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PEER REVIEWED

Librarians' Attitudes Toward Providing Environmental Education Services in Georgia

By Xiaoi Ren

Environmental issues and problems have posed severe threats to the healthy existence of human beings and other species on this planet. It is one of the three dimensions of sustainable development, along with the social and economic dimensions embraced by the United Nations (UN) 2030 Agenda for Sustainable Development, adopted in 2015. At the heart of the UN 2030 Agenda are the 17 Sustainable Development Goals (SDGs) and 169 targets that balance the three dimensions of sustainable development. The International Federation of Library Associations (IFLA) has been actively involved in the development of the UN 2030 Agenda by advocating for the inclusion of access to information, the safeguarding of cultural heritage, universal literacy, and access to information and communication technologies (ICT) in the SDGs as targets. In 2016, IFLA published a booklet to demonstrate the contributions of libraries to the SDGs.

In the global network of at least 2.6 million libraries, these libraries are beacons of the local communities they serve (IFLA, n.d.). The libraries play an important role in providing access to credible environmental information resources, promoting environmental awareness and literacy, and showcasing environmentally sustainable practices. IFLA (2018) described libraries as *Exemplars, Educators, and Enablers* in supporting the sustainable development efforts in their communities. In the United States, the ALA Special Task Force of Sustainability identified the roles and responsibilities of ALA and its member libraries as *Inspiration & Catalyst, Conveners & Connectors, and Contributors* (Aldrich et al., 2018).

The National Environmental Education and Training Foundation (NEETF) released the report *Environmental Literacy in America: What Ten Years of NEETF/Roper Research and Related Studies Say About Environmental Literacy in the U.S.* in 2005. The report showed that most Americans are by and large either uninformed or misinformed when confronted with increasingly challenging environmental choices (Coyle, 2005). The report called for action-oriented environmental learning throughout the K–12 system that allowed people to experience hands-on activities. Stoss (2008) and Fedorowicz-Kruszewska (2020a) both pointed out the importance of providing environmental education services in libraries and other informal settings for adult learners and the public, along with efforts through the formal educational system.

Though IFLA and ALA identified libraries' roles and responsibilities in contributing to the sustainable development efforts in their communities, it is important to find out how individual libraries perceive and approach those roles and responsibilities at the local level. Previous research on libraries' environmentally sustainable practices has been mainly case studies or literature reviews. The number of publications reporting empirical studies is relatively small. There are very few empirical studies reporting librarians' attitudes toward environmental sustainability and their perceptions of the role libraries should play in this matter.

The current study attempted to determine librarians' attitudes toward environmental sustainability through a survey of Georgia Library Association (GLA) members. Findings

from this descriptive and exploratory study added to the empirical research effort on this subject. The results might also shed some light on how to better support libraries' efforts in contributing to environmental sustainability.

Literature Review

The Green Library Movement that emerged in the 1990s and gained popularity in the library profession around 2003 aimed to reduce the library's carbon footprint by adopting environmentally sustainable practices within libraries (Antonelli, 2008). LIS publications have reported on various environmentally sustainable practices in libraries such as paper use and recycling, energy consumption, green library building, sustainability in collection development, green library programming, environmental education resources, vendor selections, travel and professional conferences, and more (Calloway & Callahan, 2003; Christensen, 2010; Harrington & Beale, 2010; Jankowska & Marcum, 2010; Love et al., 2005; Smith, 2010; Spencer, 2010; Urbanska, 2009; Woodland, 2010). Most publications have been case studies, and there were some articles that analyzed and synthesized LIS literature on green libraries (Antonelli, 2008; Fedorowicz-Kruszewska, 2020a, 2020b; Fisher & Yonz, 2007; Jankowska & Marcum, 2010). These synthesizing articles aimed to identify and sum up the research themes covered in the literature, to extract indicators for assessing and measuring the impact of the various environmentally sustainable activities and practices in libraries, and to conceptualize the research topics and develop an overarching framework.

