Kim**, 2017; **Kim**; **Lee**; **Woo**, 2016). The *UN SDGs*, which set out 17 goals, are different from the previous development agenda in that they specify the goal of

> "Strengthening the means of implementation and revitalize the Global Partnership for Sustainable Development." (17th goal).

This goal, encompassing international development cooperation projects, is an important goal itself, dealing with development resources and partnerships.

The Korean government launched the *Sustainable Development Committee* in 2000 for the global implementation at the national level and suggested the direction of sustainable development in accordance with the *Sustainable Development*

Act (*Act No. 9931, Enforcement 2010.4.14*), enacted in 2010. In addition, the government periodically evaluates and announces achievements of the government's sustainable development policy on the basis of sustainable development indicators, such as social (32 indicators), environmental (29 indicators), and economic (23 indicators) factors. The government announced its *1st*, *2nd* and *3rd* '*National Sustainable Development Strategy and Implementation Plan*' starting from 2006, and established plans until 2035, in which the '*3rd Basic Plan for Sustainable Development (2016-2035)*' has been reflected in accordance with domestic conditions for the implementation of the *UN's SDGs* and contents and scope have been expanded, compared to the *2nd Basic Plan*, to include other policies such as improvement policy set for vulnerable areas identified in previous evaluations (*Sustainable Development Committee*, 2016).

> This study made an attempt to understand the level of librarians' awareness of the *UN*'s *SDGs* and *IFLA*'s support strategy for the *SDGs*, degree of implementation of the *UN*'s *SDGs* support strategy by individual libraries and how much the librarians agree with *IFLA*'s support strategy

The library community has been also looking to change the role of libraries in order to make contributions to achieving the *UN*'s *SDGs*. The *International Federation of Library Associations and Institutions* (*IFLA*) agreed with the final draft of the '*UN 2030 Agenda*' through discussions with a large number of stakeholders, including *UN* member states, and declared its intention for continuous support through its website by welcoming the '*UN 2030 Agenda*', which will provide access to information and communication technology (ICT), information, universal literacy, and protection of cultural and natural heritage.

Also, in order for the library sector in Korea to keep pace with the global trend, the *National Central Library* and the *Korea Library Association* jointly hosted the '*IFLA Global Vision Workshop Korea*', and the prospects for the development of domestic library community during the implementation process of *SDGs* were discussed in depth. The '*Global Vision Workshop Korea*' carries a great significance in that it actively participated in *IFLA*'s activities in instigating the '*UN 2030 Agenda*,' and provided a venue for library experts and related parties to proactively collaborate in presenting and collecting opinions in order to seek ways to respond to the current and future challenges of libraries in Korea and present a vision (**Noh**, 2020).

However, it also had limitations in that no further discussion or development was made, and it did not continue. There clearly was a need to raise the status of libraries by showing the whole nation as well as the world that libraries play a significant role as an organization participating in the *UN's SDGs* through further developing the role of libraries presented by the *UN's SDGs* to normalize a kind of movement and making attempts to expand the role of libraries by regularly holding workshops. As an institution belonging to society, it is necessary for libraries to prove its value of existence from various aspects by participating in and achieving the goals pursued by society.

This study made an attempt to understand the level of South Korean librarians' awareness of the *UN's SDGs* and *IFLA*'s support strategy for the *SDGs*, degree of implementation of the *UN's SDGs* support strategy by individual public libraries and how much the librarians agree with *IFLA*'s support strategy. In other words, this study has four specific purposes as follows: understanding whether the librarians of South Korea's public libraries find the libraries related to the *UN's SDGs*, examining the level of the librarians' awareness of the *UN's SDGs* and *IFLA*'s support strategy for the *SDGs*, identifying the level of consent of the librarians with the support strategies suggested by *IFLA* for each agenda of the *SDGs*, and proposing the meaning of the support strategy for the *UN SDGs* and ways to extend the scope of the *SDGs*.

It is highly anticipated that this study will help the communities, local and central governments, and people to appreciate the social contribution and value of libraries.

2. Theoretical background

2.1. *IFLA*'s support strategies for *SDGs*

The *United Nations* has adopted *Sustainable Development Goals* (*SDGs*) to comprehensively solve economic, social and environmental issues and specified the common goals for all mankind that must be achieved by *2030* to improve the quality of life for current and future generations within the framework of sustainable development. Thus, major countries, such as Germany, Switzerland, and France, have adopted the *SDGs* as a national agenda, establishing and evaluating policies for their own country's sustainable development. Similarly, South Korea has also established sustainable development goals based on cross-ministerial consultations and public participation; the Korean government set the strengthening of sustainable development as a major government project in 2018 and established the *Korea Sustainability Development Goals* (*K-SDGs*) which aim to provide a foundation for 'a sensible change in people's lives' and advance into an inclusive state.

Moreover, *IFLA* has been actively advocating the *SDGs* by providing information on how library services can contribute to generating outcomes from the overall *SDGs* of the '*UN 2030 Agenda*' and monitoring the impacts of accessibility to information on *SDGs*. In addition, *IFLA* also uploaded the information supporting the '*UN 2030 Agenda*', that is, statements of specific implementation strategy for libraries to achieve the 17 *SDGs*, role fulfillment toolkits, booklets, handouts, etc., to the *Libraries and Development Page* of its website. Table 1 below shows the support strategies set by *IFLA* for the transition to a sustainable society by linking the 17 main objectives of the *UN's 2030 Agenda* with library activities (*Ministry of Environment*, 2018).

Table 1. Library's driving force to advance the *UN 2030 Agenda*

UN 2030 Agenda	Library support strategy
Goal 1	End poverty in all its forms everywhere Public access to information and resources that give people opportunities to improve their lives. Training in new skills needed for education and employment. Information to support decision-making by government, civil society, and businesses to combat poverty.
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture. Agricultural research and data on how to make crops more productive and sustainable. Public access for farmers to online resources like local market prices, weather reports, and new equipment.
Goal 3	Ensure healthy lives and promote well-being for all at all ages. Research available in medical and hospital libraries that supports education and improves medical practice for health care providers. Public access to health and wellness information in public libraries that helps individuals and families stay healthy.
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Dedicated staff who support early literacy and lifelong learning. Access to information and research for students everywhere. Inclusive spaces where cost is not a barrier to new knowledge and skills.
Goal 5	Achieve gender equality and empower all women and girl. Safe and welcoming meeting spaces. Programs and services designed to meet the needs of women and girls, like rights and health. Access to information and ICT that helps women build business skills.
Goal 6	Ensure availability and sustainable management of water and sanitation for all. Access to quality information and good practices that support local water management and sanitation projects. Free and reliable access to electricity and light to read, study, and work.
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all. Access to quality information and good practices that support local water management and sanitation projects. Free and reliable access to electricity and light to read, study, and work.
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Access to information and skills training that people need to find, apply for, and succeed in better jobs.
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. Widespread existing infrastructure of public and research libraries and skilled library professionals. Welcoming and inclusive public spaces. Access to ICT like high-speed internet that may not be available anywhere else.
Goal 10	Reduce inequality within and among countries. Neutral and welcoming spaces that make learning accessible to all, including marginalized groups like migrants, refugees, minorities, indigenous peoples, and persons with disabilities. Equitable access to information that supports social, political, and economic inclusion.
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable. Trusted institutions devoted to promoting cultural inclusion and understanding. Documentation and preservation of cultural heritage for future generations.
Goal 12	Ensure sustainable consumption and production patterns. Sustainable system of sharing and circulating materials that reduce waste. Historical records about coastal change and land use. Research and data needed to inform climate change policy. Widespread access to information needed to guide decision-making by local and national governments on topics like hunting, fishing, land use, and water management.
Goal 13	Take urgent action to combat climate change and its impacts. Sustainable system of sharing and circulating materials that reduce waste. Historical records about coastal change and land use. Research and data needed to inform climate change policy. Widespread access to information needed to guide decision-making by local and national governments on topics like hunting, fishing, land use, and water management.
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Sustainable system of sharing and circulating materials that reduce waste. Historical records about coastal change and land use. Research and data needed to inform climate change policy. Widespread access to information needed to guide decision-making by local and national governments on topics like hunting, fishing, land use, and water management.

UN 2030 Agenda	Library support strategy
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reserve the land degradation and halt biodiversity loss.
	Sustainable system of sharing and circulating materials that reduce waste.
	Historical records about coastal change and land use.
	Research and data needed to inform climate change policy.
	Widespread access to information needed to guide decision-making by local and national governments on topics like hunting, fishing, land use, and water management.
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Public access to information about government, civil society, and other institution.
	Training in the skills needed to understand and use this information. Inclusive, politically neutral spaces for people to meet and organize.
Goal 17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.
	Global network of community-based institutions, primed to support local development plans.

2.2. Literature review

It is known that a lot of research and effort have been made in various fields, besides the library and information science sectors, to participate in achieving the *SDGs* of *UN 2030 Agenda*. **Lee** (2018) contemplated world-class efforts to achieve the *SDGs*, especially for the movement of health promotion efforts in the health sector, simultaneously reviewing the '*SDG No. 3 Good Health and Well-Being*' and detailed health goals which are a part of the efforts made at the national and regional levels in Korea. In doing so, efforts were made to increase the awareness and interest in the *SDGs* across all areas of our society, including the health sector, and contribute to the active participation of the domestic health sector to achieve the *SDGs* in accordance with world-class health promotion movements and efforts.

As a study analyzing the *Agenda* related to cities or the 11th goal of the 17 global goals, **Lee**, **Lee** and **Cho** (2018) argued that the *Agenda*, which is applicable to all cities regardless of social, geographic, economic, and cultural differences, is set 'to ensure the inclusiveness, safety, resiliency and sustainability of cities and residential areas (human settlements) and sought to reveal Korea's efforts to achieve the *Agenda* through content analysis of the '*3rd Basic Plan for Sustainable Development (2016 ~ 2035)*'.

Kim and **Lee** (2016) also analyzed the implementation strategies and key elements of the *United Nations*' *SDGs*, focusing on poverty and inequality. In particular, they proposed ways to end poverty as stated in the *Goal No. 1* and reduce inequality as specified in the *Goal No. 10*. **Jin** (2017) discussed the direction for revising the Framework Act on National Land to ensure inclusive land developments and suggested a preliminary revision direction through assessing the basic structure of the current *Framework Act on National Land* on the basis of the 11th item of the *SDGs*.

Yoon and **Chae** (2019) examined the relationship between the *Green Standard for Energy and Environmental Design* (*E-SEED*) and the *SDGs* and recognized links between land use and transportation and the *Goal 9*, *11*, *12* and *15*. Similarly, the *Goal 3*, *7*, *11* and *13* and the energy and environmental pollution, the *Goal 9*, *11* and *12* and materials and resources, the *Goal 6* and *15* and water circulation management, the *Goal 3* and *9* and maintenance, the *Goal 6*, *11* and *15* and ecological environment, and the *Goal 3* and indoor environment were found to have a connectivity. In addition, they asserted that there is an institutional link with the *Goal 17*.

Kang and **Nam** (2017) investigated the problems of women-friendly cities on the basis of the *SDGs* and made an attempt to devise measures to improve women-friendly cities from the perspective of urban sustainability. **Kim** *et al.* (2019) presented scientific and numerical relationship data to demonstrate that ICT technology is essential to achieve the *SDGs*, and how the use of ICT is correlated with each of the *SDGs*. To this end, they established implementation direction for the *SDGs* in terms of ICT and traced the process by subdividing evaluation items of performance indicators for the *SDGs* and measuring the level of correlation.

Kim (2018) outlined the ethical issues related to who determines the actual value of the community-based disaster risk reduction model reflected in the *SDGs* and also discussed disaster risk reduction in the *SDG*, community-based approach shown in the disaster risk reduction model and whether the *SDGs*' community-based approach is led by a community.

Moreover, **Osuchukwu** and **Ayeni** (2019) analyzed the library's awareness of the *UN's SDGs* and pointed out that libraries and librarians provide information activities in promoting development and social integration through identification of community members, harnessing the output indicators of what, where, when, why and how in engaging the people, investigating the constraints and implications of the findings for community contribution toward national development.

Chowdhury and **Koya** (2017) claimed that *iSchools* can play an important role in promoting and achieving the *SDGs* because the professors and research activities in *iSchools* around the world handle information and the *UN's SDGs* made a clear emphasis on the importance of creating, managing and sharing quality data and information. In other words, they argued that *iSchools* can play a key role in achieving the *SDGs* by facilitating the tasks of creation, collection, manage-

ment, access, use, and sharing of data and information, and more importantly by developing the culture of sustainable data and information practices across different disciplines and businesses.

Bolt (2018) suggested that libraries can play a vital role in helping people with disabilities access information through technology and valuable support services, which are clearly contributing to some of the *UN*'s *Agenda*. He also stated that although many libraries and librarians are not aware of the *SDGs*, they make a contribution to the *UN's Agenda* by providing helpful services to people with disabilities as a part of their extensive effort to provide services to users.

In Portugal, in November 2016, a team of researchers at the *Faculty of Social Sciences and Humanities* of *Universidade Nova de Lisboa* (*Nova FCSH*, Portugal) started a research project entitled *Public Libraries and Sustainability: Gathering Evidences of Contribution to the SDGs* (Project *PLS*) aimed at the development of a framework for evaluating libraries' contribution to the *SDGs* and implementation to Portuguese public libraries (**Pinto**; **Ochôa**, 2018). Based on the methodology developed on this project, **Pinto** & **Ochôa** discussed the role of strategy alignment and impact evaluation practices in the processes of gathering evidence and advocacy towards libraries' contribution to the *UN 2030 Agenda* in 2019 (**Pinto**; **Ochôa**, 2019).

Tbaishat (2021) investigated *Abdul Hamid Shoman Library*, which is one of the largest public libraries in Jordan, belonging to the *Abdul Hamid Shoman Foundation*, to determine how the services, projects and activities of the library are related to achieving the *UN's SDGs*. He noted that the library provides insights into all strategic planning frameworks related to the *SDGs* and has a far-reaching positive impact on the community by making contributions to achieving the *SDGs*,

The studies mentioned above indicate that numerous academic sectors, policy-making institutions, research institutes and researchers in various fields, including health, healthcare, climate, brain education, information and communication, and land development, have intensively reviewed the objectives of the *SDGs* in order to identify correlations with each related field, achieve the targets and set future policy direction of the *SDGs* since the launch of the *SDGs* by the *United Nations*.

The library sector is not an exception. For example, the *OCLC Global Council* has selected the *SDGs* as its area of focus for 2020 and is formulating a research program that will identify and advocate for the ways that libraries can help further the *SDGs*. This paper details the history of the *SDGs* and the role that librarians played in shaping them.

> Librarians had little knowledge of the *UN SDGs 2030* agenda or the fact that *IFLA* proposed support strategy for the *UN*'s *SDGs*

It shows examples of ways that librarians and library initiatives have further helped achieving the *SDGs* through providing access to information and information literacy skills. Also, it suggests ways that library leaders could structure their information activities around the *SDGs*, based on data from a survey of *OCLC Global Council* delegates (**Cyr**; **Connaway**, 2020). In fact, *IFLA* presented the role of the library per each *SDG* and experts of all social standings in Korea participated in a workshop to discuss the *Agenda* of the *SDGs*. However, unlike *IFLA*, no further discussions or activities have yet been taken place in Korea. Therefore, it is deemed necessary for the library and academic sectors to promulgate the value and the role of the library in relation to the global common goals through further discussions and activities. In this respect, this study can be regarded as an example of such efforts.

3. Research design and method

3.1. Research questions

IFLA, in its declaration, described libraries as a key institution that can help achieve the *SDGs*. This is because public access to information enables individuals to make informed decisions in improving one's own life. Communities in where timely access to desired information is practicable can eradicate poverty and inequality and providing quality education can lead to health and culture research and innovation. Such access to information is specified in the S*DGs' Goal 16*, guaranteeing public access to information in accordance with national laws and international agreements and thereby fundamentally protecting freedom. In other words, libraries can support peaceful and inclusive societies for sustainable development based on equitable access to information and help build effective and responsible inclusive systems at all levels. The culture (*Goal 11.4*), ICT (*Goal 5b*, *9c*, *17.8*) and universal literacy associated with general tasks and services of libraries are also included in the *UN 2030 Agenda*.

Another reason for *IFLA* to claim libraries as a key institution in supporting the *UN's Agenda* is that more than 320,000 public libraries and a million of special libraries, such as congress, national, university, research and school libraries, around the world have granted an access to information and technology for everyone —making libraries an important institution for countless people in the digital age. It indicates that libraries are an institution that provides ICT infrastructure, develop the ability of people to use information effectively, and preserve information to ensure continued access for future generations. Based on this, the research questions raised are as follows:

RQ 1: Do librarians think the *UN*'s *Sustainable Development Goals* (*SDGs*) and libraries are related?

RQ 2: How much do librarians know about the *Agenda* of the *UN's SDGs* or *IFLA*'s support strategies?

RQ 3: To what extent do librarians know and agree with the support strategies for each *Agenda* of the *SDGs* proposed by *IFLA*?

3.2. Research method

In this study, an attempt was made to find out whether libraries are making a significant contribution to the achievement of the international *Agenda* by investigating the awareness of public libraries, beginning with the research question of "Do libraries participate and support the *UN*'s *Sustainable Development Goals* (*SDGs*)?" Below Table 2 shows how the study constructed the survey for its purpose. The questions are prepared to investigate if the South Korean respondents are aware of the library's support strategies for the *Agenda* of the *UN's SDGs*, and whether the specific library to which the respondents belong is carrying out special projects to achieve the strategies. This survey, based on the library's support strategies suggested by *IFLA*, was developed through a meeting of researchers.

Every 10th library of 1,100 libraries registered in the *Korean Library Statistics System* was selected as the study subject. In selecting 10% of the 1,100 public libraries, a systematic every 10th method was used, allowing libraries in various environments to participate in the survey. After asking librarians of selected public libraries for their intention to participate in the survey over the phone and receiving a prior permission, the survey was sent to the libraries. The survey was developed online using *Google Forms*, and the URL was sent to respondents for an online survey. The survey was released on October 5, 2020 with a response period of about one month. The librarian to respond to this survey was requested as the team leader who is responsible for the information service business. A total of 110 surveys were distributed and 72 copies of surveys were collected —equivalent to a response rate of 65.45%. In this study, a 5-point Likert scale was used to measure the appropriateness of the Library's support strategies suggested by *IFLA*.

Table 2. Structure of survey

Category	Description	No. of questions
General	Gender	2
	Working experience	
Awareness of the library's support strategy for the *UN SDGs Agenda*	Awareness of the *UN SDGs 2030*	4
	Awareness of the library's support strategies suggested by *IFLA* based on the *UN SDGs 2030 Agenda*	
	Whether the library where the respondent belongs to run any library support strategy project in consideration of the achievement of the *SDGs*	
Appropriateness of the Library's support strategies suggested by *IFLA*	End poverty	33
	End hunger	
	Healthy lives and well-being	
	Quality education	
	Gender equality	
	Clean water and sanitation	
	Affordable clean energy	
	Decent work and economic growth	
	Infrastructure for industrialization and innovation	
	Reduce inequality	
	Sustainable cities and human settlements	
	Sustainable consumption and production	
	Combat climate change	
	Conserve marine resources	
	Protect terrestrial ecosystem	
	Peaceful and inclusive institutions	
	Global partnership for sustainable development	
Total		39

In terms of demographic characteristics of the respondents, 28.8% were men and 69.9% were women. Similarly, in terms of work experience, 41.1% or the largest majority of the respondents had less than 5 years of work experience whereas 11% of the respondents had over 15 years of work experience (Table 3).

4. Survey analysis results

In this study, an effort was made to examine the level of awareness of the key strategies stated in *IFLA*'s declaration for libraries to promote the achievement of the *SDGs*

Table 3. Demographic characteristics

Item		N	%
Gender	Male	21	28.8
	Female	51	69.9
Working experience	5 years or less	30	41.1
	Between 5 to 10 years	23	31.5
	Between 10 to 15 years	11	15.1
	Between 15 to 20 years	4	5.5
	20 years or more	4	5.5

among the public librarians in South Korea, investigate the degree of consent and perception of the appropriateness of the strategies presented by *IFLA* for given tasks and deduce implications from the findings.

IFLA comprehensively suggests that access to libraries and information can contribute to the improved outcomes of the *SDGs* through the following six strategies: promoting universal literacy, including media and information literacy, and digital literacy skills with dedicated staff to help people, closing gaps in access to information and helping government, civil society and business to better understand local information needs, providing a site network for government programs and services, advancing digital inclusion through access to ICT, serving as the heart of the research and academic community, and preserving and providing access to the world's culture and heritage.

Therefore, this study aims to discuss the details of *IFLA*'s support strategies for the *SDGs* for the direction and method that the library community should implement in terms of the 17 goals of the *UN's Agenda* and contemplate additional matters that can be added to the strategies presented by *IFLA*, while analyzing the perception of librarians towards the support strategies of *IFLA* for the 17 *SDGs*.

> There is a high level of agreement among librarians with *IFLA*'s support strategies set for libraries to achieve the *UN SDGs* 2030

4.1. Awareness of the library's support strategies for the *Agenda* of *UN SDGs*

Awareness investigation, in terms of the library's support strategies for the *Agenda* of the *UN SDGs*, included the awareness of the *UN SDGs 2030* and the fact that *IFLA* proposed library's support strategies based on the *UN SDGs 2030 Agenda*. It also examined whether libraries have implemented support projects for the achievement of the *SDGs*

Respondents showed a very low level of awareness of the *UN SDGs 2030*; only 12.4% responded as they know about it whereas a high portion or 78.1% of the respondents said that they are not aware of it. It may be due to the fact it was the United Nations which first adopted the *SDGs* to solve economic, social, and environmental problems in a unified way. Also, the low level of publicity of the common goals of mankind to be achieved by *2030* that were specified by the United Nations to improve the quality of life for current and future generation through the *Agenda* of sustainable development seems to have an impact on the observed result. Another reason can be the lack of such a movement actively requesting libraries and librarians to promote the fact that *IFLA* agreed with the final draft of the '*UN 2030 Agenda*' through discussions with a large number of stakeholders, including *UN* member states and declared its intention for continuous support through its website by welcoming the '*UN 2030 Agenda*', which will provide ICT access, information access, universal literacy, and protection of cultural and natural heritage.

Table 4. Awareness of the *UN SDGs 2030*

Item	Very disagree		Disagree		Neutral		Agree		Very agree		M	Std
	N	%	N	%	N	%	N	%	N	%		
Awareness of the *UN SDGs 2030*	28	38.4	29	39.7	6	8.2	8	11.0	1	1.4	1.96	1.027
Awareness of the library's support strategies suggested by *IFLA*	29	39.7	32	43.8	6	8.2	4	5.5	1	1.4	1.83	0.904

As shown in the Table 4 above, the level of awareness of the *UN*'s *SDGs* is very low, and it is apparent that there essentially is no project being undertaken for the achievement of the *SDGs* by the libraries that the respondents belong to. Of the 72 librarians surveyed in this study, only 4 libraries responded that they have been implementing their own support strategies for the *UN SDGs* (Table 5).

Table 5. Support strategy project for individual libraries

Item		N	%
The library where the respondent belongs to runs a library support strategy project in consideration of the achievement of the *SDGs*	Yes	4	5.5
	No	68	93.2

4.2. Library's support strategies for the *Agenda* of *UN SDGs*

IFLA has been actively advocating the *SDGs* by providing information on how libraries can connect 4 billion people around the world, how library services can contribute to generating outcomes from the overall *SDGs* of the '*UN 2030 Agenda*' and monitoring the impacts of accessibility to information on *SDGs*. In addition, *IFLA* also uploaded information supporting the '*UN 2030 Agenda*', that is, statements of specific implementation strategy for libraries to achieve the 17 *SDGs*, role fulfillment toolkits, booklets, handouts, etc. to the Libraries and Development page of its website. Table 1 below shows the support strategies set by *IFLA* for the transition to a sustainable society by linking the 17 main objectives of the *UN*'s *2030 Agenda* with library activities.
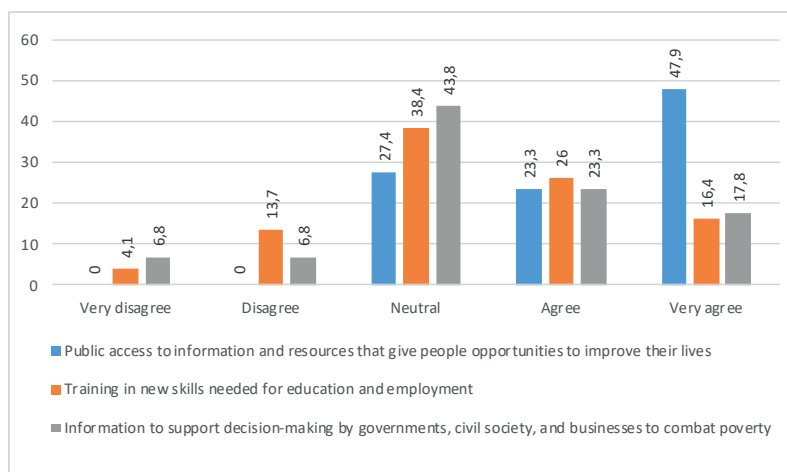
Consequently, this study investigated and analyzed the perceived level of appropriateness of *IFLA*'s support strategies set in connection with libraries' activities for the transition to a sustainable society by linking the 17 main goals of the *UN*'s *2030 Agenda*. In conclusion, the strategy proposed for the Goal 9 was observed to be most appropriate, and overall showed a high level of agreement, equivalent to 3.5 or higher, indicating that *IFLA* library support strategies proposed for the *UN SDGs 2030* are generally appropriate (Table 6).

Table 6. Perceived appropriateness of the Library's support strategies suggested by *IFLA* for the *UN SDGs 2030*

Category	M	Std
Goal 1. End poverty	3.66	0.997
Goal 2. End hunger	3.32	1.196
Goal 3. Healthy lives and well-being	3.70	1.057
Goal 4. Quality education	3.98	0.921
Goal 5. Gender equality	3.81	0.945
Goal 6-7. Water, sanitation, and clean energy	3.57	0.996
Goal 8. Decent work and economic development	3.63	0.985
Goal 9. Infrastructure for industrialization and innovation	4.17	0.864
Goal 10. Reduce inequality	3.97	0.909
Goal 11. Sustainable cities and human settlements	3.69	0.971
Goals 12-15. Sustainable consumption and production, combat climate change, and marine resources and ecosystem	3.30	1.115
Goal 16. Peace, justice, and inclusive institutions	3.87	0.902
Goal 17. Global partnership for sustainable development	3.65	0.966

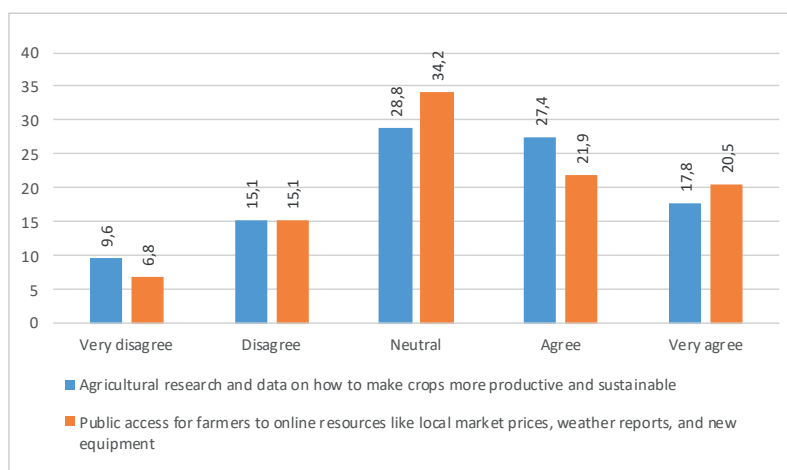### 4.2.1. Strategy to end poverty in all its forms everywhere

The library's support strategy for the 1st goal of the *UN's SDGs* showed an average of 3.66 level of agreement. In particular, the library's support strategy for public access to information and resources that give people opportunities to improve their lives was observed to have an average of 4.21 level of agreement, with rest of the items under the same goal showing an above neutral level of agreement (see Graph 1). Job creation, recruitment or direct economic support may help eradicate poverty, but providing information and resources, increasing access to digital literacy and technology, and thereby cultivating competitive and economic abilities of users are those support strategies that can be implemented by libraries. Since the employment of the general people is one of the most crucial factors of ending poverty, providing public information services and assisting job search activities are also important roles of libraries.

Graph 1. Perception of the library's support strategy for ending poverty

4.2.2. End hunger and promote sustainable agriculture

For the *UN*'s 2nd *Agenda*, which is to end hunger, achieve food security and improved nutrition and promote sustainable agriculture and has 8 targets and 14 indicators, the library has proposed 2 support strategies with an average of 3.32 level of consent. What roles can libraries serve in order to eradicate issues related to huger and support agriculture is undoubtedly a thought-provoking question (see Graph 2). For instance, Romania has an exemplary case in which librarians, who received training from *Biblionet*,

Graph 2. Perception of the library's support strategy for ending hunger

helped 100,000 farmers to get 188 million dollars in grants through new internet and computer services between 2011 and 2014. In fact, the library can also support the 2nd goal of the *UN* by providing research data on cultivation methods that can yield high productivity through specialized agriculture-related libraries, or by providing free information on weather forecasts and new agricultural equipment:

http://www.irex.org/news/librarians-internet-improve-farmers%E2%80%99-livelihoods-romania

4.2.3. Healthy life and well-being

The *3rd Agenda* of the *UN*, healthy life and well-being, has 13 targets and 26 indicators. For the *Agenda*, the library has suggested 2 support strategies which showed an average level of consent equivalent to 3.70. As shown in the support strategies below, medical libraries and hospital libraries help education and research improve health care activities of health care providers (see Graph 3). In fact, providing information on health and well-being that can help individuals and families maintain their health seems to be one of the most important support strategies. For instance, in 2019, no country was safe from the pandemic Covid-19. Amid the pandemic, the library sector contemplated how libraries can help, while actively taking actions; libraries produced and provided various Covid-19 response videos and offered several support services to users to enable continuous learning during the pandemic. In order to prevent the spread of an epidemic, most services need to be stopped and lockdown measures should be taken to restrict people's freedom, though it negatively affects people's mental health. However, for times like these, libraries operate various book delivery services, drive-thru services, and online reading programs to improve the mental health of the users. Also, as an example, when the medical and healthcare workers in rural areas of Uganda were having difficulty accessing the basic information necessary to ensure quality health care, the *Library of Makerere University* published *Uganda Health Information Digest*, academic information published in hard copy, and distributed for those medical and health workers who would otherwise not be able to access such information:
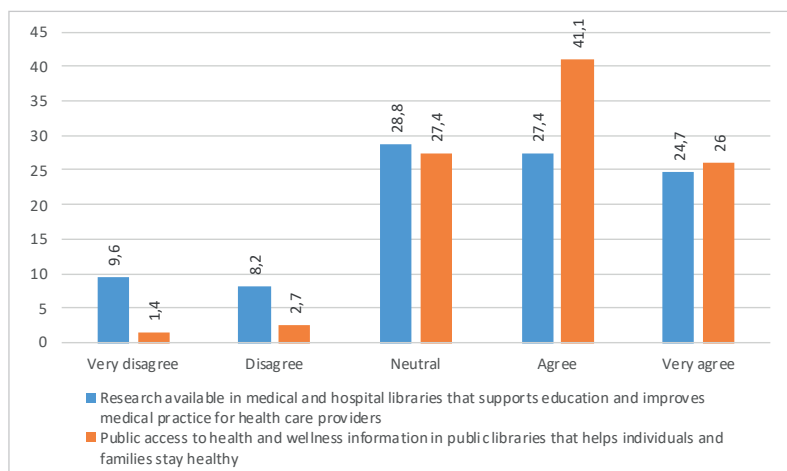
http://library.ifla.org/868

4.2.4. Library's provision of quality education

The *4th Agenda* of the *UN*, which is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, has 10 targets and 11 indicators. In regard to this *Agenda*, the library has proposed 3 support strategies, which demonstrated a relatively high average level of agreement of 3.98. Libraries are a lifelong education institution that provides education services tailored for different life stages, ranging from infants to the elderly, while providing learning spaces and manpower for such services (see Graph 4).
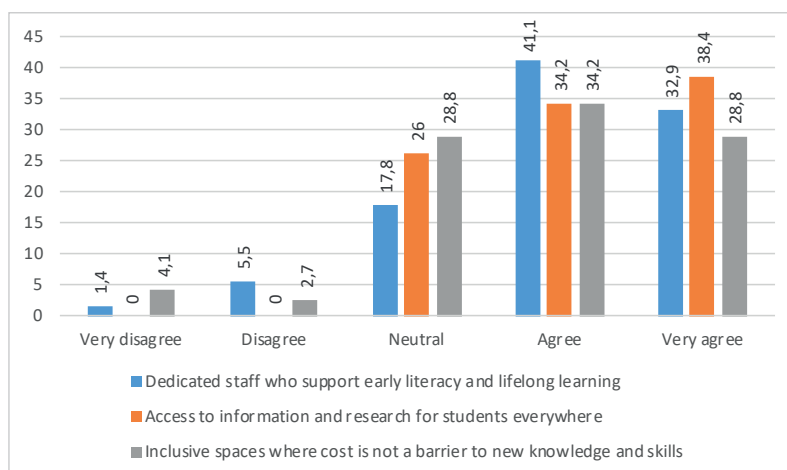
Libraries do not only improve people's intellectual abilities by providing various kinds of educational information and programs, but also help them overcome information and digital gaps through literacy and digital literacy enhancement. In fact, that seems to be why the librarians responded to have a high level of agreement.

4.2.5. Support strategies for gender equality

The 5th *Agenda* of the *UN*, gender equality, has 9 targets and 14 indicators. The library has presented 3 support strategies which the librarians showed a consent level of 3.81 (see Graph 5). Support for gender equality primarily refers to the support for vulnerable social groups of women and girls. For those groups, libraries can cultivate their social and economic competitiveness by providing safe spaces for children and making resources and programs for self-development available to women. For example, Nepal's *READ* (*Rural Education and Development*) *Information and Resource Center Empowerment Initiative* helps

Graph 3. Perception of the library's support strategy for healthy lives and well-being

Graph 4. Perception of the library's support strategy for providing quality education

women and girls gain insights and take control of their lives:

http://www.eifl.net/eifl-in-action/ empowering-women-and-girls-innovation-award

Also, empowerment programs include seminars and workshops on matters related to women's rights, gender equality, health, violence against women and other issues. As such, libraries undertake various supporting activities for gender equality and more related services can be provided by libraries.
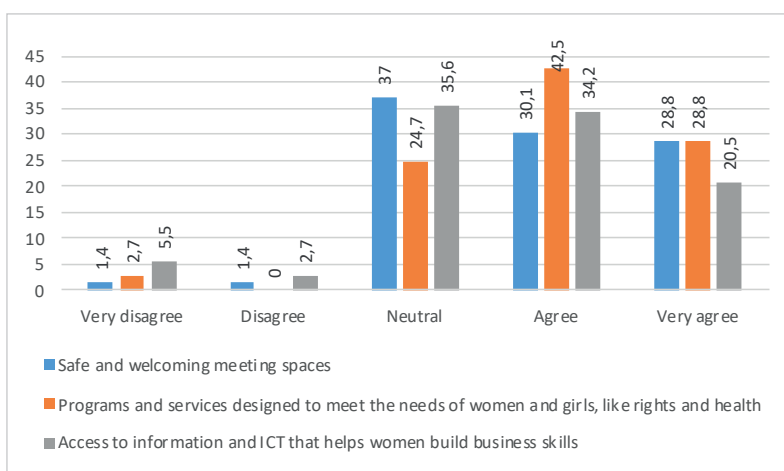
4.2.6. Water, hygiene and energy

The 6th *Agenda* of the *UN*, water, hygiene and energy, has 8 targets and 11 indicators. Similarly, the 7th *Agenda* of affordable, reliable and sustainable energy has 5 targets and 6 indicators. In response to the *Agenda*s, the library has suggested 2 support strategies which the librarians agreed with an average level of 3.57 (see Graph 6). Support strategies that can be implemented by libraries for the sustainability of the planet are to provide quality information for water resource management and sanitation projects, make information on safe drinking water available to local residents, and share the light and electricity needed for reading, learning, and working. Indeed, in the libraries of Croydon, Derby, and other cities in the UK, users can borrow energy monitors to identify energy-intensive electrical appliances and allow them to reduce energy use:
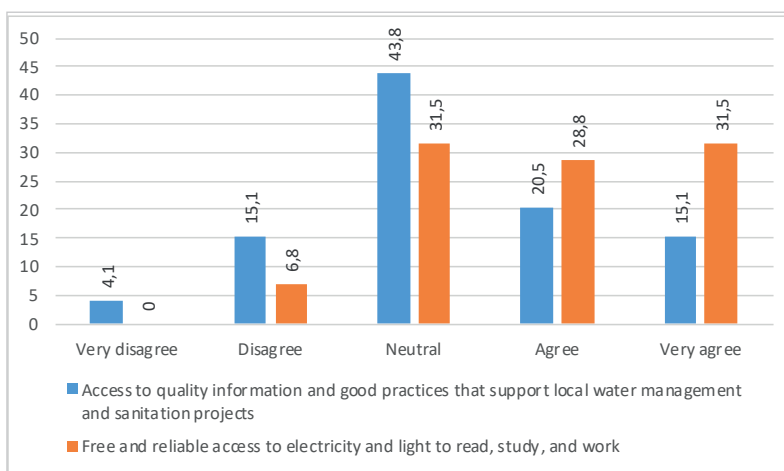
http://www.croydonlibraries.com/ library-services/cut-energy-bills

4.2.7. Decent jobs and economic growth

The 8th *Agenda* of the *UN*, decent jobs and economic growth, has 12 targets and 17 indicators. The library has presented 1 support strategy for the *Agenda* to which the librarians show an average level of agreement equivalent to 3.63. Assisting people in finding better jobs and providing the information and skill training needed to successfully get the job they want can be one of the library's rudimentary services. In recent years, many libraries have prepared a 'job cafe' section or space to make various employment-related materials readily available and provide job information to library users. Furthermore, jobseekers, who do not know how to prepare a job application, can apply to jobs with the support from libraries. This, in return, will lead to economic growth. For instance, *Queens Public Library of Science, Industry and Business* and *Brooklyn Business & Career Library* (*B&CL*) in the US, hold competitions for disadvantageous social communities in which they propose business plans for prospective businesses:
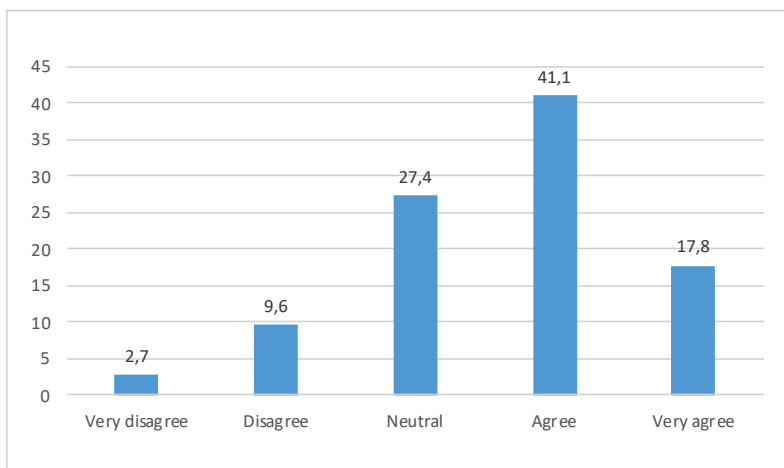*http://www.publiclibraries2020.eu/content/see-numbers*

25% of the participants of the competition held by *B&CL* were immigrants and 29% were unemployed and more than half of them were from under-average household income families in New York (see Graph 7).

Graph 5. Perception of the library's support strategy for gender equality

Graph 6. Perception of the library's support strategy for water, sanitation and clean energy

Graph 7. Perception of the library's support strategy for decent work and economic development

4.2.8. Innovation and infrastructure

The goal of building infrastructures for industry, innovation and society, which is the 9th *Agenda* of the *UN*, has 8 targets and 12 indicators. For this *Agenda*, the library has presented 3 support strategies which the librarians agreed with an average level of 4.17. Even in the 21st century, when advanced information and communication technologies prevail, there are many countries where not many people are able to enjoy the benefits of high-speed internet, various cutting-edge information technologies nor the technologies from the fourth industrial revolution. Nonetheless, libraries can support industrial innovation by establishing infrastructures such as makerspace in which IoT-based services, 3D printers, and spaces for creative activities of users are available (see Graph 8).
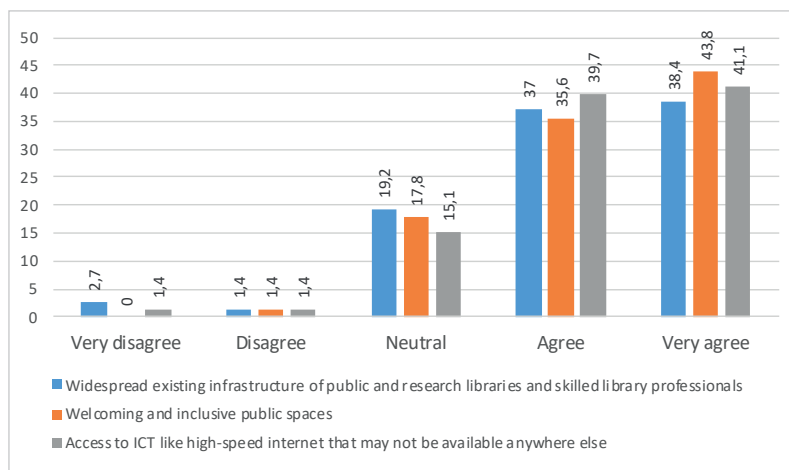
4.2.9. Reduce inequality

