Modelling E-Library Services for Public Policy and Sustainable Development in Kenya

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Abstract

Practitioners and researchers have alluded to the fact that information is one of the production factors in today's economy and development. Public policy and sustainable development achievement relies on access to accurate, credible and reliable information. Libraries play a pivotal role in the provision of this information since they are credible sources of information. This article models e-library services for public policy and sustainable development in Kenya. It was guided by the following objectives: establish the role of information in public policy and sustainable development in Kenya; examine the factors influencing public policy and sustainable development in Kenya; establish the extent to which library services influence public policy and sustainable development in Kenya; and, propose a model for e-library services for public policy and sustainable development in Kenya. A systematic literature review using the PRISMA model was adopted. Data was collected from Google Scholar and analysed using Microsoft Excel and presented using tables. The search yielded 880 articles of which 41 were relevant for the study. The findings revealed that libraries were offering various e-library services. Importantly, libraries were crucial in the provision of the much-needed information, ideas, innovation and knowledge which support public policy and sustainable development. The findings also revealed a dearth of information on e-library

services. Therefore, the study proposes a model that can be used by e-libraries in the provision of information services which can effectively support public policy to spur sustainable development.

Introduction

One of the fundamental human rights today is access to information. Information is an important enabler of development as it facilitates the advancement of human capacity which is one of the factors of production required for the progress of a country. Information literacy and knowledge empower people to contribute positively to the nation's development agenda (Akpeli, 2019). According to Olubiyo (2022), the application of relevant information ignites and sustains the development of nations. Olubiyo contends that the more citizens of a country are informed, the more it develops. Thus, universal literacy is acknowledged as a crucial pillar of sustainable development. This is reinforced by an increase in access to information and knowledge (IFLA, 2016). The vital role and power of information have necessitated the need to have libraries at the pivot of various sectors of development in a country (Oyinloye et al., 2017)agriculture, health sector and tourism... The realization of the enormous power of information has made Libraries and information resource centres inevitably present in many sectors of the nations development. The level and quality of library participation in a populace such; as education, agricultural activities, tourism, health and commercial activities are paramount contributory factors to the level of national development in Nigeria. This research evaluated the impact and roles of libraries to national development. . The target population of this study comprises the Academic Staff of Bingham University. Sixty (60.

The role of libraries in development cannot be overstated. According to Osuchukwu and Ayeni (2019)it is not very clear on what and how the entire community can be reached, thus denying some groups opportunities to be integrated toward actualization and contribution to the national development. The purpose of this paper is to examine the information activities provided by libraries and librarians 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 the implications of the findings to community contribution toward national development. Design/methodology/ approach: The study was designed using Spidergram to incorporate 5Ws and H (who, what, when, where, why and how, libraries provide the foundation to integrate social and economic development issues by acting as enablers and co-producers of information services in a society. Social-economic development is enhanced by libraries and information centres by offering services which stimulate the creation of a knowledge society (Omona, 2020)which require a number of stakeholders to intervene if these challenges must be reduced for the benefit of humanity, and one such stakeholder is the library and information sector. This paper uses insights from the Development and Access to Information (DA2I. Through library and

information services, such as lifelong learning, information literacy programmes, research, and repackaging of information for better use, libraries contribute immensely to national development (Bandoma, 2017). Information services and resources offered by libraries provide opportunities to generate new ideas leading to an innovative community (White, 2012).

With the paradigm shift brought about by versatile technologies, library services have transitioned to an electronic environment (Das, 2021). Gasimova (2017) noted that the creation of electronic resources and electronic libraries infrastructure has spread globally. According to Anyim (2019), an e-library can be defined as a library where information resources and services are offered in digital format and made available to be accessed remotely over the Internet. Anyim listed e-library services, among others, as communication services; online information awareness; online inter-library services; customer care services; database management services; electronic document delivery services; internet search services; email services; and newsgroup databases.

According to Aghoghovwia (2014), library and public policy formulation cannot be separated. Owoeye and Abolarinwa (2016) opine that libraries and information services play a fundamental role in policy-making and thus should be accorded due acknowledgement. This is because library research output and information facilitate access to information that forms the basis for proper planning and decision-making (Umunnakwe et al., 2018). Library information systems provide accurate and timely information for decisions at the point of knowledge. As stated by World Bank and Hatfield Consultants (2022), innovation and knowledge influence policy by generating awareness, opportunities, and new debates. Itsekor et al. (2019) postulated that the highest quality of information should be selected by policymakers in ideal circumstances.

