Evidence Based Library and Information Practice

Review Article

The Role of Community Libraries in Repackaging Scientifically Researched Information for Rural Farming Communities: A Review

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Abstract

Objective – Scientifically researched information is often found in journal articles, book chapters, and conference papers, which can be technical and challenging for those without training. Repackaging information into a simpler and preferred language can make it easier for undereducated rural communities to access. This narrative review investigates the strategies community libraries can adopt to repackage scientifically researched information for easier access by rural farming communities. This study contributes to the literature gap on research-based information repackaging by community libraries for rural development.

Methods – The literature search for this narrative review was conducted across several databases,

electronic discovery tools, and individual journal articles. Google Scholar, EBSCOhost, Emerald, AGORA, Scopus, and Wiley collections were searched. Reference lists from various journal articles, book chapters, and conference papers were reviewed to select the desired studies for inclusion in this review.

Results – The findings highlight the challenges community libraries face in Africa when repackaging research-based information for farmers, as discussed in relation to those reported in other parts of the world. These challenges include a lack of information and communications technologies (ICT) infrastructure, limited budgets, the absence of relevant policies, low awareness, and inadequate skills among library staff. Additionally, community libraries are scarce in rural areas, and those that exist often lack updated, scientifically researched information. To address these issues, the study proposes strategies such as collaborating, considering community norms and cultures, training community librarians in digital and appropriate repackaging methods, and equipping rural libraries with reliable, research-based information and necessary ICT tools.

Conclusions – This study highlights the critical role of information repackaging in enhancing access to scientific farming knowledge for rural communities through community libraries. By translating complex information into user-friendly formats, libraries meet farmers' unique needs effectively. The integration of digital technologies further strengthens this process. The findings extend beyond the African context, as rural libraries worldwide face similar challenges in delivering context-specific knowledge, promoting information literacy, and engaging communities. Thus, the strategies highlighted in this study may be applied globally. Future research should explore the effectiveness of different repackaging strategies, the role of digital tools in various contexts, and the training needs of community librarians to optimize information delivery.

Introduction

The availability of the Internet and mobile technologies in most places supports access, use, and sharing of reliable and relevant information to spur development (Echem & Lulu-Pokubo, 2021). However, in African communities, a difference is seen between those in urban areas and rural areas because Internet and Information Communication Technology (ICT) facilities are more prevalent in towns than in rural areas (Mbagwu et al., 2017). The rural population lacks access to packaged, scientifically researched information in simple formats for easy consumption.

Scientifically researched information brings innovation and solutions to community problems (Agency, 2025; Saier & Trevors, 2017). Access to scientific information for rural communities is crucial in enhancing farming activities, improving livelihoods, and fostering sustainable development (Saier & Trevors, 2017). Traditionally, these communities have relied on local knowledge and practices handed down through generations (Mojapelo, 2018). However, with the advent of new technologies and increased awareness of the need for scientific advancements, there is a growing need to strategize the best ways to repackage the already available farming information for easy access to rural communities.

Community libraries in rural Africa have increasingly become focal points for knowledge dissemination and capacity building (Bhanu & Dhanyasree, 2025; Dent et al., 2014; Mojapelo, 2018). These libraries,

often supported by local governments, non-governmental organizations (NGOs), and international development agencies, have the potential to bridge the information gap between traditional practices and modern farming techniques. In this context, information repackaging involves transforming complex, technical information into accessible, practical formats relevant to farmers' everyday needs.

Scientific Research Information and Repackaging

Scientifically researched information is facts, data or findings generated through an investigation and interpretation of a phenomenon in a certain discipline (Caparlar & Donmez, 2016). This information is gathered through scientific methods, typically observation, experimentation, and analysis. This information is based on empirical evidence. The evidence can be reproducible under similar conditions and undergo a vigorous, transparent process of planning, execution, and peer review before being released to the public (Kretser et al., 2019; Schwab et al., 2022).

Scientifically researched information is often disseminated in journal articles, book chapters, conference papers, and scientific bulletins (Budden & Michener, 2018), and it can rarely be easily accessed by uneducated rural farming communities. This kind of information can be technical and hard to understand by a common person not trained in that specific field unless it is repackaged to a simpler common language (Budden & Michener, 2018; Flynn et al., 2023). Scholars agree that there is a gap between scientific research and community practice where scientific research is not fully practised by those who need it most to solve community problems, attributing it to a lack of access to actionable outputs from the research and repackaging (Akintola et al., 2024; Joyce & Cartwright, 2020; McAteer et al., 2018; Wandersman et al., 2024).

Various scholars have explored the concept of information repackaging from different perspectives without a consistent definition. The concept of information repackaging appeared for the first time in Saracevic and Wood's publication (1981) and Bunch (1984) (Agbaji & Odumu, 2017; Iwhiwhu, 2008). Saracevic and Wood (1981) and Bunch (1984) describe information repackaging as selecting suitable materials, reprocessing, and rearranging information in a manner that fits users' needs (Agbaji & Odumu, 2017; Iwhiwhu, 2008). In contrast, Iwhiwhu (2008) views "information repackaging as bundling products and services to meet specific needs" (p. 1). Information repackaging (IR) facilitates easy accessibility and usage of information by different user groups. It entails interpreting and converting information into formats that target users can quickly grasp. Information repackaging restructuring or rebranding content for users' easy access, use, and application (Bello & Ojo, 2018).

Echem and Lulu-Pokubo (2021) highlight IR as the process of selecting, reprocessing, and arranging information in a user-friendly way. IR helps to align scientific, technical, and information with the community's needs. Packaging involves bundling products and services to meet specific needs through reformatting information, combining expertise with relevant sources, or providing user training and support (Iwhiwhu, 2008). Thus, information repackaging enhances services through a structured approach to designing and delivering information services (Bello & Ojo, 2018).

Information repackaging is not a new concept in library and information science; it has been applied in library practices such as selective dissemination of information, abstracting and indexing, and information translation (Agbaji & Odumu, 2017; Bello & Ojo, 2018; Iwhiwhu, 2008). Libraries have been packaging information for specific African needs, such as disseminating information for illiterate communities for local birth attendants, farming techniques, and better seeds. Rosenberg (1993) describes the African community repackaging information, which requires a good understanding of the

community and its usage of that information, the appropriate format required for the repackaging, continuous evaluation of the implementation or use of the information, and identification of areas of improvement.

Digital technologies have enhanced the way IR is done by identifying user needs, analyzing information, diagnosing issues, editing, transforming, and translating materials in a simpler format for easy use. This process generates new, more appealing, and clearer information formats. Librarians responsible for repackaging typically gather, verify, organize, and present information from raw data, with little emphasis on critiquing or disputing the information (Atmi et al., 2024).

Information Repackaging in Community Libraries for Rural Farming Communities

Information repackaging in community libraries for rural farming communities is a strategic approach to making scientifically researched farming information more accessible and usable (Idiegbeyan-Ose et al., 2019). Adapting information resources to meet the specific needs of rural farming communities is crucial. Librarians in community libraries play an important role in providing farmers with repacked scientific information in formats that align with farmers' information needs, qualities, and norms (Idiegbeyan-Ose et al., 2019). However, even when high-quality scientific information resources are accessible, farmers may not fully use them if the information is not appropriately tailored to their unique needs.

Community libraries, which often serve as community hubs, are uniquely positioned to facilitate this process by adapting and translating scientific information, innovations, and modern farming techniques into formats that resonate with local communities. For instance, Amadu (2022) study in Malawi found that localizing agriculture extension work by recruiting local officers' extension services was better accepted in those rural communities. The need for IR is because scientific farming information is often written scientifically, not in the language of the rural people, and generally not in the personalized context of the rural African communities.

By repackaging information, community libraries can ensure the information is delivered in user-friendly formats, such as pictorial guides, local language translations, and practical demonstrations. This approach helps bridge the digital divide between the urban and rural populations, where valuable information is made available to those who may not have access to digital technologies or formal educational resources. Consequently, IR is a valuable resource by systematically sorting useful information, facilitating broader transmission and delivery, enabling practical application of research findings, and ensuring the timely provision of relevant information (Echem & Lulu-Pokubo, 2021).

Aims

This narrative review aims to synthesize the literature on community libraries' strategies to repackage scientifically researched information for easier access by rural farming communities. It examines the empirical research findings to support logical decision-making for African community libraries. While most of the literature looks at information dissemination to rural communities, it has not sufficiently discussed the repackaging or rebranding of research-based farming information. Thus, two questions guide this review:

- What challenges do rural community libraries face when repackaging research-based information for rural farming communities?
- What strategies can rural community libraries use to repackage scientifically researched information for easier access by rural African farming communities?

Methods

The researchers employed a step-by-step procedure for this narrative review. First, they defined the research questions, review objectives, and eligibility criteria, and developed a search strategy to identify relevant literature. Next, they specified data extraction methods, extracted the data, screened studies for relevance, and critically appraised the literature. Finally, they analyzed the included studies to synthesize the findings. The literature search used seven sources, including EBSCOhost, Emerald, AGORA, Scopus, and Wiley. Some literature was picked manually from reference lists. Researchers used Google Scholar and EBSCOhost Discovery Services to discover relevant literature for the study. The researchers employed synonyms, Boolean operators "AND" and "OR," and truncations. An example of the initial searches phrases combination used is: ("public librar*" OR "Community librar*" OR "rural librar*) AND ("repackaging information" OR "information packaging" OR "knowledge translation" OR "information dissemination" OR "information rebranding") AND ("scientific knowledge" OR "research based information" OR "evidence based knowledge") AND ("rural farming communities" OR "smallholder farmers" OR "subsistence farmers" OR "agricultural communities") AND ("Africa" OR "sub Saharan Africa" OR "East Africa" OR "West Africa" OR "North Africa" OR "Central Africa" OR "South Africa").

Table 1
Search Strategy

Concept	**Synonyms or related terms**
Community Libraries	Public libraries, rural libraries, local libraries
Repackaging Information	Knowledge translation, information dissemination, knowledge repackaging, information packaging, information transformation
Scientifically Researched Information	Research-based knowledge, scientific knowledge, evidence-based information
Rural Farming Communities	Smallholder farmers, rural farmers, agricultural communities, subsistence farmers
Africa	Sub-Saharan Africa, East Africa, West Africa, Central Africa, South Africa, North Africa

The search strategy in Table 1 was limited to journal articles, theses, book chapters, and conference papers that met the inclusive criteria. The researchers implemented a three-stage screening process. The researchers screened titles for relevance, reviewed abstracts, and reviewed full-text articles against the inclusion and exclusion criteria. According to this study's purpose, the researchers identified and synthesized the information thematically into four themes: nature of the studies, countries where the studies were carried out, challenges or setbacks, and strategies.

The researchers used ChatGPT during the manuscript's preparation to rephrase sentences and understand some concepts used to search the literature.

Eligibility Criteria

Qualitative, quantitative, and mixed methods empirical studies that mentioned challenges and strategies that community libraries can adopt to repackage scientifically researched information for easier access by

African rural farming communities were eligible. The researchers limited the studies from 2015 to 2024 to get newly discovered knowledge that may apply to the current situation. Only primary studies with clear objectives, research questions or hypotheses, methodology with an apparent population, sample size, findings, and recommendations or implications in English were considered. Furthermore, studies without full-text access were not included.

Appraisal of the Studies Included in the Review

Scholars argue that it is important for researchers to critically appraise evidence to be included in the review to assess its trustworthiness, relevance, and value in specific contexts (Cavaleri et al., 2019; Dodd et al., 2020; Hanson et al., 2019; Katrak et al., 2004). Only articles with the required characteristics, such as author(s), year of publication, objective, methodology, significant findings, and recommendations or implications, were selected according to the critical appraisal CASP (Critical Appraisal Skills Programme) (Long et al., 2020; Programme, 2024). CASP provides checklists for critical appraisal according to the nature of the studies to be reviewed. However, three sections in those checklists are common, addressing the results concerning the study objective, the implications in the local context, and the methodology. The researchers considered the typical sections of the CASP checklist to ensure that the studies included in this research covered qualitative, quantitative, and mixed method examples. The articles contained in this review were only those that passed the CASP criteria.

Results

Nature of the Studies included in This Review

The literature relevant for this review consisted of quantitative, qualitative, and mixed methods, totaling 29. These results mean that most of the methodology used to carry out the primary studies on IR was in the three major approaches. Quantitative methods were most common (18) compared with qualitative methods (6) and mixed methods (5). These findings imply that more mixed-methods studies may be needed on this topic. The few studies that mentioned mixed methods did not specify the nature of mixed methods, whether explanatory sequential, exploratory sequential, or parallel/concurrent convergent.

Countries Where the Studies Reviewed Were Carried Out

The 29 studies the researchers found relevant for the review were conducted in Africa South of the Sahara, specifically from Nigeria, Tanzania, Malawi, South Africa, Kenya, Uganda, Ethiopia, Ghana, Madagascar, Rwanda, and Zimbabwe. Of the 29 studies reviewed, 13 were from Nigeria, 7 from Tanzania, 3 from Malawi, 3 from South Africa, and the rest of the countries had one study. It is worth noting that three studies were conducted collaboratively, as seen in the Appendix. These results suggest that the same studies can be replicated in other African and developing countries.

What Challenges Do African Community Libraries Face When Repackaging Research-Based Information for Rural Farming Communities?

The studies reviewed showed that rural farming communities and libraries were experiencing various setbacks when accessing scientifically researched information. These setbacks were synthesized and seen in Table 2.

Table 2
Setbacks to Repackaging Scientifically Researched Information

	Setbacks to repackaging scientifically researched information	**Number of Studies**
a	Lack of a clear policy and framework for repackaging information in the community libraries	Onwuekwe & Onah, 2024
b	Lack of ICTs and Internet infrastructure in the libraries studied	Boloka & Ngoepe, 2024; Chikuni & Kilima, 2019; Cotter et al., 2020; Fidelugwuowo, 2022; Ibegwam et al., 2016; Jeppsson, 2024; Mtega & Ngoepe, 2018; Omeluzor et al., 2017; Sanga et al., 2016; Sobalaje, 2020; Steinke et al., 2019
c	Lack of connection between community libraries, extension workers, and other stakeholders mandated to provide access to scientifically researched information to farming communities	Jeppsson, 2024; Phiri et al., 2019; Sobalaje, 2020; Sigigaba et al., 2022
d	Unavailability of scientifically researched information in community libraries	Boloka & Ngoepe, 2024; Omeluzor et al., 2017; Phiri et al., 2019; Sobalaje, 2020; Zimu-Biyela et al., 2020
e	Lack of updated information in the libraries	Boloka & Ngoepe, 2024; Jeppsson, 2024; Omeluzor et al., 2017; Phiri et al., 2019; Sobalaje, 2020; Zimu-Biyela et al., 2020
f	Rural farming communities had specific information needs, such as soil management, disease treatment, climate management, and health, the community libraries could not provide	Boloka & Ngoepe, 2024; Omeluzor et al., 2017; Phiri et al., 2019; Sobalaje, 2020; Zimu-Biyela et al., 2020
g	Lack of knowledge and skills among community librarians in IR	Ageyo & Muchunku, 2020; Bello & Ojo, 2018; Fidelugwuowo, 2022; Omeluzor et al., 2017; Sawe, 2022
h	Lack of budgets for repackaging activities in the libraries	Boloka & Ngoepe, 2024; Omeluzor et al., 2017; Phiri et al., 2019; Sobalaje, 2020; Zimu-Biyela et al., 2020
i	Lack of awareness that there was a need to repackage scientific information for farming communities	Ageyo & Muchunku, 2020; Michael-Onuoha et al., 2020; Mubofu & Elia, 2017; Mubofu & Malekani, 2020; Omeluzor et al., 2017; Sobalaje, 2020
j	Farming communities prefer personal experience and informal means of information access	Fidelugwuowo, 2021a; Ndimbwa et al., 2021
k	Lack of needed information in the community libraries about the farming communities expected to use the libraries	Chikuni & Kilima, 2019; Fidelugwuowo, 2021b; Jeppsson, 2024; Lawal & Kannan, 2020; Mbagwu et al., 2020; Msoffe & Ngulube, 2016
l	Scientifically researched information is not in the local languages; translation is challenging and costly	Amadu, 2022; Fidelugwuowo 2020; Onwuekwe & Onah, 2024; Sawe, 2022
m	Unnoticeable IR activities going on in the libraries studied	Sobalaje, 2020

n	Lack of reliable transport facilities, which rural farming communities could use to move to urban-oriented libraries to access information	Fidelugwuowo, 2022
o	Few community libraries were in the rural farming communities in Africa	Fidelugwuowo, 2022

What Strategies Can African Community Libraries Use to Repackage Scientifically Researched Information for Rural Farming Communities?

The studies reviewed in Table 2 report that community libraries lacked some essential research-based farming information. However, as much as the community libraries would like to disseminate research-based information to farmers, without this information being accessible to them and cheaply available, the community librarians cannot repackage what they do not have. Community libraries can leverage stakeholders like academic libraries, open access initiatives, and Research for Life to ensure the availability of research-based information in rural community libraries.

Table 3
Strategies Used to Repackage Scientifically Researched Information

	Strategies used to repackage scientifically researched information	**Number of Studies**
a	Aligning research-based information with specific needs, language, cultures, and norms in the community setting	Ageyo & Muchunku, 2020; Bello & Ojo, 2018; Cotter et al., 2020; Fidelugwuowo, 2021b; Fidelugwuowo, 2022; Ibegwam et al., 2016; Lawal & Kannan, 2020; Mohammed & Garaba, 2019; Mubofu & Elia, 2017; Mubofu & Malekani, 2020; Ndimbwa et al., 2021; Omeluzor et al., 2017; Sanga et al., 2016; Sobalaje, 2020; Zimu-Biyela et al., 2020
b	Use of ICT-enabled facilities to translate and repackage farming research-based information	Ageyo & Muchunku, 2020; Sigigaba et al., 2022.
c	Training community librarians and develop IR curriculum	Ageyo & Muchunku, 2020; Bello & Ojo, 2018; Cotter et al., 2020; Fidelugwuowo, 2020; Onwuekwe & Onah, 2024
d	Equip community libraries with research-based farming information through leveraging academic libraries and open access initiatives	Ageyo & Muchunku, 2020; Bello & Ojo, 2018; Cotter et al., 2020; Fidelugwuowo, 2021b; Fidelugwuowo, 2022; Ibegwam et al., 2016; Lawal & Kannan, 2020; Mbagwu et al., 2017; Mohammed & Garaba, 2019; Mubofu & Elia, 2017; Mubofu & Malekani, 2020; Ndimbwa et al., 2021; Omeluzor et al., 2017; Sanga et al., 2016; Sobalaje, 2020; Zimu-Biyela et al., 2020.
e	Collaboration among stakeholders	Amadu, 2022; Jeppsson, 2024; Phiri et al., 2019; Onwuekwe & Onah, 2024; Sobalaje, 2020; Zimu-Biyela et al. 2020.

Discussion

Challenges That Rural Community Libraries Experienced

Rural African community libraries are known as focal points for community information access, addressing the diverse needs of their users to foster an informed public (Boloka & Ngoepe, 2024). These findings are supported by those of Bhanu and Dhanyasree (2025) and Singh et al. (2022) who argue that rural libraries provide access to information that fosters sustainable social, agricultural and economic development in rural areas. Furthermore, community libraries are recognized globally as essential hubs for lifelong learning, cultural development, social inclusion, and democratic engagement (Vitiello, 2025). They play a pivotal role in advancing the Sustainable Development Goals by ensuring equitable access to knowledge, dialogue, and community empowerment (Prihatin et al., 2024). This implies that, if well-harnessed, rural libraries can become champions of development in rural communities, and the government should make this one of its priorities.

Despite their importance, these studies observed that these libraries were struggling, lacked scientifically researched information, updated collections, and straightforward repackaging programs and frameworks (Onwuekwe & Onah, 2024), and were not responsive to the needs of the communities (Boloka & Ngoepe, 2024; Omeluzor et al., 2017; Phiri et al., 2019; Sobalaje, 2020; Zimu-Biyela et al., 2020).

Unsatisfied Rural Community Information Needs

Rural farming communities had various information needs that they desired to access from the community libraries for sustainable development (Chikuni & Kilima, 2019; Fidelugwuowo, 2021b; Lawal & Kannan, 2020; Mbagwu et al., 2020; Msoffe & Ngulube, 2016). However, these needs were not always met because the African rural libraries reported inadequate information as a hindrance. These findings were also observed in India, where rural libraries were providing services to the community but struggled with inadequate collections, funding, and ICT infrastructure (Munshi et al., 2024).

Rural Community Librarians Lack Repackaging Skills

Lack of IR knowledge and skills among librarians (Onwuekwe & Onah, 2024). Without skills, rural community librarians cannot repackage research-based information into formats that consider rural community values and are easily usable. The authors explain that librarians in community libraries need to be trained to use posters, infographics, dramas, and other methods of repackaging information. Shortage of skilled librarians in rural libraries is not only reported in Africa, but also in India and other parts of the world (Chowdhury & Khan, 2025; Munshi et al., 2024)

Language Barriers

More than one study also mentioned language barriers in rural farming communities since most scientifically researched information is in English (Ageyo & Muchunku, 2020; Bello & Ojo, 2018; Fidelugwuowo, 2020; Omeluzor et al., 2017; Sawe, 2022). African rural communities treasure their local languages and have diverse ones; therefore, for the research-based information to be easily understood, it must be translated into those languages. This implies that integrating rural libraries in the community may enhance translation and usage of the information for development.

Lack of Dedicated Budgets for Repackaging Information in Rural Community Libraries

Unawareness and a lack of a dedicated budget to support IR were also found in more than one study reviewed (Ageyo & Muchunku, 2020; Michael-Onuoha et al., 2020; Mubofu & Elia, 2017; Mubofu & Malekani, 2020; Omeluzor et al., 2017; Sobalaje, 2020).

These findings are not far from an online survey in Canada and the USA, which reveals that rural libraries with limited finances and resources support creativity in agriculture-based initiatives by successfully engaging in projects like seed libraries, community gardens, and farmers' markets (Singh et al., 2022). This implies that these rural libraries, when supported, can be good channels of community engagement.

Inconvenient Location of the Rural Libraries

Furthermore, since formal scientific information channels or libraries were not readily available to rural farming communities, few community libraries were located in the farming communities; most of them were in the urban areas, where farmers needed to use transportation to go to the libraries (Fidelugwuowo, 2022). Informal and unofficial channels, like friends, were the prevailing sources of information (Ndimbwa et al., 2021). It was hard to verify reliability and effectiveness.

Inadequate ICTs and Digital Infrastructure in Rural Communities

Lack of reliable ICTs and digital infrastructure in African rural communities affects access to research-based information, which was among the setbacks reported in this review (Ageyo & Muchunku, 2020; Sigigaba et al., 2022). These findings are consistent with those in other parts of the world like India where digital divide hinders rural population to access essential information, unlike the urban population (Munshi et al., 2024; Sindakis & Showkat, 2024).

Strategies for Repackaging Research-Based Information for Rural Communities

The reviewed studies mentioned implications and suggested strategies for repackaging scientifically researched information for easy access, as presented in Table 3, which are discussed below.

Aligning Research-Based Information With Specific Needs, Language, Cultures, and Norms in the Community Setting

Literature reviewed, as summarized in Table 3a, reports that African farming communities hold distinct norms, languages, and cultural values in high regard. Research-based information that is not aligned with the specific needs and those socio-cultural contexts may be perceived as irrelevant or inapplicable by the targeted communities, thus repackaging was the best option for easy access to scientifically researched information. Bridging traditional and modern agricultural practices requires effective knowledge translation, yet language, cultural differences, and trust barriers can limit adoption. These challenges are consistent with those reported in other regions of the world, like the USA (Adefila et al., 2024) and China (Yu et al., 2024), highlighting the role of repackaging information for local use that considers rural population traditions and ways of farming.

Use of ICT-Enabled Facilities to Translate and Repackage Farming Research-Based Information

Studies in Table 3b suggest that ICTs like artificial intelligence, open-access digital repositories, and social media applications can translate farming research-based information into local languages and disseminate it through easy formats like brochures, posters, videos, dramas, and presentations, which could improve usage. By focusing on these strategies, community libraries can enhance their role as facilitators of agricultural knowledge and contribute significantly to the development and prosperity of rural farming communities.

Training Community Librarians and Developing an Information Repackaging Curriculum

Literature reviewed, as seen in Table 3c, emphasizes that community libraries function as vital access points where farmers from diverse backgrounds can obtain information to address their specific needs; therefore, librarians need training. Equipping the community librarians with the skills to repackage information enhances their effectiveness in translating scientifically researched agricultural knowledge into accessible formats for farming communities. Library schools can develop curricula focused on IR tailored to farming needs, emphasizing how to locate, evaluate, and disseminate scientific research effectively. Moreover, educate and train librarians and information specialists on creating user-friendly repackaged farming information resources that can be accessible, simplified materials, such as brochures, infographics, digital content, digital websites, blogs, and apps, to help farmers understand complex scientific information. Furthermore, these library schools can teach professionals to effectively use digital tools and platforms to disseminate research findings, ensuring that rural communities can easily access information.

Equip Community Libraries With Research-Based Farming Information Through Leveraging Academic Libraries and Open Access Initiatives

Table 3d studies suggest that community library administration should allocate a budget toward IR. They should also set up specific units to facilitate policy for resources, ICTs, and digitalization facilities. Administration should train librarians in translation and repackaging skills in community libraries where IR can occur. There should also be collaboration with agriculture extension offices, research institutions, farmers, and other stakeholders to acquire scientifically researched information available through open access and other ventures and tailor this information according to community needs.

Collaboration Among Stakeholders

Literature reviewed as presented in Table 3e suggested collaboration between the government, community libraries, farming communities, academic libraries, and library schools is crucial to ensuring the success of the IR initiative. Each stakeholder must actively contribute to translating, repackaging, and disseminating scientific information to guarantee its accessibility and relevance in rural areas. Governments play several crucial roles in repackaging scientific research information for rural farming communities. These governments should create policies and prioritize agricultural research dissemination centres in the farming communities with straightforward funding to facilitate access to relevant and repackaged information in rural farming communities. Government agricultural research institutions and their stakeholders should collaborate with community libraries to generate and translate scientific information into formats easily usable and understandable by farmers. Furthermore, governments should improve ICT infrastructure in rural areas to support digital access to information

while also establishing mechanisms to assess the impact of the information on farming practices to improve future initiatives.

Rural farming communities are not just recipients of repackaged scientific information but also active participants in shaping, sharing, and ensuring its practical application. Their involvement in the community libraries' efforts to repackage information is key to ensuring that information reaches the right audience in a usable and actionable format. Therefore, these farmers should form groups to advocate and articulate their farming information needs, contextualized in their values and local needs, to their governments.

Study Limitations

This study highlights the critical service of research-based IR for rural communities that need the attention of librarians. However, like any other study, it registered some limitations. First, its focus on rural communities may constrain the generalizability of the findings to regions with differing agricultural systems, socio-economic conditions, or information infrastructures. Additionally, the study relied primarily on available empirical studies in literature and case studies, which may not comprehensively capture the diverse challenges and successes associated with IR in various contexts. Furthermore, limited access to the full-text of some relevant studies may have restricted the breadth and depth of evidence used to support the findings.

Conclusion

The study found that African rural communities have distinct norms, languages, and cultural values that shape information use. Research-based information that does not consider these socio-cultural contexts may be perceived as irrelevant or difficult to apply. Rural community libraries have the potential to serve as vital hubs for repackaging research-based information that incorporates rural population values. However, their effectiveness is limited by outdated collections, a lack of structured repackaging frameworks, insufficient librarian training, language barriers, and inadequate funding. Notably, these findings echo challenges reported in studies from other countries, such as Canada, the USA, India, and China, suggesting that the barriers faced by rural community libraries in Africa reflect broader, global concerns. Highlighting these consistencies underscores the relevance of this review for informing library and information practice, policy development, and decision-making globally.

Implementing strategies such as ICT integration, collaboration, training, and equipping community libraries with carefully repackaged research-based information can enhance access and address the specific needs of rural farmers. Repackaging involves identifying users' needs, sourcing high-quality information, and adapting it for easier dissemination through translation, visual aids, and simplified formats. This approach ensures that information is relevant and usable within the realities of farming communities. Furthermore, digital technologies enhance the reach and effectiveness of these strategies, enabling librarians worldwide to bridge the gap between scientific research and practical agricultural application.

Future research could explore specific training needs of the community libraries, how artificial intelligence can be incorporated in the knowledge translation and repackaging, and the effectiveness of different repackaging strategies suggested in this study.

Author Contributions

Jackline Estomihi Mayende Kiwelu: Conceptualization (lead), Project administration, Methodology, Formal analysis, Visualisation, Writing – review & editing **Patrick Ngulube:** Project administration, Conceptualization, Writing – review & editing

All authors have read and approved the submission to EBLIP**.**

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Appendix
Studies Reviewed

Author and year	Objective/Aim	Methodology	Main Finding	Implication
1.Ageyo & Muchunku, 2020	This study examined the effectiveness of distributing and accessing climate change information among Kenyans.	Qualitative	- Dissemination is ineffective; grassroots Kenyans are not receiving the information. - **Socio-economic factors** and **language barriers** hinder access.	- **Repackaging information into local** languages and relatable narratives that reflect the daily experiences of Kenyan communities.
2. Amadu et al., 2022	The study examined the impact of farmer extension facilitators (FEFs) on adopting climate-smart agriculture (CSA) in southern Malawi.	Quantitative - study 808 sample	- The less time the farmers interact with FEFs, the less impact. - Weak Extension services affect information dissemination	The results endorse Malawi's National Adaptation policies and recommend integrating the Family Extension Facilitators into the National Adaptation Plan and Nationally Determined Contributions to strengthen climate resilience information dissemination.
3. Bello & Ojo, 2018	To assess the status of information repackaging services at Stella Obasanjo and Dekina public libraries in Nigeria	Quantitative - Descriptive survey research of 16 librarians and 53 library users.	**Information repackaging was infrequent**, producing only three out of fifteen identified forms. Among the sixteen listed tools for repackaging, six were deemed adequate despite the diverse information needs across twelve categories. The accepted tools included computers, scanners, writing materials, subject headings, and dictionaries. Conversely, tools like audio recorders, digitizer tablets, motion cameras, and software packages were unavailable in the studied libraries.	This study implies **that information repackaging** services can be effectively implemented if the recommended measures are followed. The findings indicate that the public libraries studied have not adequately prioritized these services. Therefore, it is essential to establish clear systems, strategies, resources, and funding to support repackaging efforts in public libraries.

4. Boloka & Ngoepe, 2024	The study examined ways to (re)package information for rural communities, ensuring everyone has equal access to information.	Qualitative - Interviewing on five experts South Africa.	Participants felt that establishing public libraries in rural villages and access to newspapers and a community radio station would help close the information services gap. **Few libraries were located in rural areas. Internet connectivity is poor (ICT)** Funding will be necessary to establish information centers, and non-governmental organizations can play a crucial role by providing donations for their construction	This study presents a framework to address information inaccessibility in remote areas, emphasizing the necessity of enhancing high-speed internet access in rural communities.
5. Chukuni & Kilima, 2019	This paper analyzes the impact of mobile phone-based market information services (MIS) on farmers' decisions to enter maize markets in Lilongwe, Malawi.	Quantitative - A cross-sectional survey was conducted across 20 Extension Planning Areas.	Combine radio and mobile phones in agricultural market **ICT information systems (MIS**) to offer farmers information on agricultural production as well as market prices.	The study implies that coordination of market access initiatives involving smallholder farmers, government agencies, NGOs, mobile network operators, and media organization
6.Cotter et al., 2020	Investigating how rural farmers obtain knowledge about climate and crop production.	Quantitative -Field trials were conducted in Madagascar, Rwanda, and Ethiopia.	More farmers now have access to **mobile and smartphones (ICT)**; providing extension services and smallholder farmers with scientifically researched information could significantly enhance crop yields and improve rural livelihoods.	**Utilize digital apps and mobile technology to repackage farming information for rural communities in Africa**, as many people are now using mobile devices.
7. Fidelugwuowo 2020	Knowledge and skills for accessing agricultural information by rural farmers in South-East Nigeria	Mixed methods - Sample 383, Structure interviews, focus group discussions were employed to gather the data.	The major source of agricultural Information was primarily obtained from friends and co-workers, and overall, the farmers had **low knowledge and skills** for accessing agricultural information.	Increasing formal methods for accessing agricultural information is essential for improving agricultural production outcomes.

8. Fidelugwuowo, 2021	Examine the attributes that affect how rice Nigerian farmers access information to develop a model.	Quantitative -Study was conducted involving 1,920 rice farmers in Nigeria	This study identified key factors influencing information access among rice farmers in Nigeria. While multiple attributes were examined, the most significant ones were age, education level, and membership in a farmers' association. **Librarians lacked the skills to repackage information.**	A model for accessing information will assist librarians, particularly in public libraries, **in repackaging information to align with users' understanding and needs.** Librarians can present content in various formats, such as text, audio, images, and videos. Groupings will be crucial in helping librarians tailor this information to farmers' specific attributes.
9. Fidelugwuowo, 2022	To examine how the socio-economic traits of smallholder farmers in South-East Nigeria influence their access to agricultural information in public libraries.	Quantitative - method conducted involving 355 farmers	The findings indicate that smallholder farmers socio-economic factors like education, finances, and the size of the farm contributed to their ability to seek agriculture information. The farmers rated the services provided by public libraries as poor on average. Internet was very poor (**ICT infrastructure unreliable), lack of transport means**	Librarians need to actively engage with farmers by **repackaging information** resources and organizing symposiums to discuss new research findings. The poor ratings given by farmers indicate that library staff must become more proactive in fulfilling their responsibilities.
10. Ibegwam et al., 2016	Examine how agricultural libraries contribute to literacy education as a foundation for building capacity among rural farmers in Nigeria.	Quantitative - Descriptive survey 83 farmers and 22 librarians.	Rural farmers have specific information needs, utilize unique information sources, and use the agricultural information they gather to address production-related challenges. Libraries enhance rural farmers' literacy by providing information to extension workers and repackaging resources in local languages. **Online sources not utilized (ICTs) adequately**	Librarians should collaborate with agricultural experts to **repackage online and offline agricultural information** for better accessibility.

11. Jeppsson, 2024	Leaving no one behind a study about public libraries' engagement with communities in Zimbabwe.	Qualitative - Investigated five community libraries in Bulawayo.	**Inadequate funding**, **lack of information in local language**, **intermittent access to the Internet**	Community libraries should **collaborate and network** with the community people for sustainability. Provide information in **local languages and improve access to the Internet and digital content (ICTs).**
12.Lawal & Kannan, 2020	Evaluate information resources and services in Northern Nigeria's Agriculture University Libraries, focusing on availability and usage by undergraduate students.	Quantitative -Survey to 78 undergraduate agriculture students	Repackaging agricultural information and sharing it with users were suggested as ways to enhance user satisfaction.	There is a need for a clear policy on **information repackaging** and dissemination.
13. Mbagwu et al., 2020	This study examined how academic libraries in Uganda, Nigeria, and Ghana contribute to achieving Sustainable Development Goals 2 and 3.	Qualitative - The study used an exploratory approach, interviews, and a case study.	Communities lacked essential agricultural and health information.	In a society facing hunger and inadequate healthcare, citizens' lives are at risk. Library and information services can empower individuals to seek solutions to these issues.
14.Michael-Onuoha et al., 2020	To evaluate how libraries contribute to achieving Sustainable Development Goals in Nigeria.	Quantitative - Descriptive survey 104 librarians	One of the findings was the need for information repackaging for the illiterate population in rural Africa	Libraries should connect with groups and informal sectors to bridge knowledge gaps and create mutually beneficial partnerships.
15. Mohammed & Garaba, 2019	A study examined the types of information sources used by rural residents accessing public libraries in Nigeria's North-West region.	Quantitative - Survey of 422 participant library users	The study's findings indicate that rural residents primarily use printed materials—like books, journals, newspapers, posters, fliers and magazines—as their main sources of information from libraries. Most libraries lacked access to online information due to lack **of ICT infrastructure**	Translation services, mobile library services, and **information repackaging should be key information services** provided to rural residents. Funding and ICT infrastructure is needed in community libraries

16. Msoffe & Ngulube, 2016	A study focused on accessing and utilizing poultry management information in rural Tanzania.	Quantitative - A survey involving 360 poultry farmers in rural Iringa, Tanzania.	The study found that rural information dissemination in Tanzania is often designed without consulting farmers, leading to restricted access and low utilization of information.	For information to be utilized effectively, it must be relevant to farmers' needs and presented in easily understandable formats.
17. Mtega & Ngoepe, 2018	The study examined agricultural knowledge sharing, exchange, transfer, and dissemination	Quantitative - A survey of 371 responses in Morogoro, Tanzania	Findings revealed that the unavailability of communication channels, **ICT infrastructure**, affordable tariffs, and ownership of communication tools impacted channel selection	All agricultural stakeholders should participate in relevant knowledge roles to improve the accessibility, sharing, exchange, dissemination, and utilization of agricultural information.
18. Mubofu & Elia, 2017	Examined how widely agricultural research information is shared with farmers.	Quantitative - A survey of 90 farmers in Iringa, Tanzania.	Barriers to access include insufficient extension officers, **funding,** and information centers. The study recommends collaboration to improve information dissemination, involving researchers and community leaders.	-The study highlights the necessity of **repackaging agricultural research information t**o better meet farmers' needs. -Establish community-based information centres to improve the availability and utilization of agricultural research information.
19. Mubofu & Malekani, 2020	To explore the sources of agricultural information and strategies for sharing research findings with farmers in Iringa District, Tanzania.	Qualitative - Ninety farmers were interviewed using self-administered questionnaires.	Effective strategies identified include repackaging technical reports, deploying extension officers in rural areas, engaging community organizations, and establishing agricultural information boards.	**Repackage agricultural** research findings to suit the farmers' needs in form of radio podcasts, seminar presentations, newspaper pullouts, brochures, and flyers to enhance agricultural information dissemination and improve farm productivity.

20. Ndimbwa et al., 2021	This study evaluated the channels for delivering agricultural information to smallholder farmers in Tanzania.	Mixed methods - A descriptive cross-sectional design involving 341 respondents. quantitative and qualitative methods as well.	The findings indicate that timely, relevant agricultural information, when properly packaged, is crucial for smallholder farmers' production efforts. Farmers relied on informal channels for information.	To improve agricultural production, intentional efforts must be made to enhance the dissemination of agricultural information and knowledge.
21. Onwuekwe & Onah, 2024	Examine the relationship between information repackaging and service delivery. University of Port Harcourt, Nigeria	Quantitative - Correlational research design on 104 librarians	There is a connection between repackaging and **satisfying service in libraries.**	**Skill librarians and have a clear framework for repackaging**
22. Omeluzor et al., 2017	To evaluate the role of rural libraries and information services in promoting rural development in Delta State, Nigeria.	Mixed methods - Utilized quantitative and qualitative methods to study 16 rural libraries in Delta State.	**Libraries in these states struggle to meet residents'** information needs. Key obstacles include a lack of up-to-date materials, insufficient awareness, illiteracy, **language barriers**, **unskilled staff,** and inadequate infrastructure.	Government should facilitate these libraries so that they can **repackage information for its residents.**
23. Phiri et al., 2019	To examine the information needs and obstacles rural smallholder farmers face in Mzimba North, Malawi.	Mixed methods - Study used a questionnaire and focus group discussion to get data from 202 rural smallholder farmers.	The study identified crop husbandry as the primary information need among rural smallholder farmers. Most farmers (96%) relied on personal experiences as their main source of information. A significant challenge was the lack of mobility, reported by 76.6% of farmers.	The study implies that the Department of Agriculture Extension Services (DAES) should work with rural farming families to repackage agricultural information to empower these farming families.

24. Sanga et al., 2016	Examine shortcomings of traditional agricultural extension services.	Quantitative - Participatory action research Respondents were randomly chosen from 19 villages in Kilosa District, Tanzania, to test the system.	The study revealed that **Mobile phones (ICT)** create a flexible environment for farmers to learn informally anytime and anywhere. The mobile system can deliver innovative mobile agricultural extension services to over 380 smallholder farmers through web- and mobile-based advisory information systems.	Maintaining **a repackaged Web-based Farmers' Advisory Information System and a Mobile-based Farmers' Advisory Information System could, in the future, lessen the problem** of agriculture information deficit among our farmers and deliver useful agriculture information to various stakeholders in the country, hence increasing agricultural productivity and improve farmers' livelihood.
25. Sawe, 2022	to evaluate how access to and utilization of agricultural information helps smallholder farmers in Iringa Rural District, Tanzania, adapt to climate change.	Mixed research approach - 87 heads of households. