LISCON

LIBRARY AND INFORMATION SCIENCE CONFERENCE

PROCEEDINGS

ANNUAL CONFERENCE

2024 IBADAN

THEME

SUSTAINABLE LIBRARIES: NAVIGATING CLIMATE CHANGE IN THE INFORMATION SPACE

VENUE

DeLady Bank Anthony Hall, Institute of African Studies, University of Ibadan,

DATE

8 -11 September, 2024

First Published 2022
ISSN 1119-4081

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LIBRARY AND INFORMATION SCIENCE PROFESSIONALS' RESPONDING TO CLIMATE CHANGE CRISIS IN NIGERIA

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Abstract

Climate change poses a significant threat to Nigeria's environment, economy, society and Library and Information Science (LIS) professionals have a vital role to play in responding to this crisis. This paper explores the potential contributions of LIS professionals in Nigeria to climate change mitigation and adaptation efforts. The study utilized a qualitative research approach in which researchers adopted a systematic review of relevant literature which helped to gather secondary data in relation to the study's aims. The researchers agreed that LIS professionals are well-positioned to facilitate access to climate information, support climate research, and promote environmental literacy; thereby contributing to Nigeria's climate resilience and sustainability. In conclusion, librarians were urged to take proactive steps such as: act as prolific and inclusive public spheres on campus, develop critical thinking, employed digital mechanism for library services delivery, prepared and plan adaption for future, to serve as information provider and libraries should go green in climate change era among others.

Keywords: Library and information, LIS professionals, climate change, Nigeria.

Introduction

Climate change threatens and can gradually devastates human freedom and restricts choices of individuals. It is a global problem which poses a lot of challenges to the environment and comes with many consequences such as droughts, wildfire, floods and other irreparable damages on the ecosystem (United Nations, 2021). Climate change tends to occur as a result of continuous rise in temperature, humidity and rainfall and could also have negative impacts on the

growth and development of a nation, organisations, including libraries if it is not properly managed and handled. In the library for example an increase in temperature (sunlight) which directly falls on paper, could lead to loss of text of information resources, invariably leading to the low use of library due to lack of quality information resources. Meanwhile, libraries and library professionals have been identified as part of the stakeholders or agents that could champion global efforts in combating climate and advancing sustainable development principles (Kornfeind, 2022). Therefore, library professionals have key roles to play in their responses to climate change. This could be done by incorporating certain practices in library operations and by engaging their communities in programmes and services that will help to properly manage and address the climate crisis.

Aytac (2019) refers to climate change as a change in historic climate patterns. Climate change can present a series of challenges such as water scarcity, food crises and extreme weather events. The author further opines that as efforts are being made to combat climate change globally, there is the need to also consider taking local initiatives, such as providing access to local information sources on climate change for the use of community members. At this juncture, the library professionals could play a significant role in educating citizens towards developing more climate friendly life style and making careful decisions on climate change.

The library can also provide modern literacy and promote good reading habits among community members in order to increase environmental literacy among them. This is an opportune time for librarians to play a role in tackling and mitigating climate change crisis. In addition to provision of high-quality information, library professionals could also provide information resources and services to library patrons to boost their knowledge on climate change. Libraries play vital role in the education and providing information to their communities hence, the need to equip community members with adequate information that would enable them adapt and positively respond to climate change issues. This paper is therefore significant as it explores the responses of Library and Information Science professionals to climate change crisis in Nigeria.

Literature review

Concept of climate change

According to Matthew and Yonatan (2021), the term climate change and global warming are often used interchangeably. Global warming is the increase in global average surface temperature which is an aspect of climate change. Thus, climate change effects are results of both human activities and uncontrollable natural occurrences. Climate change is a wide-ranging ecological shift in the current and future functioning of the climate, with the potential for fatalities to ecological creatures and the destruction of natural habitats (Adeola, 2024; IPCC, 2014). Climate change is arguably the most pressing, devastating and large-scale crisis in modern history. The natural processes associated with climate change are rapidly accelerating due to an excessive use of fossil fuels, which generate greenhouse gas emissions, and increase the temperature of the earth.

Climate change causes are more frequent droughts, wildfires, floods, heatwaves and extreme storms. Melting permafrost layers, rising sea-levels and irreversible damage to ecosystems are further consequences of climate change (United Nations, 2021 Kornfeind, 2022). Lusiana, Yanto, Nursari, Samson and Suryadi (2024) refer to climate change as one of the intended goals of the Sustainable Development Goals (SDGs), this requires various groups to participate in the adaptation and mitigation on global warming. This is because climate change causes various problems that could have a direct impact on human life (Gunamantha and Dantes, 2019). No one can deny and predicts the negative impact that the world could face due to climate change, whether from an economic, social or environmental perspective. Fahmida, Uzma and Faiza (2022) stated that climate change is quite a challenge, especially for developing countries because climate change could affect food security as a result of changes in temperature and rainfall. According to Ching-Ruey (2020), climate is often defined as the average weather at a particular place, incorporating such features as temperature, precipitation, humidity and windiness.

A more specific definition would state that climate is the mean state and variability of these features over some extended time/period. Abbass, Qasim, Song, Murshed, Mahmood and Younis (2022) refer to climate change as the one which entails the long-term distortion in weather patterns due to global warming predominantly caused by an imbalance in atmospheric

GHGs such as water vapor, methane (CH4), carbon dioxide (CO2), nitrous oxide (NOx), and chlorofluorocarbons.

Library services and climate change.

Libraries play a leading role in helping people overcome community difficulties and can serve as agents which provide direction to the general public on how to change their lifestyles in to conform with environmentally sustainable behaviours (Hale et al., 2021; Shukla et al., 2020). It is believed that libraries are very suitable to lead collaborative action towards adapting to these environmental changes because libraries have a long and successful history in bringing citizens from various cultures and economic backgrounds together (Biswas, 2021). Libraries globally have been addressing climate change through various means and initiatives such as: organising outreaches, providing instructional services and other advocacy efforts for their communities (Kornfeind, 2022)

The basic role of any type of libraries whether academic, school, public, national, special or digital is to serve as the extension of education for the citizens in the community. Hence, the need to perform specific functions like information services, educational function, cultural functions, recreational role, access to knowledge, self-development and national development among others. Iroka, and Ndulaka, (2018) viewed information provision by libraries as a vital avenue to augment ideas collected from other sources. Libraries can develop climate change information services and create targeted information services, such as climate change databases, newsletters and social media channels, to disseminate relevant information to diverse audiences. Climate change has a scientific dimension in the form of studies and research with complex policy implications in the form of regulations, prohibitions and requirements, making it difficult for ordinary people to understand.

The advent of ICT in the digital library has also facilitated the provision of information by the library. Latimer (2021) reiterates that library users can access information through the internet to update the knowledge and keep abreast of current trends on climate change. Modern libraries are spearheading successful reuse projects which involve the use of sustainable design concepts, innovative urban planning principles and historic preservation guidelines to promote environmentally-friendly design. Ikenwe and Udem (2022) itemised modern library's

information services in climate change era to include: Web OPAC, digital library services, OPAC, marketing services, ICT services, information literacy education, current awareness services and reference services. Other are information services, referral services, inter-library loan services, internet services, selective dissemination of information, user ICT training services, helpdesk services, web-based services, among others. According to Aytac (2022), library can also provide lib-guides, online exhibitions, web-based LIS, library education, gardening/garden Club composting seed library and many other library and information services in this climate change era. Some ways through the library can help to respond to climate issues in Nigeria are:

Libraries as agents for climate change literacy

Achieving the goal of climate change literacy is a huge challenge and requires knowledgeable information professionals to enable transformative change in sustainable development within libraries and the communities they serve (Aytac, 2020). However, as a matter of urgency the International Federation of Library Association's (IFLA) has called for more environmentally friendly libraries and argued that, now is an opportunistic time for libraries to transform themselves into environmental change agents.