Context and Rationale of the study

The United Nations General Assembly adopted the sustainable development goals (SDGs) 2030 in 2015 intending to leave no one behind in terms of development. The agenda is supported by 17 integrated framework goals (United Nations, 2015). SDGs were meant to reduce global growth inequalities by supporting development through a structured solution framework (Dao, 2017). They substituted Millennium Development Goals (MDGs) which were in place from 2000 to 2015. According to Liu et al. (2015), SDGs and poverty reduction are inseparable since SDGs strive to facilitate development to reduce poverty. Policy formulation and implementation work in tandem with sustainable development (Hawkins & Wang, 2013). Kenya is dedicated to the implementation of the SDGs 2030 agenda since it has participated in global, regional, and national adoption processes (Ministry of Devolution and Planning, 2017)yet little empirical evidence exists on the issue. To address this question, we propose a Local Economy-wide Impact Evaluation (LEWIE. According to the Ministry of Devolution and Planning, furthering the agenda of SGDs 2030, Kenya established a development and transformation blueprint intending to be a middle-income country by 2030, known as Vision 2030. The Vision is based on three pillars namely: economic, social, and political governance. Vision 2030 is a multi-stakeholder long-term development plan that involves public participation and engagement (Misati & Mwenzwa, 2018).
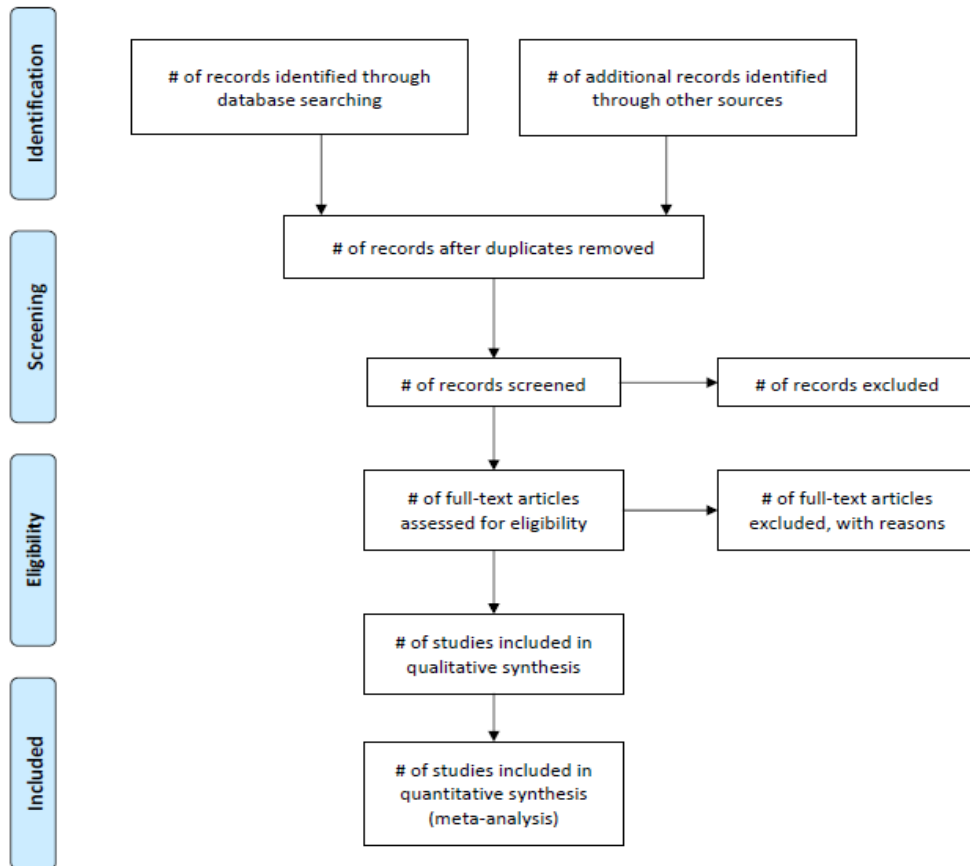
According to Mbithi et al. (2019), purposeful citizen participation necessitates meaningful decision-making. Most people rely on the library to provide credible information for decision-making (Putnam, 2018). As reported by the United Nations Environment Programme (2016), creation and access to information are vital for propelling experiences that help in decision-making. Mbithi et al. (2019) noted that development is hindered by inaccessibility of information. Nyama (2013) observed that poor linkage between policies and information access contributes to poor implementation of Vision 2030. Kwanya (2016) noted with concern that Kenya's Vision 2030 understated the role of information as a facilitator of social-economic development.

Webster (2005) described a good information ecosystem as one where information must be user-centred, understood, conceptualized, and contextualized before being delivered. He further emphasizes that information should be able to be accessed by multiple users at the same time. These attributes can only be equated to modern libraries which have no physical limitations or walls. According to Kwanya et al. (2012), traditional models of offering services need to be restructured for emerging trends in information service provision. The evolution of the Internet, web-based technologies, and disruptive technologies have accelerated the progress toward electronic library (e-library) services. This requires a specific model that libraries and information centres are rapidly stirring towards offering electronic services for public policy and sustainable development. The study is therefore guided by the following objectives:

i. To establish the role of information in public policy and sustainable development in Kenya;

ii. To examine the factors influencing public policy and sustainable development in Kenya;

iii. To establish the extent to which library services influence public policy and sustainable development in Kenya;

iv. T o propose models for e-library services for public policy and sustainable development in Kenya.

Methodology

The study was conducted as a systematic literature review of e-library services and public policy and development following the PRISMA statement for literature review and meta-analysis. PRISMA procedure set a minimum requirement for the research process for evidence-based, replicable, and transparent research. It comprises the four-phased flow diagram shown in Figure 1.

Figure 1: PRISMA 2009 Flow Diagram

Source: Liberati et al. (2009)

The first step involved collecting publication data from Google Scholar. The choice of Google Scholar was informed by the fact that it collates publications across the research spectrum, searches full text and unified search interface (Delgado López-Cózar et al., 2019). The criteria for inclusion/exclusion included books, book chapters, peer-reviewed journal publications, and conference proceedings. All forms of study designs were included. The study considered the following keywords: (1) "E-library services in Kenya" (2) "Information and Public Policy in Kenya", (3) "sustainable development in Kenya" (4) "E-library services and Public Policy in Kenya" (5) "Public Policy and Development in Kenya" (6) "model of e-library services". The search period ranged from 2015 to 2021 given that the Sustainable Development Goals agenda was adopted in 2015. As defined by query rules, the study conducted two rounds of query searches. The first search was on the exact keywords. In the second search, all concepts were collated to narrow down the search.

The second step involved putting all literature references in Mendeley and removing duplications. Finally, the records identified through synthesis were included. The publication search was conducted on 28 August 2022. The publication records identified including journal title, abstract, authors, year of publication, and keywords were exported to Microsoft Excel.

The researchers screened the records' titles and abstracts and the ones which did not belong to Kenya and did not capture the aim of the study were excluded. In a narrative literature review, literature is identified and selected based on the researchers' judgement. This is in contrast to a systematic literature review where the criteria used to search are explained (Pahlevan-Sharif et al., 2019).
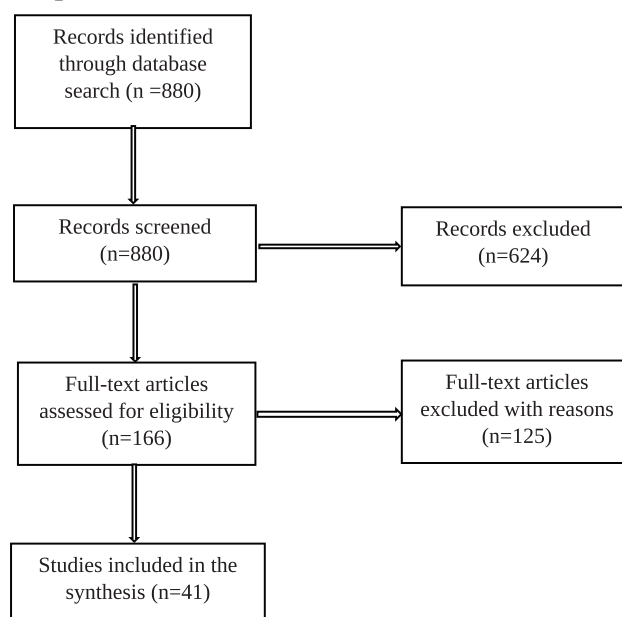
Findings of the Study

Using the keywords from the study, the retrieved research papers were reviewed. Figure 2 shows the publication selection process. A literature search on Google Scholar yielded 880 records; 714 were discarded because they were not relevant to the subject of the study. The remaining 166 abstracts and full texts were screened and 125 were excluded as they were not related to the keywords despite citing public policy and development. In the end, 41 articles remained for use in the study.

E-library Services in Kenya

Out of 41 studies, 22 (53.66%) articles were found to cover e-library services in Kenya. The results showed that 19 (86.5 %) out of the 22 articles were conducted in academic libraries while the rest were in special issues1(4.5%), and public libraries 2(9%). All the libraries were developing and providing access to electronic resources. The finding also showed that the libraries, particularly academic libraries, increased the volume and diversity of electronic open-access resources and services to support distance learning. In addition, the literature established that some libraries were bolstering information literacy services, research support and online reference services. Table 1 shows the list of authors, titles and years of publication of the articles analysed.

Figure 2: Publication selection process

Source: Researchers

Table 1: Articles related to Public Policy and Sustainable Development

Authors	Title	Year
D Nzioka	A Proposed Framework for Digital Librarianship in Academic Libraries in Kenya	2021
RW Chege	Investigating customer satisfaction with library and information services at Management University Of Africa (MUA) library, Kenya.	2021
AA Bamigbola	Web 3.0 tools and knowledge conversion by distance learners	2021
DN Ocholla, J Mostert	Service Quality Gaps and Challenges in The Academic Libraries in Kenya	2021
NE Osadebe, RN Okwor	Research Support Services in Selected African University Libraries	2021
WA Awan, A Abbas	Research publication trends in library management journal: a bibliometric analysis (2013–2020)	2021
GO Adigun, A Tella	User Education and Information Literacy Instruction as Determinant of Use and Satisfaction with Library and Information Support Services at National Open University Nigeria (NOUN)	2021
Klm Wangari	Information Communication Technology Integration and Performance of Libraries in Public Universities in Nairobi City County, Kenya	2021
A MUHAMMAD	Cloud Computing Application and Offline Database Provision as Correlates of Effective Service Delivery in University Libraries in North-West, Nigeria	2021
JN Kanori, PA Odundo, HN Inyega	Bachelor of Education Teacher Trainees' Information Evaluating Ability and Utilization of E-resources at the University of Nairobi, Kenya	2020
JW NG'ANG'A	Analysis of the relationship between information services and students' satisfaction at Kenya school of law library	2020
ME Islam, MA Karim	Use of e-Resources by the Students in Developing Countries: A Review	2020
E Anduvare	eResearch support: an exploratory study of private university libraries in Nairobi County, Kenya.	2019
SMA Burney, N Sehar, SB HIMS, H Tariq	Exploring the Usage of Information Technology for Library Automation	2019
F Okocha	Student Acceptance of E-books; A Case Study of landmark University Undergraduate Students	2016
LM Kilemba	The role of academic libraries in supporting distance education in Kenya.	2016
Bulama, Daud and Mahmud	Relationship between Students Satisfaction with the availability of E-resources and Infrastructure, Staff Commitment and Students Involvement in using the E-resources in Colleges	2016

Authors	Title	Year
O Petronilla B	Awareness and Utilization of Electronic Information Resources by Academic Staff at The University of Eldoret	2016
ZB Pingo	Transition from camel libraries to digital technologies in Kenya public libraries	2015
DO Ogenga	Adoption of Institutional repositories in dissemination of scholarly information in Universities in Kenya with reference to United States International University Africa	2015
J Kavulya	The Emerging role of Digital Libraries in E-learning: A Review of challenges and opportunities	2015
GW Kamau	Access to and Use of Information and Communication Technologies in the Provision of Information to Distance Learners at the University of Nairobi and Kenyatta University Libraries	2015

Role of information in Public Policy and Sustainable Development

Out of 41 articles, 10 (24.39%) indicated the role of information in public policy and sustainable development. Of these 10, 6 (60%) implied that libraries were crucial in the provision of much-needed information, ideas, innovation and knowledge. These contributed to effective public policy formulation and participation in sustainable development. Three (30%) of the articles indicated that information plays an important role in decision-making when it comes to public policy creation. One (10%) showed that information facilitates knowledge sharing on issues related to public policy and sustainable development. The findings also indicated that information technology and information are strategic to sustainable development. Other information sources such as the mass media were also recognised for conducting public awareness campaigns and education on public policy discourse. The list of publications is shown in Table 2.

Table 2: Articles related to the role of Information in Public Policy and Sustainable Development in Kenya

Authors	Title	Year
PM Nguyo, MW Kimwele, W Guyo	Influence of ICT on knowledge sharing in state corporations in Kenya: A case of the Kenya National Library Service	2015
J Achieng	Preparedness of University Libraries as drivers for green transformation and sustainable development: the case of University of Nairobi Library, Kenya	2015
A Owano	Strategic Role of the Library in the Public Service Delivery: Information and Devolution in Achieving the Kenya Vision 2030	2017
AI Abdulahi	Sustainable Provision of Digital Information Systems and Services in Academic Libraries: A Case of the University of Nairobi Library System	2017
LJ NG'OSOSEY	The Use Of The School Library In The Development Of A Reading Culture Among Secondary School Students In Nandi Central Sub-County, Kenya	2017

Authors	Title	Year
Kwanya, T	The impact of libraries and information services in shaping Vision 2030 in Kenya.	2016
Amollo, Beatrice Adera;	Strategic pillars supporting the achievement of National Values and Cohesion in National Development	2018
GW Kamau, A Owano	The Role of Libraries in the achievement of sustainable development goals in Kenya	2018
Gitonga, Anne; Moyi, Eliud;	Discussion paper No. 215 of 2019 on The Role of Information Communication Technologies in Innovation in Kenya's Micro, Small and Medium Establishments	2019
Ngare, Marion W;	Role of Media in Publicising Kenya Vision 2030: a Case Study of the First Phase Flagship Projects	2017

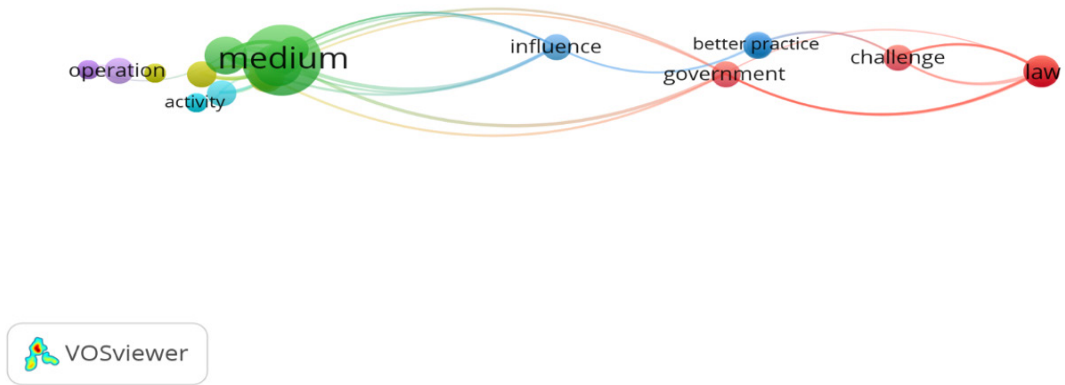*Factors influencing Public Policy and Sustainable Development*

From the findings, only 5 (12.2%) of 41 publications were found to have relevant information on factors influencing public policy and sustainable development. Of these 5, Media was 2(40%), technology2(40%) and political systems 1(20%).The literature indicated that mass media helps in forming public opinion while technology has been considered a major economic driver in recent times. Table 3 shows the list of publications with citations of factors influencing public policy and sustainable development.

Table 3: Articles related to factors influencing Public Policy and Sustainable Development in Kenya

Authors	Title	Year
Waas, Tom; Hugé, Jean; Block, Thomas; Wright, Tarah; Benitez-Capistros, Francisco; Verbruggen, Aviel;	Sustainability assessment and indicators: Tools in a decision-making strategy for sustainable development	2014
Marume, SBM;	Public policy and factors influencing public policy	2016
Mwangi, Christine;	Media influence on public policy in Kenya: the case of illicit brew consumption	2018
Irwin, David; Kiereini, Njeri;	Media influence on public policy in Kenya	2021
Cadmus, Femi;	Technology, legal information, and access to justice in Africa	2021

In the abstracts, it emerged that Medium (technology and media) had the most occurrence at 14, followed by government and policy makers 7, legal issues and public policy 6, Access to information 4, Decision making strategies 4, Kenya 3, Sustainable development, influence and operations 2. Figure 3 provides a summary of the factors influencing public policy and sustainable development.
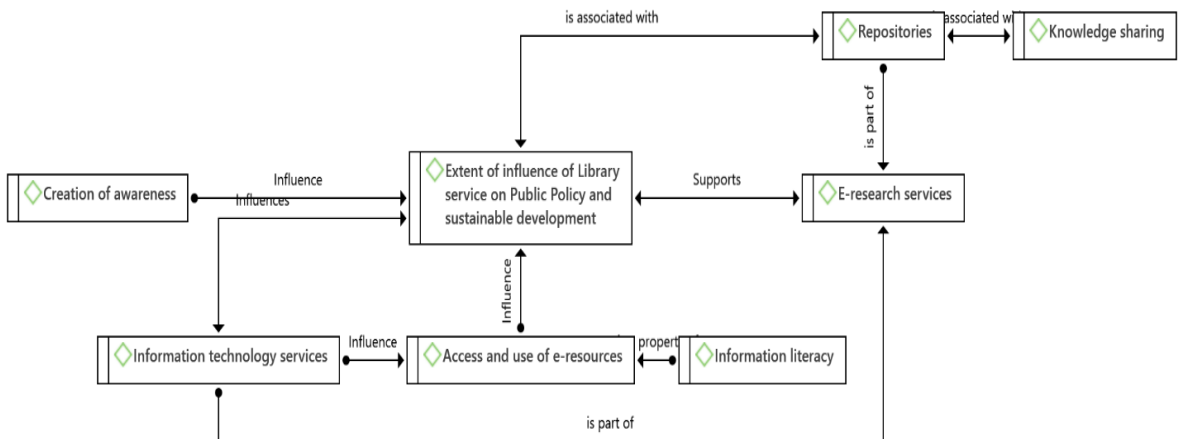
Figure 3: Factors influencing Public Policy and Sustainable Development

The extent to which Library Services influence Public Policy and Sustainable Development

From the 41 articles retrieved, 30 (73.17%) revealed that library and library services influence public policy to a greater extent. Out of these 30, access and use of e-resources made up 15 (50%), information technology services 6 (20%), e-research services 3(10%), knowledge sharing 2(6.7%), information literacy 2 (6.7%), creation of awareness 1 (3.3%) and repositories 1, (3.3%). Figure 4 shows a summary of the same.

Figure 4: Extent to which library services influence Public Policy and Sustainable Development

Models for E-library services for Public Policy and Sustainable Development

The result revealed 4(9.6%) of the 41 articles were related to models for e-library services for public policy and sustainable development. Further inquiry into the literature revealed that there was no specific model discussed for the provision of e-library services. Table 4 below presents the search results.