Though the number of publications reporting empirical studies on libraries' environmentally sustainable practices and services was relatively small, it started to increase in recent years (Beutelspacher & Meschede, 2020; Dias, 2017; Kang, 2018). Dias (2017) surveyed municipal public libraries in Portugal, focusing on their library building construction, library resource

consumption, community partnerships, and respondents' perception of the importance of environmental sustainability. Almost all responding libraries considered environmental sustainability to be an important issue. Kang (2018) studied library directors' attitudes toward environmental sustainability in China and their libraries' environmentally sustainable actions. Findings from Kang's study indicated a contradiction between the library directors' perception of the importance of environmental sustainability and their levels of awareness of the environmental issues and actions taken in libraries. Beutelspacher and Meschede (2020) surveyed public libraries and their branches, located in cities with more than 100,000 inhabitants in Germany, on their environmentally sustainable activities in libraries. They also reported contradictions between participants' expectations of the libraries' environmentally sustainable activity and the actual efforts in the individual libraries. For example, in their study of 141 participants, 56 strongly agreed that public libraries have a mission to inform and raise awareness in the community on the topic of environmental sustainability, but only 13 respondents strongly agreed that their library is fulfilling this mission.

In the United States, Jankowska (2008) also discussed the gap between the idea of sustainable practices in academic libraries versus the libraries' actual practices that are not sustainable and called on libraries to focus on creating more responsible operational models to reduce both their operational costs and environmental impact in the long term. Both Jankowska (2008) and Christensen (2010) referred to the environmental sustainability implication in library collection development by switching from print materials to electronic resources. Focusing on cutting down paper use without realizing there is also an environmental impact from using electronic resources is a typical "see the tree, but not the forest" mindset in adopting environmentally sustainable practices in libraries. Jankowska (2010) further called for green policies in

American academic libraries to include sustainability indicators to measure the libraries' environmentally sustainable efforts and practices.

Most library and information science (LIS) publications have been on green libraries and green practices within libraries. There were limited empirical studies on libraries' environmental education services except for case reports of library environmental education programs and environmental information source lists (Harrington & Beale, 2010). In 2020, Fedorowicz-Kruszewska conducted a study on environmental education in libraries by analyzing literature and multiple case studies of 20 libraries that were finalists of the IFLA Green Library Award between 2016 and 2019. The results identified and categorized library activities that have environmental education potential by the three main components of a library: people, artefacts and processes. The findings contributed to the conceptualization of environmental education in libraries for more precise scientific communication in this area. Furthermore, librarians' perceptions of the importance of environmental sustainability and the role played by libraries is also an important research area. Librarians' perceptions of the importance of environmental sustainability and their identification of the role libraries could play may influence their actual environmentally sustainable practices.

The current study fills the gap in the literature by surveying librarians in Georgia about their attitudes toward environmentally sustainable practices in libraries and their perceptions of the role libraries should play in fostering sustainable communities in the environmental dimension.

Method

The purpose of this study was to investigate librarians' attitudes toward environmental sustainability in Georgia libraries and their perceptions of the role libraries could play in

sustainable community development efforts. The study aimed to answer the following questions:

1. What are librarians' attitudes toward environmentally sustainable practices in libraries and libraries' roles and responsibilities in building sustainable communities in Georgia?
2. What are the environmentally sustainable practices in Georgia libraries?
3. What are the environmental education services provided by Georgia libraries?
4. What role should libraries play in fostering sustainable communities in the environmental dimension from a librarian's perspective?
5. What are the challenges faced by librarians in providing environmental education services?

GLA is the primary membership organization for libraries in Georgia. The researcher is a GLA professional member and subscribes to the member Listserv. A convenience sample of subscribers to the GLA member Listserv was used for this study. Currently, GLA has more than 800 members, including librarians, trustees, paraprofessionals, friends, students, and others (GLA, n.d.). A survey method was chosen as the data collection method for this study. It was the most appropriate method for collecting information from a relatively large sample. It is especially suitable for gathering information on attitudinal questions. The survey method also gave the researcher the flexibility to adopt a variety of survey question types in the questionnaire to collect a variety of responses.

The survey consisted of a list of 22 questions broken down into six categories, including demographic characteristics, background knowledge on the subject, attitudinal questions, green practices in libraries, environmental education service activities provided, and open-ended questions asking respondents about their perceptions of the library's role and challenges (see Appendix for the complete survey). The

questionnaire was developed from reviewing the LIS literature on green practices in libraries (Antonelli, 2008; Beutelspacher & Meschede, 2020; Dias, 2017; Fedorowicz-Kruszewska, 2020a, 2020b; Fisher & Yonz, 2007; Jankowska & Marcum, 2010). The researcher obtained IRB approval for this study from their home institution. The web survey was created using Qualtrics and distributed through the GLA member Listserv on September 13, 2019. A reminder email was sent to the Listserv on September 20, 2019. The survey was closed at the end of 2019.

Findings

The responses that only answered part of the demographic questions were excluded from further analysis. This left 88 responses for analysis. It is not possible to calculate an accurate response rate since the exact number of subscribers to the GLA member Listserv was unknown when the survey was distributed. The majority of the 88 respondents (80.7%) were librarians. The rest of the respondents (19.3%) were library paraprofessionals or library staff members, some of them holding a Master's of Library Science degree. About 47.7% of the respondents were from academic libraries, followed by public libraries (38.6%) and school libraries (8%). Additional library types included special libraries (1.1%), library consortiums (3.4%), and others (1.1%). In terms of the libraries' service population and annual budget, 40% of the respondents were from libraries that serve a population less than 25,000, 27% serve a population between 25,000 and 100,000, and 25% serve a population of 100,000 or more. In terms of the annual budget, 35.2% of the respondents reported an annual budget of over \$500,000, followed by an annual budget between \$100,000 and \$500,000 (21.6%) and less than \$100,000 (14.8%). The respondents were roughly evenly distributed in terms of the library's service community, with 34% serving just suburban areas, 27.7% serving only rural areas, and 26.1% serving only urban areas. Four respondents (4.5%) specified that their libraries

serve a combination of urban, suburban, and rural areas.

Several questions were asked to find out the respondents' background knowledge on the Green Library Movement and the Leadership in Energy and Environmental Design (LEED) certification system. The American building community formed the U.S. Green Building Council (USGBC) and the LEED certification program in 2000. The LEED standards address sustainable building sites, water efficiency, materials, energy conservation, pollution control, and indoor environmental quality. Libraries have embraced LEED certification (Antonelli & McCullough, 2012). Most respondents (67%) did not know about the Green Library Movement, but the majority of respondents (76.1%) were familiar with the LEED certification. Respondents from public libraries had a higher rate of knowing about the movement compared to those from other types of libraries. Respondents from academic libraries had a higher rate of knowing about the LEED certification than their peers from other types of libraries. About 22% of the respondents were aware of both concepts; most were from public libraries. Out of the respondents who were familiar with the LEED system, 43% were aware of actual libraries that are LEED certified.

The next set of questions asked about respondents' attitudes toward environmentally sustainable practices in libraries to reduce their carbon footprint and libraries' participation in building environmentally sustainable communities. Each question was a 5-point Likert item from "strongly disagree" to "strongly agree." Questions 1–3 focused on library operations. Questions 4–6 focused on the role of libraries in the community. The attitudinal questions were created based on the literature review and libraries' roles and responsibilities identified by the IFLA and ALA. Cronbach's alpha coefficient tests the internal consistency and reliability of the multiple statements. The α of 0.925 indicates these items are reliable.

Figure 1 Librarians' Attitudes Toward Green Practices and Environmental Education Services

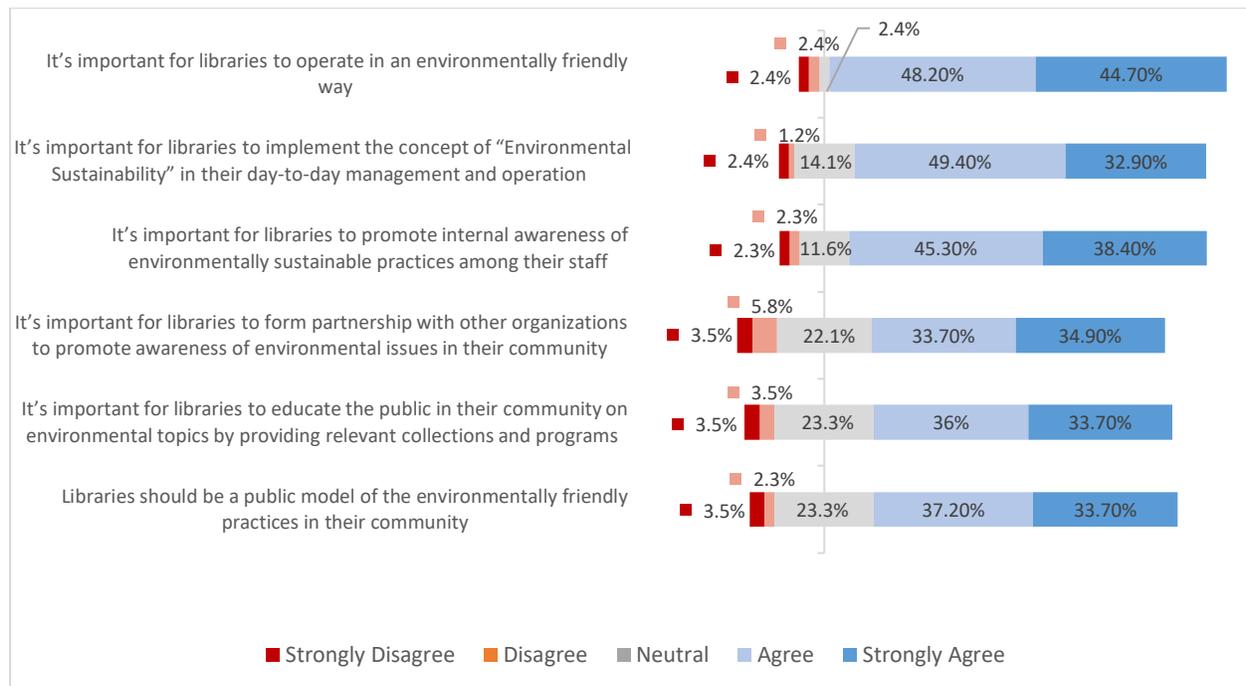


Figure 1 is a 100% diverging stacked bar chart that shows the distribution of the librarians' level of agreement with the statements. Eighty percent or more respondents agreed or strongly agreed with the first three statements that libraries should operate in an environmentally friendly way in their day-to-day management and operation. Sixty-eight percent to 71% of the respondents agreed with the 4th–6th statements that libraries should be active participants in building environmentally sustainable communities by modeling environmentally sustainable practices, forming a partnership with community organizations, and educating the public on the subject. Overall, the respondents felt a little stronger about adopting environmentally sustainable practices within libraries rather than participating in building sustainable community efforts.

The next two sections of the survey asked respondents to report their actual environmentally sustainable practices and environmental education services. Though only 15.3% reported that their libraries have an environmental policy covering daily operations, about half of the respondents (49.4%) reported that their libraries have adopted environmentally sustainable practices to reduce the environmental impact caused by their operations. These practices were categorized into the 3Rs as shown in Table 1. Those categories were identified based on the recurring themes from the responses. "Recycle" was the most often mentioned practice, followed by "reduce" and then "reuse." Some responses were included in multiple categories based on the number of themes that were identified in the response. This applies to all the tables that reported the categories of themes from the responses.

Table 1 Library Practices to Reduce Environmental Impacts

Theme Categories	Counts	Selected Examples
Recycle	35	"Providing recycling receptacles next to trash bins."
		"Recycle paper, cardboard, etc. through county single stream recycling."
		"recycling and reusing, ordering recycled and reusable products when practical."
		"We have recycling bins for paper & aluminum. We follow our campus' recycling policies."
Reduce	19	"Using both recycled and reusable products, as well as recycling ourselves."
		"energy efficient LED lighting."
		"water bottle refill water fountain."
		"motion sensor lighting in offices."
Reuse	17	"Free charging station for electronic cars."
		"using sustainable energy."
		"I try to use recycled products and reuse products. I believe I am alone in my efforts, though."
Composting	1	"recycling and reusing, ordering recycled and reusable products when practical."
		"Using both recycled and reusable products, as well as recycling ourselves."
		"Campus-wide composting."

The list of questions about libraries' environmental education services focused on libraries' environmental education programs, exhibits, information resource guides, and community partnerships. The answers were varied across libraries. About 29.3% of the respondents reported that their libraries created programs related to environmental topics, and most of them were from public libraries. The types of programs organized

within these libraries are categorized as seen in Table 2. Some are workshops on 3Rs and sustainable living that embody action-orientated education, where users learn by doing and applying knowledge. There are also programs focused on the local community's nature, resources, and informational programs. More than half of the respondents (57.3%) reported that their libraries do not offer any programs related to environmental topics.

Table 2 Library Environmental Educational Programs in Georgia

Theme Categories	Counts	Selected Examples
3Rs	4	"How to make clothes from clothes, art from trash, that kind of thing"
		"reusable and recycled crafts"
		"informational recycling lectures"
		"We push in January: reduce, reuse, recycle"
Sustainable living	4	"Plant-based diets"
		"gardening, 'green' pest control"
Local community activity	4	"nature programs for children & families, include picture book work at local nature area"
		"partnership with local organizations"
		"local hikes and informational sessions about local nature"

Informational programming	3	"Earth Day"
		"information recycling lectures"
		"feature faculty speakers"

When asked whether their libraries organize any kind of book or themed exhibits on environmental issues, 38.6% of the respondents reported positively. The types of exhibits in these libraries are categorized as seen in Table 3. Book displays are the most often mentioned

display, followed by themed displays such as Earth Day exhibits and informational displays of critical information resources, statistics, and infographics. About half of the respondents (49.4%) reported that their libraries do not create any exhibits on environmental topics.