The 10th *Agenda* of the *UN*, which is to reduce inequality, has 10 targets and 11 indicators. The librarians showed an average of 3.97 level of consent to the two support strategies that the library has suggested for this *Agenda*. In a knowledge and information society, economic gaps may arise from information or digital gaps, and libraries can contribute to solving the most fundamental problem of gaps in various ways. The disabled, the elderly, rural residents, soldiers, patients and prisoners are some of the socially disadvantaged groups in respect to information. In fact, libraries can provide tailored services to each of such groups and providing neutral and friendly spaces where everyone can enjoy learning opportunities is one of the most basic roles of libraries (see Graph 9).
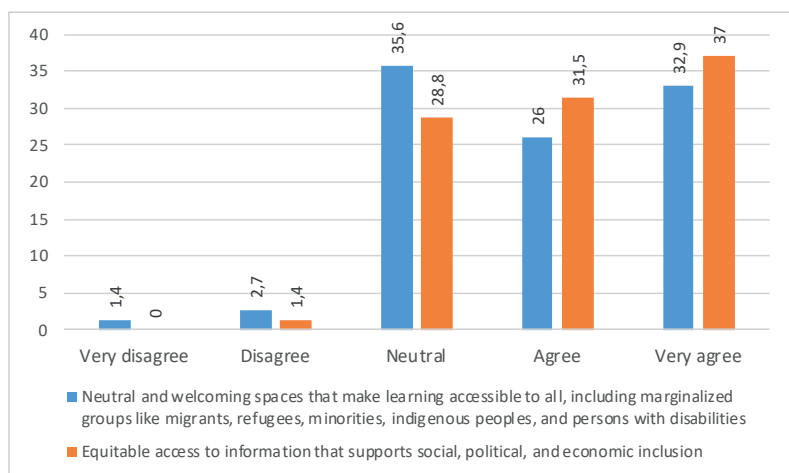
4.2.10. Sustainable cities and human settlements

The 11th *Agenda* of the *UN*, sustainable cities and human settlement, has 10 targets and 15 indicators. In regard to this *Agenda*, the library has presented 2 support strategies which the librarians responded to have an average level of

Graph 8. Perception of the library's support strategy for infrastructure for industrialization and innovation

Graph 9. Perception of the library's support strategy for reducing inequality

Graph 10. Perception of the library's support strategy for sustainable cities and human settlements

agreement equivalent to 3.69 (see Graph 10). Recording and preserving cultural heritage for future generations is one of the most intrinsic roles of the library, and the communities and future generations that share cultural heritage and native data preserved through the library will have cultural inclusiveness. As an example, in 2013, an armed group captured Mali and Timbuktu which are well-known for their public and private libraries having valuable cultural and documentary heritage. During the occupation, some volunteers were able to safely secure the Bamako Collection with international assistance. This collection has been transferred to the capital city for restoration and digitization. Undoubtedly, libraries have been at the forefront of saving and preserving the unique heritage of Mali:
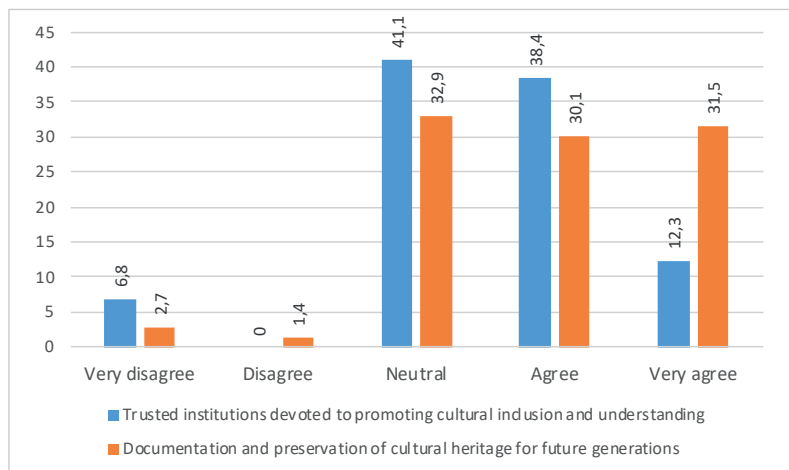
http://www.unesco.org/new/en/culture/themes/armed-conflict-and-heritage/emergency-actions

4.2.11. Sustainable consumption and production / Combat climate change/ Conserve the oceans, seas and marine resources / Conserve terrestrial ecosystems

The 12th *Agenda* of the *UN*, sustainable consumption and production, has 11 targets and 13 indicators. Similarly, the 13th *Agenda*, which is to combat climate change, and the 14th *Agenda* of conserving marine resources, each respectively has 5 and 10 targets and 7 and 10 indicators. Also, the 15th *Agenda*, which is to conserve terrestrial ecosystems, has 12 targets and 14 indicators (see Graph 11).

For the *Agenda*s, the library has proposed 4 support strategies which the librarians agreed with an average level of 3.30, showing the lowest level of agreement compared to the other *SDGs*. Such a low level of agreement may be the reason why *IFLA* has suggested support strategies by grouping the four goals together. The library can support the *Agenda*s by providing data and research information on various biological resources, offering information on the earth's ecosystem, and building databases, such as for climate change.

4.2.12. Peace, justice and inclusive institutions

The 16th *Agenda* of the *UN*, peace, justice and inclusive institutions, has 12 targets and 23 indicators. The library has established 3 support strategies for the *Agenda* and the librarians showed an average level of agreement equivalent to 3.87. Libraries can help governments to have transparency, civic participation and anti-corruption by providing an inclusive, politically neutral meeting spaces for people. In addition, providing information to governments, civil societies and other institutions will help build global governance and contribute to world peace (see Graph 12).
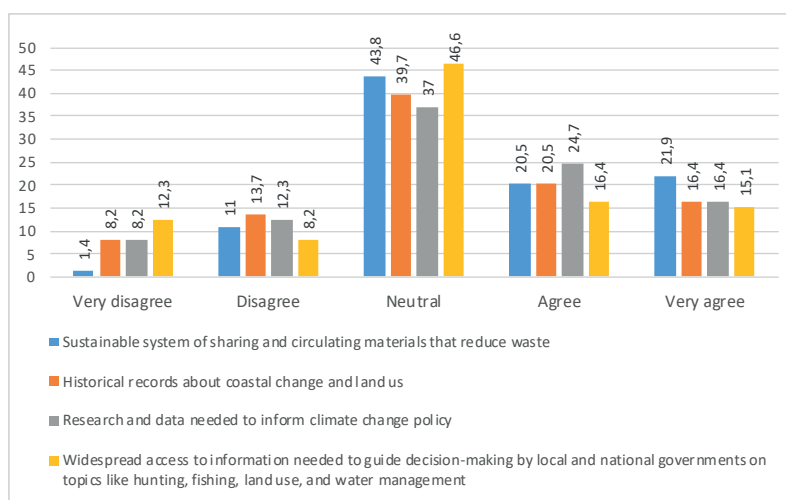

Graph 11. Perception of the library's support strategy for sustainable consumption and production, combat climate change, and conserve marine resources and ecosystems

Graph 13. Perception of the library's support strategy for global partnership for sustainable development

4.2.13. Global partnership for sustainable development

The 17th *Agenda* of the *UN*, global partnership for sustainable development, has 19 targets and 25 indicators. For the *Agenda*, the library has suggested 1 support strategy, which is to build a global network of community-based organizations that are ready to support community development plans, and the librarians responded to have an average of 3.65 level of consent. Libraries can actively support this *Agenda* by serving a role of providing necessary resources for the global network, composed of community-based institutions ready to support regional and national development plans, and its improved decision-making (see Graph 13).
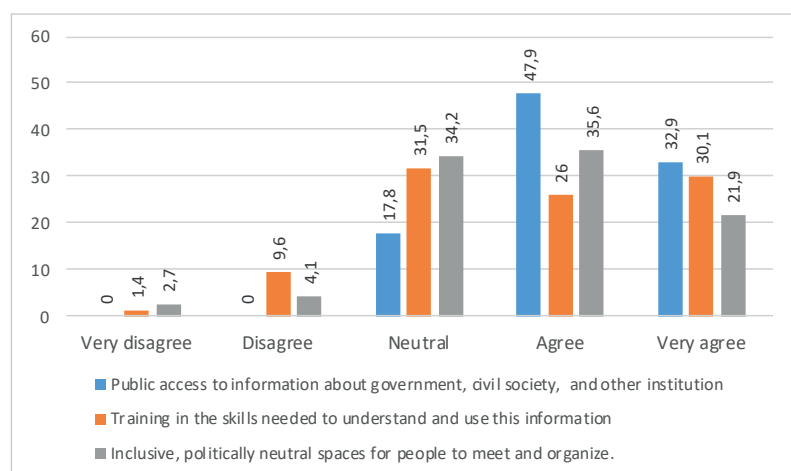
5. Discussion

The *SDGs* can be structuralized by the 5P concept: People, Prosperity, Planet, Peace and Partnership, which are the underlying spirits of the '*UN 2030 Agenda*'. The *SDGs* are composed of 17 *SDGs*, 169 targets and 231 indicators. The basic content of these *SDGs* is organized around the five themes, and the *SDGs* show the plan and achievement of bold and transformative efforts that everyone in the planet, as well as all the member states of the *UN*, will jointly implement until *2030* to create a better world for everyone where 'No one must be left behind' (*UN*, 2015).

In this study, the researchers present three research questions which can be further discussed as follows. First, librarians' awareness of the global common goals or the *UN SDGs 2030* is quite low, and their awareness of the existence of library's support strategies proposed by *IFLA* based on the *UN SDGs 2030 Agenda* is even lower. It seems to be due to the lack of active promotion and encouragement to participate at the national level in respect to the fact that the United Nations announced the common goals of mankind to be achieved by *2030* to improve the quality of life for current and future generations within the framework of the *SDGs* that the *UN* adopted to comprehensively solve economic, social,

and environmental problems. The government of South Korea has implemented plans and systems for the *SDGs*, such as global level cooperation policy for implementation of the *SDGs*, support for implementation of the *SDGs* in developing countries in terms of international development cooperation, and establishment of domestic policy and governance system in line with the *SDGs* (**Park**; **Jung**; **Kim**, 2017; **Kim**; **Lee**; **Woo**, 2016). In addition, ministries have established a development strategy to achieve the *Agenda*s related to each ministry. Such efforts of the government should not merely stay within the government; they should be propagated to the mind of each citizen of the country for practical achievement.

Second, though the library community and librarians do not know much about the specific support strategies that *IFLA* set for the *UN's SDGs*, they should, at least, be aware of the facts that *IFLA* has welcomed the '*UN 2030 Agenda*' and declared its intention to provide continuous support, *IFLA* even provided information on how library services can contribute to generating outcomes from the overall *SDGs* of the '*UN 2030 Agenda*,' and *IFLA* has been actively advocating the *SDGs* through strengthening the monitoring of the impacts of accessibility to information on the *SDGs*. Library associations in various countries, including the *Korean Library Association*, are required to recognize *IFLA*'s support strategies through workshops, discussions, or special events, and to devise and implement additional support strategies appropriate to the context of each country or region.

Third, in regard to the research question of 'to what extent do librarians know and agree with the support strategies for each *Agenda* of the *SDGs* proposed by *IFLA*?', the survey analysis result showed that librarians have a high degree of agreement with the support strategies of *IFLA*. In particular, their level of agreement was highest with the strategies suggested for the *SDG* of building infrastructures for industry, innovation and society. This indicates that librarians highly agree with the notion that libraries serve the role of a social basis, such as communication information and offering infrastructure as a space for various creative activities based on cutting-edge information technologies. On the basis of such infrastructures, the library has been improving literacy and digital literacy of people by providing education services tailored for different life stages, learning spaces and assistance for learning, and academic information and programs, in addition to the strategies of the library set to increase the most basic quality of life of human beings that include the support to eradicate all types of poverty, end hunger, and promote health and well-being in all regions of the world. Disseminating the value and presence of the library by letting the general public know and participate in such activities of the library is highly anticipated to promote the development and support for the library. Studies conducted in relation to the *Goal 3* of the *SDGs* for the health sector (**Lee**, 2018), services related to the *Goal 10* and *16* that are provided to people with disabilities (**Bolt**, 2018), and cases related to the *Goal 3*, *4*, and *9* in which lifelong education and equal education opportunities, e.g. creation, management, and sharing of high-quality data and information, are provided (**Chowdhury**; **Koya**, 2017) need to be referenced in the same context.

Another matter to discuss is the contribution to the *UN SDGs* through greening libraries. Since the *UN SDGs* aim for sustainability, the long-standing efforts for greening libraries can be regarded as closely related to the *SDGs* (**Noh**; **Ahn**, 2018; **Hong**; **Noh**, 2014). Libraries seek ways to contribute to the sustainability of the planet through the development of eco-friendliness evaluation indicators for libraries (**Noh**, 2015), implementation of eco-friendly libraries based on green IT (**Noh**, 2020), and discovery and promotion of Green Library cases (**Ahn** *et al.*, 2013). In other words, efforts to secure sustainability through greening libraries are clearly closely related to the *UN SDGs*.

Meanwhile, the average number of support strategies that *IFLA* suggested for each *SDG*, which are very inclusive and recommended to all types of libraries in the world for direct application or expanded application, is between 2 and 3. However, individual libraries should consider the context of its own country and local environment, as well as the characteristics of local residents when making new support strategies for libraries. Exemplary cases for such new strategies should be shared among libraries to enable libraries in similar environments to implement the new strategies

6. Conclusion and suggestion

Why should we be interested in the *United Nations' Sustainable Development Goals* (*SDGs*), and why should the library community or the library and information science community be interested in this *Agenda*? In the 21st century, in the midst of rapid industrialization, urbanization and climate change worldwide, the *UN* has proposed sustainable development as the new direction. Accordingly, government ministries, research institutes, and academic communities around the world have been making their own strategies to achieve the *Agenda* of the *UN's SDGs* in their respective field, making efforts to change the direction of policy or law revision. This is to achieve the international common goals for sustainability that comprehensively consider environmental, social and economic impacts away from the past development methods in which the international community prioritized economic benefits. There are reasons why the library community or the library and information science community should be interested in such movements.

Libraries, as a core and central community organization that provides knowledge and information resources in society, have continuously supported the sound development of humanity from the past, and its roles and efforts have also continued. Certainly, there is no reason not to share such efforts and values of the library, and how much effort the library has been making to achieve the common goals of the mankind should be clearly made known. And that is the purpose of this study.

This study revealed that librarians had little knowledge of the *UN SDGs 2030 Agenda* or the fact that *IFLA* proposed support strategies for the *UN's SDGs*. The finding that more than 80% of the respondents were not aware of the global *Agenda* or *IFLA*'s proposal suggests that the idea that libraries should take a part in the *UN's SDGs* was not promoted

and libraries were not making significant effort to support the *UN SDGs Agenda*. In fact, only 5.5% of the respondents responded to have a project in their library that is being promoted specifically for the achievement of *SDGs*.

Also, this study found a high level of agreement among librarians with *IFLA*'s support strategies set for libraries to achieve the *UN SDGs 2030*. As shown in the study results, it was found that librarians show a high degree of consent with the notion that libraries can support the improvement of the most essential quality of life, such as ending poverty, eradicating hunger and promoting health and well-being, help industrial development through job creation, and make contributions to achieving the *SDGs* by undertaking various activities for water and sanitation, climate change, and conservation of marine resources and ecosystem.

Reflecting the two results above, it can be understood that librarians, though they were not well aware of the *Agenda* of the *UN SDGs 2030* or the library's support strategies set by *IFLA* for the *Agenda*, highly agree with that the library's support strategies suggested by *IFLA* are, indeed, the roles of libraries. Therefore, widely promoting the library's support strategies proposed by *IFLA* for the *UN SDGs 2030* is highly likely to encourage many librarians to actively participate.

The librarians studied in this study have expressed that they were not aware about the *UN SDGs 2030 Agenda* or the library's support strategies of *IFLA* for the *Agenda* prior to the study; however, they acknowledged that they gained new awareness of how the library has already been and will continue making contributions to the global sustainability during the course of this study. Such activities of libraries are highly anticipated to help librarians take pride in their role and to make a contribution to encouraging librarians to contemplate and implement the direction of library's development.

Based on the results of this study, the specific roles that the library and library and information science communities should play in contributing to the *UN*'s *SDGs* and human development are suggested as follows. First, it is necessary to publicize the value and status of the library by developing a site or publishing casebooks for individual libraries and librarians to discover and share more support strategies in addition to the strategies proposed by *IFLA*. As in the previous studies and various cases exemplified in this study, many libraries around the world are making various efforts for the sustainability of the planet, and making the efforts widely known to promote the participation by librarians and library users is deemed necessary.

Second, as shown in the results of the study, though librarians were merely aware of the link between the *UN Agenda* and the library, they were very willing to take part in the *UN*'s *Agenda* on sustainable development of the planet. Therefore, it seems meaningful to develop and operate educational and publicity programs for librarians and library users to recognize that the library is a key institution in achieving the *SDGs* and plan and operate a kind of social movement by designating specific days.

Third, the library and information science community should conduct more studies to identify and comprehensively analyze cases related to the *UN SDGs 2030 Agenda* or *IFLA* library support strategies in order to evaluate the performance and examine their ripple effects. In addition, analyzing the correlations between businesses of the library and the *UN SDGs 2030 Agenda* or *IFLA* library support strategies can be an advisable objective for future research.

7. References

Ahn, In-Ja; **Kwak, Chul-Wan**; **Noh, Young-Hee**; **Park, Mi-Young** (2013). "An analysis of literature trends in green library". *Journal of the Korean Biblia Society for Library and Information Science,* v. 24, n. 1, pp. 189-205.
https://doi.org/10.14699/KBIBLIA.2013.24.1.189

Bolt, Nancy (2018). "Library services to people with disabilities: a UN/IFLA project". *International leads*, v. 32, n. 2, pp. 8-10.
http://www.ala.org/rt/sites/ala.org.rt/files/content/intlleads/leadsarchive/201806r.pdf

Chowdhury, Gobinda; **Koya, Kushwanth** (2017). "Information practices for sustainability: Role of iSchools in achieving the UN Sustainable Development Goals (SDGs)". *Journal of the Association for Information Science and Technology*, v. 68, n. 9, pp. 2128-2138.
https://doi.org/10.1002/asi.23825

Cyr, Christopher; **Connaway, Lynn-Silipigni** (2020). "Libraries and the UN Sustainable Development Goals: The past, present, and future". In: *Proceedings of the Association for Information Science and Technology*, v. 57, n. 1, e237.
https://doi.org/10.1002/pra2.237

Hong, Su-Ji; **Noh, Younghee** (2014). "A study on green library construction status and awareness". *Journal of the Korean Biblia Society for Library and Information Science*, v. 25, n. 4, pp. 79-108.
https://doi.org/10.14699/KBIBLIA.2014.25.4.079

Jin, Jongheon (2017). "Directions for revision of framework act on the National Land: in relation to UN Sustainable Development Goals (SDGs)". *Journal of the Korean Geographical Society*, v. 52, n. 6, pp. 683-699.
https://journal.kgeography.or.kr/articles/article/rx8K/

Kang, Han-Byeol; **Nam, Young-Sook** (2017). "Case analysis and improvement plan of the living lab related UN SDGs". In: *Korea environmental policy and administrations society academic conference paper*, pp. 87-88.
https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE07260975

Kim, Soo-Jin (2018). "Ethical implications of the Sustainable Development Goals; Is community-based disaster risk reduction community-driven?". *Crisis and emergency management*, v. 14, n. 6, pp. 51-64.
https://medline.inje.ac.kr/eds/detail/edsers_edsers.334915

Kim, TaeKyun; **Lee, JooHa**; **Woo, ChangBin** (2016). *A study on the strategy to promote administrative Korean Wave to achieve UN SDGs*. Seoul: Ministry of the Interior and Safety.
https://www.korea.kr/archive/expDocView.do?docId=37409

Kim, Tae-Wan; **Lee, Joo-Mi** (2016). "UN's Sustainable Development Goals: Strategies for poverty and inequality reduction". *Health and welfare policy forum*, v. 10, n. 240, pp. 72-85.
https://kiss.kstudy.com/thesis/thesis-view.asp?key=3540430

Kim, YoungIn; **Han, KukJin**; **Yoon, Jeon-Ho**; **Jeon, Hyung-Jin** (2018). "A study on the effect of Sustainable Development Goals (SDGs) from an Information and Communication Technology (ICT)". *Korean Institute of Information Scientists and Engineers Academic conference paper*, pp. 1365-1367.
https://kiss.kstudy.com/thesis/thesis-view.asp?key=3540430

Lee, Myoung-Soon 2018. "Global health promotion efforts for achieving the UN 2030 agenda for sustainable development". *Korean journal of health education and promotion*, v. 35, n. 4, pp. 1-18.
http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE07539473

Lee, Yookyung; **Lee, Seungho**; **Cho, Youngtae** (2018). "A comparative study on the 'Sustainable Development Goals (SDGs)' and 'New Urban Agenda(NUA)' of United Nations". *Journal of the Urban Design Institute of Korea Urban Design*, v. 19, n. 3, pp. 91-110.
https://doi.org/10.38195/judik.2018.06.19.3.91

Ministry of Environment (2018). *UN-SDGs targets and indicators*. Sejong: Ministry of Environment.
https://bit.ly/36bx28Q

Ministry of Environment (2018). *UN Sustainable Development Goals*. Sejong: Ministry of Environment.
http://eng.me.go.kr/eng/web/index.do?menuId=469

Noh, Younghee (2015). "A study on developing the evaluation items for the green libraries certification". *Journal of the Korean Society for information Management*, v. 32, n. 3, pp. 99-130.
https://doi.org/10.3743/KOSIM.2015.32.3.099

Noh, Younghee (2020). "A study on the implementation of eco-friendly green IT-based libraries". *Journal of the Korean Society for Library and Information Science*, v. 54, n. 2, pp. 5-28.
https://doi.org/10.4275/KSLIS.2020.54.2.005

Noh, Younghee; Ahn, In-Ja (2018). "Evaluation indicators for green libraries and library eco-friendliness". *International journal of knowledge content development & technology*, v. 8, n. 1, pp. 51-77.
https://doi.org/10.5865/IJKCT.2018.8.1.051

Osuchukwu, Ngozi-Perpetua; **Ayeni, Philips-Oluwaseun** (2019). "The roles of libraries and librarians in integrating national development in South-Eastern Nigeria". *Library management*, v. 40, n. 3/4, pp. 215-227.
https://doi.org/10.1108/LM-08-2017-0076

Park, Jeong-Ho; **Jung, So-Yoon**; **Kim, Eun-Ju** (2017). *A study on the analysis and improvement of SDGs implementation.* Seoul: Korea Institute of Public Administration.
https://scienceon.kisti.re.kr/srch/selectPORSrchReport.do?cn=TRKO201800022574

Pinto, Leonor-Gaspar; **Ochôa, Paula** (2017). "Public libraries' contribution to Sustainable Development Goals: gathering evidences and evaluating practices". In: *IFLA WLIC 2017. Libraries. Solidarity. Society*.
http://library.ifla.org/1946

Pinto, Leonor-Gaspar; **Ochôa, Paula** (2019). "Aligning libraries' performance with Sustainable Development Goals: a methodological proposal". In: *World conference on qualitative research*, v. 1, pp. 281-285.
https://www.proceedings.wcqr.info/index.php/wcqr2019/article/view/292

Sustainable Development Committee (2016). *National sustainability report* (*'12~'14*). Sejong: Ministry of Environment Sustainable Development Committee.
https://bit.ly/3hbkYeb

Tbaishat, Dina (2021). "Jordanian public libraries in relation to achieving SDGs: Shoman Library in action". *Public library quarterly*, v. 40, n. 2, pp. 125-143.
https://doi.org/10.1080/01616846.2020.1738836

Yun, Yo-Sun; **Chae, Chang-U** (2019). "An analysis of UN SDGs and G-SEED". *Proceedings of the Korean Institute of Architecture Conference*, v. 39, n. 1, pp. 517-517.
https://www.auric.or.kr/User/Rdoc/DocRdoc.aspx?returnVal=RD_R&dn=385927