Table 4: Models for e-library services for Public Policy and Sustainable Development

Authors	Title	Year
Parhamnia F.	Investigating mobile acceptance in academic library services based on the Unified Theory of Acceptance and Use of Technology Model (UTAUT-2)	2022
Otike F., Barát Á.H., Kiszl P.	Innovation strategies in academic libraries using business entrepreneurial theories: Analysis of competing values framework and disruptive innovation theory	2022
Tella A., Ukwoma S.C., Adeniyi I.K.	A two models modification for determining cloud computing adoption for web-based services in academic libraries in Nigeria	2020
Gómez-Cruz M.E., Harari-Betancourt V., Vergara-Mendoza G.	Quality indicators and user satisfaction in university libraries	2020

Discussion of the Findings

This section discusses the findings of the study based on the specific objectives. These are: the role of information in public policy and sustainable development; the factors influencing public policy and sustainable development; the extent to which library services influence public policy and sustainable development; and, models for e-library services for public policy and sustainable development.

Role of information in Public Policy and Sustainable Development

The findings of the study revealed that information contributes to ideas and knowledge regarding public policy and sustainable development. Specifically, information directly contributes to public policy formulation and enhances participation in sustainable development. This view is reinforced by Sadia (2020) who argued that information brings societal problems to light and inspires the search for ideal solutions to them. Similarly, Hes (2017)explained that access to information rallied the community and involved them in sustainable development activities increasing the chances of success in their implementation. The results also showed that information technology provides strategic support to public policy formulation and sustainable development. This position is echoed by Zeng et al. (2020) who pointed out that information and information systems improve efficiency that links to sustainability. The findings also show that information leads to informed decision-making for stakeholders. Radovic-markovic et al. (2015) investigated the roles of information in decision-making for business success and concluded that precise and high-quality information is the basis for increased quality of decision-making. Similarly, Makori (2021) advocated for leveraging information and knowledge to realise sustainable development goals through superior decision-making. Current research findings are also supported by the UNESCO (2021) report which asserts that access to information is an aiding tool for transparency and accountability and participatory governance as envisioned in the SDGs.

Factors influencing Public Policy and Sustainable Development

The literature reviewed indicated that the mass media and technology are some of the main factors influencing public policy in Kenya. The mass media acts as a reliable source of information for many actors in the country. These findings concur with Bhattacharjee and Khan (2020) who posited that media supports the channelling of information flow, projects the voices of isolated populations, acts as a watchdog for accountability, enables peace-building, and facilitates SDGs localization. The mass media has the potential to reach the people in society regardless of their demographic challenges, such as illiteracy. Cardinal et al. (2019) contend that when the mass media is free and independent, it can influence governing policy and public opinion. Government officials, scientists, activists and industrialists can use the mass media to introduce innovation and reinforce messages on SDGs successfully and fast (Wagh & Ambedkar, 2019). Wagh and Ambedkar asserted that scientific content can be shared through films, audio, documentaries, and advertisement in the mass media. It is worth noting that the influence of the mass media on public policy and sustainable development is majorly anchored on the role of the media as a facilitator of information access.

The literature also pointed out technology's leading role in influencing public policy and sustainable development. ECOSOC Youth Forum (2017) opined that information technology provides a safe space through software and resources to stimulate government and social engagement. Berawi (2017) conducted a study on the role of technology in achieving SDGs. He concluded that technology deployment fosters research, innovations, knowledge and collaborations among national stakeholders. Mallikage (2017) added that technology provides a conducive environment for public policy for the good of the masses. Ingram et al. (2022) agreed and argued that digital technologies contribute extensively to opening access to public services and economic prospects. Similar findings were made by Ndabeni and Rogerson (2016), Vinuesa et al. (2020) and Walsh et al. (2022). However, the current study findings contradict those of Vyas-Doorgapersad (2022) which revealed that despite the impact of information technology in other sectors, it has not had an outstanding influence on SDGs in Kenya.

The extent to which library services influence Public Policy and Sustainable Development

According to the literature, access and use of e-resources and services has the greatest influence on public policy and sustainable development. This is followed by Information Technology services, E-research services, knowledge sharing, information literacy, creation of awareness and repositories. Willems (2022)noted that libraries are ideally placed to have a greater influence on public policy and development through the offering of these services. Access to information services is an enabler to the offering of services by the government strengthening knowledge society, empowering people and life-long learning (Omona, 2020). Similarly, White (2012) established that libraries have a greater influence on sustainable development even to the next generation since they ensure reliable knowledge gathering by the past generation.

In contrast, Kussey et al. (2022) in their study in Bangladesh found that shortage of funds, poor planning, and lack of awareness by policymakers derail libraries' ability to

influence public policy and sustainable development to a larger extent. Jaeger suggests that for libraries to have a greater influence on matters of public policy and sustainable development they need to be politically prepared to communicate their value to funders, stakeholders and policymakers. In a similar line, Kwanya (2016) on the impact of libraries and information services in shaping vision 2030 concluded that information providers need to be firm and active in social economic development to improve their stand on the national stage.

Models for e-library services for Public Policy and Sustainable Development

The dearth of research on e-library models in Kenya is striking, considering that only four articles could be identified. Similar views are shared by Kwanya et al. (2012) who posited that the literature on library service models is inadequate. Kussey et al. (2022), in their study of a conceptual framework for a smart e-library management system at Ibrahim Babangida library, noted that libraries today still use old-generation frameworks to offer services to users whose needs require intelligent and advanced systems. Kwanya et al. (2012) also noted that no single model of information service can be used to provide information services in all environments. Musangi et al. (2019) noted that the library services setting has changed thus compelling libraries to shift from the conventional library service models to a new service model. In contrast, Lessin (1991) explored how libraries in United States universities were employing new service models for remote users and recommended the use of a decentralized information service model for off-campus students. To address the paucity of research on e-library models in Kenya, several measures are recommended.

Recommendations
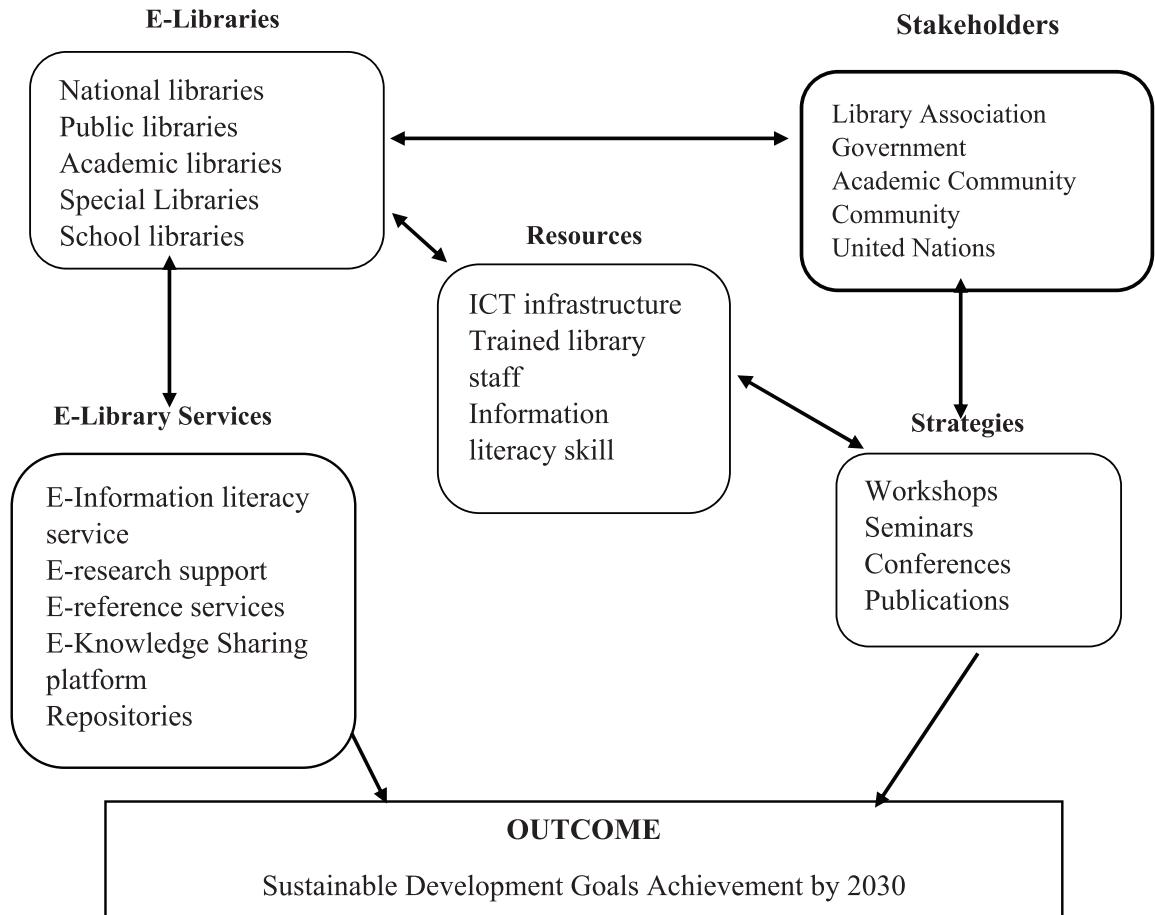
From the finding, the study recommends the following:

a) *Collaborations:* Collaborations and partnerships provide a holistic approach to services offered to users. They enable libraries to upgrade their services. Through collaboration, there is a potential of sharing best practices on the provision of information. It is imperative from this study that government and other partners should invest in and support the library to drive socio-economic development.

b) *Proactive libraries:* Libraries and information centres need to be actively involved in national matters. Rigour enhances the likelihood of policymakers, stakeholders and partners trusting their involvement in promoting public policy and sustainable development. They should demonstrate the capacity of contributing to public policy and development.

c) *Training:* Library staff should be trained to be better equipped for providing electronic information access for support to public policy and sustainable development. This facilitates the design of information services that have a direct influence and accomplishment of the goals.

d) *Public Awareness:* A coordinated public awareness campaign through seminars, workshops, and publications should be organized by libraries.

e) *ICT Infrastructure:* Libraries should employ the use of technology actively since it

facilitates and provides an enabling environment to offer services effectively. Library staff should be continually trained to vitalise their ability to use technology.

Proposed e-library model for Public Policy and Sustainable Development

The study recommends a new library service model for providing electronic library services which support public policy and sustainable development.

Figure 3. Proposed e-library model for Public Policy and Sustainable Development

E-Libraries

National libraries
Public libraries
Academic libraries
Special Libraries
School libraries

Stakeholders

Library Association
Government
Academic Community
Community
United Nations

Resources

ICT infrastructure
Trained library staff
Information literacy skill

E-Library Services

E-Information literacy service
E-research support
E-reference services
E-Knowledge Sharing platform
Repositories

Strategies

Workshops
Seminars
Conferences
Publications

OUTCOME

Sustainable Development Goals Achievement by 2030

Libraries can collaborate with different stakeholders including library associations; government agencies such as the Ministry of Devolution and Planning; the academic community including staff and students; the international community and the United Nations to hold conferences, workshops, and seminars, produce publications and carry out awareness and information literacy campaigns concerning public policy and sustainable development. Given that the United Nations developed the SDGs development agenda, it has a responsibility to ensure that public policy aligns with the goals of the agenda. In this context, the UN can support initiatives that advance e-library models in Kenya. The government also has a key role in facilitating

the libraries to play their part in facilitating sustainable development through the creation of public policy that favours the offering of digital library services such as free or subsidized digital resources and services, transparency and open access to government information and the Internet.

Furthermore, there should be a strong working relationship between different library typologies. This can help to form a consortium for mobilizing large-scale resources to support progressive information services such as e-information literacy service, e-research support, e-reference services, provision of knowledge-sharing platforms, and digital information repositories. The services should encompass collection, organizing and providing easy access to information that enables life-long learning for better decision-making. Through such consortia, libraries can be able to provide a vast amount of publications through open access.

This study considers information technology infrastructure as a major resource in enabling the provision of information which support public policy and sustainable development. Relevant information literacy skills enable users of such systems to be able to identify the requisite technological tools that are beneficial to e-library services and enhance the strategies for creating public awareness of public policy and sustainable development.

Conclusion

The findings from the literature suggest that information and information access play a major role in public policy and sustainable development in Kenya. It emerged that libraries provide services and an atmosphere to research; create, organize, store, provide access; and disseminate information that is clear, up-to-date, reliable and accurate. This information empowers individuals to make a good decision. It has also emerged that libraries influence public policy and sustainable development to a greater extent and are very essential. The reviewed studies showed that literature on information service is scarce and that libraries are using the traditional model of service provision.

References

Aghoghovwia, D. U. (2014). The Role of Library and Public Policy Making In Making in Nigeria. *IOSR Journal of Humanities and Social Science*, *19*(3), 58–62. https://doi.org/10.9790/0837-19325862

Akpeli, A. (2019). *Importance of information to national development – Dutable*. https://dutable.com/2019/03/09/importance-of-information-to-national-development/

Anyim, W. O. (2019). E-library resources and services: Improvement and innovation of access and retrieval for effective research activities in university e-libraries in Kogi State Nigeria. *Library Philosophy and Practice*, *2019*(April).

Bandoma., W. (2017). *The role of libraries towards national development : Lessons from other countries*. *July 21 2016*, 1–8. https://www.graphic.com.gh/features/opinion/the-role-of-libraries-towards-national-development-lessons-from-other-countries.html

Berawi, M. A. (2017). The Role of Technology in Achieving Sustainable Development Goals | Request PDF. *International Journal of Technology 8(3):362*, *8*(3), 362. https://www.researchgate. net/publication/316581887_The_Role_of_Technology_in_Achieving_Sustainable_Development_ Goals

Bhattacharjee, A., & Khan, T. I. (2020). Role of Media in Delivering the SDGs: A Mapping Exercise on Bangladesh | The News Media (and) Development Network. *The News Media (and) Development Network*, *April*. https://www.comminit.com/media- development/content/ role-media-delivering-sdgs-mapping-exercise-bangladesh

Cardinal, N., Romano, J., & Sweeney, E. (2019). Engaging with the Media - SDG Accountability Portal. In *SDG ACCOUNTABILITY HANDBOOK*. https://www.sdgaccountability. org/working-with-informal-processes/engaging-with-the-media/

Dao, M. Q. (2017). The impact of public policies and institutions on economic growth in developing countries: New empirical evidence. *Mega Publishing Limited Bulletin of Applied Economics*, *4*(2), 37–49.

Das, J. M. (2021). RLD : AN. *Lnternational Conference on Contemporary Innovations in Library Information Science, Social Science & Technology Virtual World For*, *January 2015*, 64–69.

Delgado López-Cózar, E., Orduña-Malea, E., & Martín-Martín, A. (2019). Google scholar as a data source for research Assessment. *Springer Handbooks*, 95–127. https://doi.org/10.1007/978-3-030-02511-34

ECOSOC Youth Forum. (2017). #YOUTH2030 6 th Economic and Social Council Youth Forum CONCEPT NOTE "Role of Technology in Implementing and Monitoring the SDGs" *Role of Technology in Implementing and Monitoring the SDGs*, 1–5. https://www.un.org/ecosoc/ sites/www.un.org.ecosoc/files/files/en/2017doc/Role-of-technology-in-implementing-the-SDGs. pdf

Gasimova, R. (2017). Some Features of Developing Electronic Libraries. *Problems of Information Society*, *08*(1), 65–69. https://doi.org/10.25045/jpis.v08.i1.08

Hawkins, C. V., & Wang, X. (2013). Policy integration for sustainable development and the benefits of local adoption. *Cityscape*, *15*(1), 63–82.

Hes, D. (2017). Impact of community engagement on sustainability outcomes. October.

IFLA. (2016). *Libraries and national development plans*. *January 2015*, 2015–2017.

Ingram, G., McArthur, J. W., & Vora, P. (2022). *Digital public technology can help drive sustainable development progress*. https://www.brookings.edu/blog/future-development/2022/06/15/digital-public-technology-can-help-drive-sustainable-development-progress/

Itsekor, V. O., Jegbefume, M. C., & Oyebola, O. J. (2019). The role of librarians in the implementation of the national policy of education. *Library Philosophy and Practice*,

2019(January).

Jaeger, P. T., Jaeger, P. T., & Sarin, L. C. (2016). *All Librarianship is Political : Educate Accordingly All Librarianship is Politcal : Educate Accordingly*. *2*.

Kussey, M., Malgwi, Y. M., & Dauda, J. (2022). DigitalCommons @ University of Nebraska - Lincoln Conceptual Framework for Smart E-Library Management System Ibrahim Babangida Library ,. *Library Philosophy and Practice (e-Journal)*, 5–20.

Kwanya, T. (2016). *The impact of libraries and information services in shaping Vision 2030 in Kenya*. *July 2014*, 0–15.

Kwanya, T., Stilwell, C., & Underwood, P. G. (2012). Library 2.0 versus other library service models: A critical analysis. *Journal of Librarianship and Information Science*, *44*(3), 145–162. https://doi.org/10.1177/0961000611426443

Lessin, M. (1991). *Library Models for the Delivery of Support Services to Off-Campus Academic Programs*. *39*(4), 405–423.