Table 3 Library Environmental Educational Exhibits in Georgia

Theme Categories	Counts	Selected Examples
Book display	11	"We occasionally have an environmentally-themed book display"
		"book display for earth day"
		"Book displays on environmental themes"
		"Displays of books on various topics"
		"Displays of books related to green/sustainability"
Themed display	8	"We have an Earth Day program with community partnerships"
		"we create displays in January about reduce, reuse, recycle"
		"Science projects display"
		"We put up Earth Day exhibits and recycling displays from time to time"
		"Earth day, sustainable practices, off the grid kinds of displays"
Information display	3	"Eresource info sessions"
		"posting related statistics and infographics from online resources"
		"information posted on bulletin boards"

Only 12.5% of the respondents reported that their libraries have resource guides on environmental education materials and resources. Two thirds of the respondents (66%) answered "no" to this question. The types of resource guides included LibGuides and environmentally-themed pathfinders.

A little more than one-third of the respondents (37.5%) reported that their libraries collaborated with community organizations to promote environmental awareness, most responses of which were from public libraries. Table 4 includes the community organizations that different types of libraries collaborated with on environmental education. Public libraries collaborated with a wide variety of

community organizations. Academic libraries tended to collaborate with groups from their campus. About 46.3% of the respondents answered "no" to this question.

When asked about their library's participation in community disaster planning efforts, 17.5% answered that their library was involved in disaster planning efforts in their community. Most were from academic libraries. Involvement includes participating in community disaster planning discussions, distributing information about organizations such as FEMA, or creating displays. The majority of the survey respondents (79%) reported that their libraries were not involved in any community disaster planning efforts.

Table 4 Libraries’ Community Organization Partnership on Promoting Environmental Awareness

Theme Categories	Community Organization
Academic libraries	Center for Sustainability/Office of Sustainability/Sustainability Center Facility Services Faculty in Biology Students Environmental Awareness Groups
Public libraries	Community Garden Community partners and local organizations County recycling Environmental Inspector Georgia Environmental Counsel Georgia Extension Office and Master Gardeners Keep America Beautiful affiliate Southern Conservation Trust State parks Tifton Area Greenway Association Water Department Zoos
School libraries	Georgia Power

Respondents were also asked about their perceptions of the role libraries should play in fostering a sustainable community in the environmental dimension. In Table 5, the roles are ranked by the number of respondents who identified with them. Out of the 46 respondents who shared their perceptions of the roles libraries should play in building an environmentally sustainable community, 28 identified with the role of *library service provider*. This was followed by the role of *educator* (13 respondents), *model and exemplar* (eight respondents), and *community partner*

(eight respondents). Respondents were split on whether libraries should take on the *leadership* or *educator* role: a handful of the respondents mentioned that libraries should take on the leadership role in their community, and a roughly equal number of respondents indicated that libraries should not take on the leadership and/or educator role. One respondent said, “Libraries should be leaders in sustainability.” Another respondent said, “I think partnering with a community group already involved is great, but I don’t think libraries need to take the lead...enough on their plates.”

Table 5 Libraries’ Role in Developing Sustainable Communities on the Environmental Dimension

Theme Categories	Counts	Selected Examples
Library Service Provider Collection/Information Meeting Space	28	“Provide print and digital materials on the topic.” “Provide access to reliable information on environmental topics” “The easiest way would be to offer our meeting rooms to allow groups to meet...” “At a minimum, collecting materials patrons can use to educate themselves and/or do research. They should also be models as much as is reasonable. Ideally, programming and partnering would occur.”

		<p>"we need to provide resources that people are actively seeking and probably need to keep an eye on emerging trends and look for decent resources in those areas"</p>
		<p>"Educate and engage"</p>
		<p>"Libraries should take a forward thinking, proactive stance on educating the public on environmental issues"</p>
		<p>"Invite and host speakers, workshops, and events related to sustainability"</p>
Educator	13	<p>"It would be nice to have a library-wide policy for sustainability and a push to educate not only other employees but also students and the general public."</p> <p>"Libraries are stewards of the community. At the very least, we should model sustainable practices for the environment. At the most, we should inform our population about climate change and how to reduce our carbon footprints."</p>
Community Partner	8	<p>"In my case, perhaps partnering with some local STEM high schools to discuss environmental issues with future students"</p> <p>"Partner with community organizations to minimize duplication of efforts and maximize reach"</p> <p>"Setting an example with sustainable operations"</p> <p>"Libraries are stewards of the community. At the very least, we should model sustainable practices for the environment. At the most, we should inform our population about climate change and how to reduce our carbon footprints."</p>
Model and Exemplar	8	<p>"I think libraries could transparently model environmental citizenship"</p> <p>"They should also be models as much as reasonable"</p> <p>"Active participant and key player"</p> <p>"Libraries should be leaders in sustainability"</p> <p>"Libraries are stewards of the community. At the very least, we should model sustainable practices for the environment. At the most, we should inform our population about climate change and how to reduce our carbon footprints."</p>
Leader or Key Player	4	<p>"There should an intentional and active role in the communication of information"</p> <p>"I think partnering with a community group already involved is great, but I don't think libraries need to take the lead... enough on their plates."</p>
Not Leader Not Educator	5	<p>"The role of libraries is to provide resources and that may include books on environmental education and issues. It's not their job to create, develop or teach environmental education."</p>

“None. The whole "sustainable community" idea is a bunch of garbage and libraries need to focus elsewhere.”

“Without partnership with outside organizations, the library's role is little. This is something that I believe is outside the realm of what my library would provide and would require a lot of staff time which we just do not have.”

The final question asked respondents about the challenges they faced in providing environmental education services. The most often mentioned challenges of providing environmental education services were lack of staff, funding, time, and community

partnerships. This was followed by patron engagement, competing service priorities in libraries, and buy-in from administration. Table 6 shows the categories that emerged from the recurring themes in the answers.

Table 6 Challenges in Providing Environmental Education Services in Libraries

Theme Categories	Counts	Examples
Funding, staff, time, and community partnership	15	<p>“A challenge is securing the funding necessary to provide a robust environmental education program”</p> <p>“same as all the rest of the challenges -- is there the money and the time to collect and curate the resources and then market the fact we have them and can help the public find them”</p> <p>“In school libraries, we don't have the same control over our physical environment as public and academic libraries do. Most public-school libraries in GA are severely limited in staff so we are unable to provide the programs and classes we did when we were fully staffed.”</p> <p>“It is sometimes hard to engage collaborators.”</p>
Patron interest	7	<p>“It's difficult to hit the right note in the constituency”</p> <p>“Lack of patron interest in certain communities”</p> <p>“Patrons say they want this type of programming but don't actually attend.”</p> <p>“The general public doesn't often attend programs on environmental issues unless they directly impact them. Otherwise, it seems to be ‘someone else's problem.’ We have materials in various formats available for circulation”</p>
Competing priority	7	<p>“I serve an impoverished rural community. People here are far more concerned about jobs than recycling.”</p> <p>“It detracts from other more important things.”</p> <p>“our community is more concerned with finding and keeping employment”</p>
Administrative support	4	<p>“Lack of patron interest in certain communities, lack of interest from library administration for challenges, an educated public that is interested in creating positive environmental change for positives”</p> <p>“Without buy in from our leadership, this is a difficult concept for my library to grasp.”</p> <p>“Success depends on the interest and support of library administration and dedication of staff wanting to be involved.”</p>

Discussion

Overall, the majority of the survey respondents (>80%) agreed on the importance of adopting environmentally sustainable practices in libraries. About half of the respondents (49.4%) reported that their library has adopted some environmentally sustainable practices to reduce the environmental impact caused by their operations. Almost 70% of the respondents agreed it is important for libraries to educate the public within their community on environmental issues. About 38.6% of the respondents reported that they create environmentally-themed displays, 29.3% reported actual programs related to environmental topics, and 12.5% reported the availability of resource guides or pathfinders on environmental materials and information. About 68.6% of the respondents agreed it is important for libraries to form partnerships with other community organizations to promote environmental awareness in their community, and 37.5% of the respondents reported such collaborations with other organizations in their community.

This echoes the findings from previous studies that there was a gap between the respondents' perception of the importance of environmental sustainability and the actual practices in individual libraries (Beutelspacher & Meschede, 2020; Dias, 2017; Kang, 2018). For example, in Beutelspacher and Meschede's (2020) study on German public libraries, 39.7% of research participants strongly agreed that public libraries have a mission to inform and raise awareness to the community about the topic of environmental sustainability, but only 9% strongly agreed that their library was fulfilling this mission.

The respondents' perception of the role libraries should play in building sustainable communities in the environmental dimension also reflected the contradiction between the respondents' attitudes and the actual practice. Out of the 46 respondents who shared their

understanding of the roles libraries should play in building an environmentally sustainable community, 28 identified with the role of information and service provider. This was followed by the role of educator, model and exemplar, and community partner. The identification with the roles specified by IFLA and ALA varied greatly among respondents. IFLA and ALA have urged libraries to take on a leadership role and model environmentally sustainable practices in their community, educate the public using their collections and programs on sustainability, become active participants in community efforts, seek out partnerships to identify shared solutions, and more. The respondents' perceptions showed that not all respondents embraced or took these roles. If librarians do not completely accept these roles, it is less likely for them to prioritize the roles and apply them in their day-to-day operations. The fact that only 15.3% of respondents reported that their libraries have a general environmental policy that covers their daily operations reinforces this contradiction. Policies identify organizational priorities and guide libraries' actions and decisions. Without an environmental policy in place, it is hard to envision libraries prioritizing environmental sustainability in their day-to-day operations and decision-making.

The persistent identification of this contradiction between attitudes and actual action could be partially explained by the challenges identified by respondents. The lack of funding, staff, and community partnerships was the most often mentioned challenge in this study. One respondent said, "A challenge is securing the funding necessary to provide a robust environmental education program." Beutelspacher and Meschede (2020) also identified tight budgets and lack of personnel as challenges for libraries to promote sustainability. The current study also identified the challenge of a lack of public interest and participation, followed by competing priorities and a lack of administrative support in libraries. Regarding competing priorities, one respondent

described it like this: “our community is more concerned with finding and keeping employment.”

The convenience sampling method in this study inhibited the researcher’s ability to generalize the findings. The relatively small number of responses also made it impossible to compare the answers statistically across groups with different demographic characteristics such as library type, annual budget, and service population. But, the results provided insights into libraries’ environmentally sustainable practices and environmental education services in Georgia and revealed librarians’ attitudes toward these subjects. Most importantly, the results showed that not all respondents embrace the roles libraries should play in developing an environmentally sustainable community specified by IFLA and ALA. There is still a lot of work to be done to resolve this contradiction.

Conclusion

Environmental issues impact everyone on this planet, and various efforts have been made at the international, national, regional, and local levels. Libraries hold a unique place in the community they serve and are called upon to play an important role in providing information and educating the public on these issues. However, repeated studies found a contradiction between the expectations and the library’s practices on this matter.

Professional organizations such as IFLA and ALA have already taken initiatives to train and motivate library workers to adopt environmentally sustainable practices and provide environmental education services. Examples include the IFLA Green Library Award (IFLA, n.d.) and the ALA Resilient Communities: Libraries Respond to Climate Change Initiative (ALA, n.d.). Both professional organizations also have relevant organizational divisions that create and share resources with member libraries. But, there is more to be done to

resolve these contradictions.

One of the main takeaways from this study is the need for environmental literacy education and training for library employees and administrators, so they can be equipped with the necessary knowledge and skills to contribute to sustainable development in the communities they serve. Instruction could be integrated into LIS curricula, such as community outreach, reference, or information literacy courses. Professional organizations such as IFLA, ALA and GLA can also develop continuing education programs or job training to support libraries in this endeavor.

Specific environmental grants or funding from various sources should be made available to libraries to hire environmental sustainability librarians or form an environmental sustainability team to advocate for environmental sustainability in libraries and to provide environmental education services. The inclusion of environmental sustainability in libraries’ strategic plans or policy documents is also important to make sure the idea is recognized by administration, librarians, and staff members. It is also important to identify and extract indicators from previous research and include them in the policy to make sure the impact of environmentally sustainable practices and services are specific and measurable.

There is a network of 2.6 million libraries around the world. This library network is a great way to reach the world population and promote environmental awareness and literacy. This giant network also provides opportunities for libraries to form a community of practice, learn from each other, and brainstorm creative ideas. With a lack of funding and personnel as great challenges, libraries can tap into each other’s strengths and knowledge to push forward.

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Appendix: Librarians' Attitudes Toward Providing Environmental Education in Georgia

You are invited to participate in a survey research project entitled “**Librarians' Attitudes Toward Providing Environmental Education in Georgia**” which is being conducted by Dr. Xiaoi Ren, a faculty member at the Department of Library and Information Studies at Valdosta State University. The purpose of the study is to understand the current library practices in and the librarians' attitude toward promoting environmental education in Georgia. You will receive no direct benefits from participating in this research study. However, your responses will help the researcher learn more about libraries' current practice and their perception of libraries' role in promoting environmental education in local communities.

There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life. It should take participants approximately 10 minutes to complete the questionnaire. This research study is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Your participation is voluntary. You may choose not to participate, to stop responding at any time, or to skip questions that you do not want to answer. You must be at least 18 years of age to participate in this study. Your participation serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older.

Questions regarding the purpose or procedures of the research should be directed to Xiaoi Ren at xren@valdosta.edu. This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-253-2947 or irb@valdosta.edu.

Part I. Demographic Questions

1. Where do you currently work?

- Public library
- Academic library
- School library
- Special library
- Library cooperative/system/network/consortium
- Other _____

2. What is your service community?

- Urban

- Suburban
- Rural
- Not Applicable

3. What type of position do you hold?

- Librarian with ALA MLIS/MLS
- Librarian with degree other than ALA MLIS/MLS
- Paraprofessional
- Staff
- Other _____

4. What is your libraries' service population?

- More than 200,000
- 100,000-200,000
- 50,000-99,999
- 25,000-49,000
- 5,000-24,999
- Fewer than 5,000
- I am not sure

5. What is your library's annual budget?

- More than \$500,000
- \$400,000-\$499,999
- \$300,000-\$399,999
- \$200,000-\$299,999
- \$100,000-\$199,999
- \$50,000-\$99,999
- Less than \$50,000

I am not sure

Part II: Background Knowledge

6. Are you aware of the "Green Library Movement?"

Yes

No

I am not sure

7. Are you familiar with concept of the **Leadership in Energy and Environmental Design (LEED)** Green Building Certification system?

Yes

No

I am not sure

8. Are you aware of any examples of the "Green Libraries/LEED Certified Libraries" in your area?

Yes

No

I am not sure

9. Is your library a LEED certified library?

Yes

No

I don't know

Part III: Attitude

10. The following statements ask about your attitude toward the importance of providing environmental education in libraries:

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
It's important for libraries to operate in an	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

environmentally friendly way.

It's important for libraries to implement the concept of **"Environmental Sustainability"** in their day-to-day management and operation.

It's important for libraries to promote internal awareness of environmentally sustainable practices among their staff.

It's important for libraries to form partnerships with other organizations to promote awareness of environmental issues in their community.

It's important for libraries to educate the public in their community on environmental topics by providing relevant collections and programs.



Libraries should be a public model of the environmentally friendly practices in their community.

It's public libraries' responsibility to educate the public on environmental topics.

Part IV: Internal Practices

11. Does your library have an environmental policy that applies to your daily operation of the library?

- Yes
- No
- I don't know

12. Does your library incorporate environmentally friendly policies and practices in building construction and/or maintenance?

- Yes
- No
- I don't know

13. Does your library take into consideration measures to reduce the environmental impact caused by the library's operation?

- Yes
- No
- I don't know

14. What are the measures that your library takes to reduce the environmental footprint?

Using sustainable energy

- Using recycled products
- Using reusable products
- Other _____

Part V: Community Outreach

15. Does your library organize outreach campaign/events to promote the discussion of environmental issues in your community?

- Yes
- No
- I don't know

15a. Please tell me a little more about the events:

16. Does your library organize book exhibits or themed exhibits about environmental issues?

- Yes
- No
- I don't know

16a. Please tell me a little more about the exhibits:

17. Does your library create programs related to environmental topics?

- Yes
- No
- I don't know

17a. Please tell me a little more about the programs:

18. Does your library maintain a resource guide on environmental education resources?

- Yes
- No

I don't know

18a. Please tell me a little more about it:

19. Does your library collaborate with other organization(s) in your community to promote environmental awareness?

Yes

No

I don't know

19a. Please tell me a little more about the other organization(s):

20. Were you involved in any disaster preparation and recovery planning efforts in your community?

Yes

No

I don't know

20a. Please tell me a little more about your participation:

Part VI: Comments

21. What should be the role played by libraries in the development of a sustainable community on the environmental dimension?

22. What are your observations of the successes and/or challenges in providing environmental education in libraries?