Libraries can design their services to suit and help people in a community to identify their environmental information needs. In this regard, information repackaging services can be provided by the library to targeted groups. Additionally, to help and teach how and where to seek needed environmental information, to evaluate this information and to use this information effectively (Idogbe & Philip 2020). The integration of climate change literacy in the services of the library will also provide libraries the needed tools to be useful for educating communities and equipping community members with much needed information to act effectively in the climate change era (Kang, 2020).

Libraries can serve as agents for Information dissemination and awareness -raising

Awareness means to know about something or to know that something is important. Awareness influences the attitude of individuals or societies on taking certain actions under particular situations. The knowledge and attitude of individuals play a central role in improving

their natural environments (Mumtaz et al., 2019). It is believed that most people in Nigerian communities perceived climate change as a serious phenomenon, however, awareness about the impacts of same matter is low (Assan, Suvedi, Olabisi & Bansah. 2020). Lack of awareness on climate change by community members can ultimately lead toward no or little effort by them to drive the change. The awareness raising campaign can results in increased awareness of climate change impacts, support, impact assessment, adaptive policy formation, enhance adaptive capacity, indigenous solution and reduced vulnerability (Abbasi & Nawaz, 2020).

There are various forms of media which help in disseminating the message i.e. newspapers, internet, and television. However, LIS professionals can disseminate climate change information through: public awareness campaigns, organise public events, social media leverage and through social media platforms. LIS professionals can also engage in public lectures, seminars and workshops featuring climate change experts. Climate change communication network can be established and be inclusive of all members in a community.

Access to climate information and research support

LIS professionals can make effort to facilitate access to research on climate change and foster research collaboration and knowledge sharing among researchers, scientists and experts to provide findings that could help on climate change. In addition, libraries can help to translate climate change research findings and information into the local languages of community members to aid their understanding and use. The library can also help to provide access to scientific journals and publications on climate change for local researchers and policy makers (Ncoyinia, Savagea. & Strydom,2022).

Access to climate information and research support can assist in the production, translation, dissemination and use of climate information by individual and community members for decision-making (Carr, Goble, Rosko, Vaughan and Hansen, 2020). Library can come in to provide help on weather climate forecasts involve the provision of forecasts before starting a farming season to support farmers in making informed decisions and adapting to climate variability. For current information services to be helpful and meet the users' needs in this era of climate flotation, it must have desirable qualities. These qualities include availability,

dependability, usability, credibility, authenticity, responsiveness, timeliness, and flexibility (WMO, 2021)

Community engagement and education

Community engagement and education are crucial components in addressing climate change. There are many community engagements tools, each with strengths, weaknesses and varied relevance to different contexts and purposes (Barth, Bond & Stephenson, 2023). According to Læssøe and Mochizuki (2015), interest in education and climate change has increased due to leadership efforts from organisations like the United Nations Education and Scientific and Cultural Organisation (UNESCO) that continue to advocate for educational efforts to respond to climate change.

Despite the importance of education in responding to climate change, education is rarely mentioned in discussions of major climate solution strategies. One reason that education programmes may not feature prominently in discussions about climate change mitigation is that only few studies have verified the effective reductions in carbon emissions through education programmes (Cordero, Centeno & Todd, 2020). Education has been found to be one of the methods for promoting behavioural change, but only under certain circumstances. The environmental education literature offers insights into the connections between education and behavioural change, it also provided guidance on how to encourage pro-environmental behavior. In this context, LIS professionals must engage in education programmes particularly in the area of climate change to sensitise the people in the community.

Prioritising community engagement and education can build a more informed, empowered and resilient community, capable of driving meaningful climate action and sustainable development. Campbell, Uppalapati, Kotcher & Maibach (2023) reiterates that one of the roles of LIS professionals is to communicate and educate community of people effectively

Digital preservation of environmental knowledge

Globally, digital preservation of the environmental knowledge and the maintenance are seen as closely linked to sustainable development. Valentina, Albena and Dilyana, (2022) emphasised that digital preservation of environmental knowledge creates a successful symbiosis. Environmental knowledge is seen as an element of environmental movements and the process of

formation of eco-citizenship as a condition for sustainable development. (Gordon, Richard & Lucy et al.2021).

Digital preservation of environmental knowledge is essential in the context of climate change, as it ensures that valuable information and data are safeguarded for future generations. Thus, preservation of environmental knowledge can be done digitally using the following approaches: digital repositories, data and archives, digital libraries, employing knowledge management system, open access platform, digital museum, that is creating digital museum and exhibitions, showcasing environmental artifacts, adopting digital preservation network, emulation, mitigation and disaster recovery plan to ensure a more sustainable future.

Other proactive steps identified by Aytac (2022), Leo & Nick (2023) and Lusiana, Yanto, Nursari, Samson and Suryadi (2024), that libraries and LIS professionals can take to respond to climate change, include:

1. Acting as prolific and inclusive public spheres on campus

Acting as prolific and inclusive public spheres on campuses in the climate change era implies encouraging open and diverse discussions about climate change impacts, fostering a culture of inclusivity, where all voices are heard creating spaces for students, faculty and staff to share ideas and collaboration on climate change related initiatives. More so, promoting interdisciplinary approaches to address the complex issues surrounding climate change, encouraging critical thinking, creativity and innovation in addressing climate challenges. Libraries can also facilitate the connection between campuses and local communities to address climate issues. The library can provide resources and opportunities for climate education and leadership development. Libraries acting as prolific and inclusive public spheres can make campuses to become hubs for climate actions in fostering a sense of community and driving positive change in the phase of the climate crisis.

2. **Libraries and LIS professionals can create a platform for critical thinking**

Libraries and LIS professionals can establish critical thinking camps, sessions for individual to discuss issues on climate change. The library and its professionals can play significant roles in stirring up critical thinking, inspiring curiosity, open inquiry, and authentic sense making to combat disinformation, misinformation and possible solutions to issues on climate change. As recommended by the American Library Association (ALA, 2020), Libraries

must provide open forums for environmental groups regarding environmental literacy discussions in lectures and webinar presentations. To expand community involvement in supporting environmentally friendly or green library programs, the library takes action to encourage children's exposure to the importance of ecology through poster competitions and poetry events, organises library websites with links and bookmarks to environmental issue sites, collaborates with the community and groups interest in environmental problems, issues in addressing their various information needs (McGuire, 2022). To this end, LIS professionals should share a common ethos of providing library users with relevant resources and key knowledge in climate change era.

3. **LIS professionals /Libraries lead by example (going green)**

According to Huang and Si (2018); Kang (2020); Mahawariya (2020), The primary goal of a green library is to produce a physical structure that from conception and initial design already recognises and demonstrates that with careful initial planning, the project or system can minimise resource consumption and negative impacts on the environment throughout the structure's life cycle. Libraries and library professionals must show examples of what climate and environment sustainable work should be to members of the community. This will help to increase the willingness of the community members to participate and observe good climate sustainable activities.

Conclusion

Libraries and LIS professionals across the world are important factor in the course on climate change. Library and information science professionals have a very important role to play in helping the community and people to respond to climate change. LIS professionals can leverage on their expertise in information management, literacy and opportunity for community engagement to support researches, discussions and programmes on climate change mitigation and adaptation efforts. The library and LIS professional must however collaborate with other stakeholders to devise innovative approaches for information dissemination and education. LIS professionals must also strengthen green library movement.

Recommendations

The study recommends that, organising researchers' outreaches in the community, providing instructional services and other advocacy efforts for communities' engagement and education should be considered as crucial tools in addressing climate change. The study also highlights other proactive steps for LIS professionals such as: acting as prolific and inclusive public spheres on campus, libraries and LIS professionals can create a platform for critical thinking and lead by example to promote public awareness and literacy. By implementing these recommendations, library and information science professionals in Nigeria can play a vital role in addressing the climate change crisis and promoting sustainable development.

References

Abbasi, Z. & Nawaz, A. (2020). Impact of climate change awareness on climate change adaptions and climate change adaptation issues. Pakistan Journal of Agricultural Research, 33(3): 619-636. DOI http://dx.doi.org/10.17582/journal.pjar/2020/33.3.619.636

Abbass,K. Qasim,M.Z. Song,H. Murshed, M. Mahmood,H. &Younis,I. (2022). A review of the global climate change impacts, adaptation, and sustainable mitigation measures, *Environ. Sci. Pollut. Control Ser*. 29 42539–42559, https://doi.org/10.1007/S11356-022

Adeola,O (2024) Gender Equality, Climate Action, and Technological Innovation for Sustainable Development in Africa, Sustainable Development Goals Series, https://doi.org/10.1007/978-3-031-40124-4_5

American Library Association. (2020). Resilient communities: Library respond to climate change. In ALA Publication. https://www.ala.org/tools/programming/climatechange

Asim, M., & Ahmad, P. (2022). Adoption of green practices in University Libraries of Pakistan: A qualitative study. *Library Philosophy and Practice*, 1–8.

Assan E, Suvedi M, Olabisi LS and Bansah KJ (2020) Climate change perceptions and challenges to adaptation among smallholder farmers in semi-arid Ghana: a gender analysis. *J Arid Environ*, 182:104247. https://doi.org/10.1016/j.jaridenv.2020.104247

Aytac, S. (2019). Library Environment Sustainability Progress Index (LESPI):Benchmarking Libraries' Progress towards Sustainable Development. IFLA WLIC. http://library.ifla.org/id/eprint/2443/1/156-aytac-en.pdf

Aytac, S. (2022). Libraries as agents of climate change literacy. 87th IFLA World Library and Information Congress (WLIC), Environment, Sustainability and Libraries

Barth, J., Bond, S. & Stephenson, J. (2023) Community engagement for climate change adaptation. Research Summary for the South Dunedin Future Programme. Centre for Sustainability, University of Otago at: https://www.researchgate.net/publication/374976004

Campbell E, Uppalapati S, Kotcher J and Maibach E (2023) Communication research to improve engagement with climate change and human health: A review. *Front. Public Health*, 10:1086858. doi: 10.3389/fpubh.2022.1086858

Ching-Ruey, E. (2020). Climate Change The Causes, Influence And Conceptual Management *International Journal of Applied Engineering and Technology* (Online) An Open Access,Online International Journal:http://www.cibtech.org/jet.htm 10, pp.15-25

Cordero EC, Centeno D, Todd AM (2020) The role of climate change education on individual lifetime carbon emissions. *PLoS ONE*, 15(2): e0206266.https://doi.org/10.1371/journal. pone.0206266

Fahmida, Z., Uzma, H., & Faiza, J. (2022). Climate change and food security: Are Asian economies tracking sustainable development goals? IRASD *Journal of Economics*, 4(4), 561–582. https://doi.org/10.52131/joe.2022.0404.0099

Gordon, S. Richard, B.& Lucy, B et al. (2021). The role digital technologies in responding the grand challenges of the natural environment: the Windermere accord; cell press open access, http://doi.org/10.1016/jpatterns

Gunamantha, I. M., &Dantes, N. (2019). Climate change literacy of elementary school students in Buleleng District, Bali Province, Indonesia. *Journal of Physics: Conference Series*, 1254(1), 1–13. https://doi.org/10.1088/1742-6596/1254/1/012051

Hale, T. N., Chan, S., Hsu, A., Clapper, A., Elliott, C., Faria, P., Kuramochi, T., McDaniel, S., Morgado, M., Roelfsema, M., Santaella, M., Singh, N., Tout, I., Weber, C., Weinfurter, A., & Widerberg, O. (2021). Sub- and non-state climate action: a framework to assess progress, implementation and impact. *Climate Policy*, 21(3), 406– 420. https://doi.org/10.1080/14693062.2020.1828796

Huang, Q., & Si, C. (2018). From a green library to a sustainable library. In Going Green: Implementing Sustainable Strategies in Libraries around the World (p. 110). https://doi.org/10.1515/9783110608878-012

Idogbe, M. I & Philip, K. J. (2020). Libraries and Sustainable National Development in Nigeria: *Library Philosophy and Practice* (e-journal). https://digitalcommons.unl.edu/libphilprac/426 8

Ikenwe, I. J. & Udem, K/ O. (2022) Innovative Digital Transformation for Dynamic Information Service Sustainability in University Libraries in Nigeria DOI: http://dx.doi.org/10.12775/FT.2022.004

Iroka, L. P. & Ndulaka, C. M (2018) Education and Libraries for Sustainable Development in Nigeria: *Archives of Current Research International,* 12(4): 1-10.

Kang, Q. (2020). "Library directors' concerns and attitudes towards going green and sustainability in China: An unexplored area. *Journal of Librarianship and Information Science,* 52(2), 382-398. https://doi.org/10.1177/0961000618818874

Kornfeind, M. (2022). Advocacy and action: How libraries across the globe are addressing climate change. *World Libraries*, 26(1), 1–14. https://worldlibraries.dom.edu/index.php/worldlib/article/view/594

Læssøe J, & Mochizuki Y. (2015) Recent trends in national policy on education for sustainable development and climate change education. *J Educ Sustain Dev.,* 9, 27–43.

Latimer, K. (2021). The Reuse of Buildings: Libraries Behaving Sustainably. In P. Hauke, K. Latimer & R. Niess (Eds.), New Libraries in Old Buildings: Creative Reuse (pp. 32-56). De Gruyter Saur. https://repository.ifla.org/handle/123456789/1100

Leo, A & Nick, W. (2023) The Role of Academic Libraries in Climate Action. *New Review of Academic Librarianship*, 29 (2), 117-122, https://doi.org/10.1080/13614533.2023.2230652

Lusiana,E. Yanto,A. Nursari,T. Samson, C.& Suryadi,F.(2024).The Contribution Of Community Based Libraries In Climate Action To Strengthen The Face Of Climate Change Supports The SDGS; *Journal of Law and Sustainable Development*, 12(1), 01-22 https://doi.org/10.55908/sdgs.v12i1.2022

Mahawariya, K. (2020). Transforming modern era libraries into green library: A study. *Journal of Indian Library Association*, 55(2), 1–7. https://www.ilaindia.net/jila/index.php/jila/article/view/338

Marther, W. & Muang.,E (2022) Access to climate information services and climate-smart agriculture in Kenya: a gender-based analysis climate change; https://doi.org/10.1007/s10584-022-03445-5

Matthew, M & Yonatan, N. (2021). Global Warming versus Climate Change: Examining How These Terms Relate to Each Other, Available @ yourdictionary.com/global-warming vs climate-change-how-are-they-different

McGuire, & Claire. (2022). Libraries and the Glasgow Work Programme on Action for Climate Empowerment (pp. 1–8). https://repository.ifla.org/handle/123456789/1846

Mumtaz, M. Puppim,D Oliveira, J.A &. Ali, S.H (2019). Climate change impacts and adaptation in agricultural sector: the case of local responses. *Clim. Change Agric.* pp. 1 14. https://doi. org/10.5772/intechopen.83553

Ncoyinia, Z. Savagea. M. & Strydom S. (2022). Limited access and use of climate information by small-scale sugarcane farmers in South Africa: A case study. https://doi.org/10.1016/j.cliser.2022.100285

Philip, K. & Udoh, J. (2011). Information Provision and Dissemination Patterns among Migrant fisher Folks in Cross River Estuary, Nigeria. Proceedings of the 49th National Conference & AGM of Nigerian Library Association; July 10-15th. Theme: Information for All, Strategies for National Development. pp 303-318.

Shukla, R., Akriti, S., &Meghabat, S. (2020). Sustainability development of green libraries and its features, importance, and standards. *International Journal of Information Dissemination and Technology*, 10(4), 219–226. https://doi.org/10.5958/22495576.2020.00040.0

United Nations (2021) Climate action fast facts. http://www.un.org/en/climatechang/science/key-

Valentina, M. Albena, N. & Dilyana, K (2022). Digitization and Environmental Education in a Knowledge Society; *Anthropological Researches and Studies*.12, http://doi.org/10.26758/12.1.5

WMO (2021) State of the climate in Africa 2020. WMO-No. 1275. World Meteorological Organization. Geneva, Switzerland. https:// libra ry. wmo. int/ doc_ num. php? expln um_ id= 10854