Liu, Q. Q., Yu, M., & Wang, X. L. (2015). Poverty reduction within the framework of SDGs and Post-2015 Development Agenda. *Advances in Climate Change Research*, *6*(1), 67–73. https://doi.org/10.1016/j.accre.2015.09.004

Makori, E. O. (2021). Sustainable Information Development Practices and Societal Transformation in Kenya. *International Journal of Library and Information Services*, *10*(2), 1–19. https://doi.org/10.4018/ijlis.20210701.oa7

Mallikage, D. (2017). *The Role of Public Policy in Advancing the SDGs Through ICT*. https://www.adecesg.com/resources/blog/the-role-of-public-policy-in-advancing-the-sdgs-through-ict/

Mbithi, A., Ndambuki, D., & Juma, F. O. (2019). Determinants of Public Participation in Kenya County Governments. *Journal of Asian and African Studies*, *54*(1), 52–69. https://doi.org/10.1177/0021909618794028

Ministry of Devolution and Planning. (2017). *Implementation of the Agenda 2030 for sustainable development in Kenya*. 1–76.

Misati, J. A., & Mwenzwa, E. M. (2018). Kenya ' s Social Development Proposals and Challenges : Review of Kenya Vision Kenya ' s Social Development Proposals and Challenges : Review of Kenya Vision 2030 First Medium-Term Plan , 2008-2012. *Karatina University*, *4*(October), 2008–2012.

Musangi, P. S., Odero, D., & Kwanya, T. (2019). Information Commons : A Service Model for Academic Libraries in Kenya. In *Digital Technologies for Information and Knowledge Management* (pp. 206–213).

Ndabeni, L. L., & Rogerson, C. M. (2016). *The role of science technology and innovation in local economic development*. *8*(March), 18–25.

Nyama, D. (2013). *Secretariat in the Implementation of the Kenya Vision 2030. November*.

Olubiyo, P. O. (2022). DigitalCommons @ University of Nebraska - Lincoln Roles of Academic Libraries in National Development Roles of Academic Libraries in National Development. *Library Philosophy, January*.

Omona, W. (2020). The roles of library and information services in achieving Sustainable Development Goals (SDGs) in Uganda. *Library Philosophy and Practice*, *2020*(August), 1–19.

Osuchukwu, N. P., & Ayeni, P. O. (2019). The roles of libraries and librarians in integrating national development in South-Eastern Nigeria. *Library Management*, *40*(3–4), 215–227. https://doi.org/10.1108/LM-08-2017-0076

Owoeye, J., & Abolarinwa, S. T. (2016). The Role of Libraries in the Development and Implementation of National Information Policy in Nigeria. *Information and Knowledge Management*, *6*(5), 10–18.

Oyinloye, O. O., Tabawa, D. Y., & Aku, T. Z. (2017). Impact and roles of libraries in national development: A case of Bingham University academic staff. *Information Technologist (The)*, *13*(2), 171–180. https://doi.org/10.4314/ict.v13i2.

Pahlevan-Sharif, S., Mura, P., & Wijesinghe, S. N. R. (2019). A systematic review of systematic reviews in tourism. *Journal of Hospitality and Tourism Management*, *39*(April), 158–165. https://doi.org/10.1016/j.jhtm.2019.04.001

Putnam, L. (2018). *In libraries we trust | Next Libraries*. Librarianship. https://www.nextlibraries.org/2018/03/in-libraries-we-trust/

Radovic-markovic, Mirjana, A., & Vucekovic, M. (2015). the Role of Information Management in. *EEE 2015 Faculty of Business Economics and Entrepreneurship*, 175–187.

Sadia, J. (2020). Journalism for sustainable development: The imperative of journalists' rights to freedom of expression and access to information for promoting sustainable development in Pakistan. *Journal of Applied Journalism and Media Studies*, *9*(3), 271–291. https://doi.org/10.1386/ajms_00016_1

Umunnakwe, G., Umunnakwe, A., Opara, G., & Chidi, D. (2018). *Academic Libraries As Agents for National Development : a Paradigm Shift*. *4*(6), 2–6. https://doi.org/10.15520/jassh46329

UNESCO. (2021). *Access to Information and Sustainable Development Goals | UNESCO 2021 Report on Public Access to Information (SDG 16.10.2)*. https://www.unesco.org/reports/access-to-information/2021/en/access-infromation-sustaiable-development

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs*. United Nations General Assembly. https://sdgs.un.org/2030agenda

United Nations Environment Programme. (2016). *Sustainable development in practice: Applying an integrated approach in Latin America and the Caribbean*. http://ganaderiacolombianasostenible.

co/web/index.php/noticias-sostenibles-interesantes-2/

Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S. D., Tegmark, M., & Fuso Nerini, F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. *Nature Communications*, *11*(1), 1–10. https://doi.org/10.1038/s41467-019-14108-y

Vyas-Doorgapersad, S. (2022). The Use of Digitalization (ICTs) in Achieving Sustainable Development Goals: *Https://Doi.Org/10.1177/09749101211067295*, *14*(2), 265–278. https://doi.org/10.1177/09749101211067295

Wagh, R. V., & Ambedkar, B. (2019). Sustainable Development Goals And Role of Media. *Ijariie*, *6*, 1756–1758.

Walsh, P., Murphy, E., & Horan, D. (2022). The-role-of-science-technology-and-innovation-in-the-UN-2030-agenda-_-Elsevier-Enhanced-Reader.pdf. *Technical Forecasting and Social Change*, *154*(119957), 1–7.

Webster, F. (2005). Making sense of the information age. *Information Communication and Society*, *8*(4), 439–458. https://doi.org/10.1080/13691180500418212

White, B. (2012). *Guaranteeing Access to Knowledge: The Role of Libraries*. WIPO Magazine. https://www.wipo.int/wipo_magazine/en/2012/04/article_0004.html

Willems, L. (2022). *Achieving the UN SDGs – is there a role for libraries?* https://www.elsevier.com/connect/library-connect/achieving-the-un-sdgs-is-there-a-role-for-libraries

World Bank, & Hatfield Consultants. (2022). *Factors Influencing the Policy Process - Persistent Organic Pollutants (POPs) Toolkit*. http://www.popstoolkit.com/riskmanagement/module/step4/policyprocess/influences.aspx

Zeng, F., Lee, S. H. N., & Lo, C. K. Y. (2020). The role of information systems in the sustainable development of enterprises: A systematic literature network analysis. *Sustainability (Switzerland)*, *12*(8). https://doi.org/10.3390/SU12083337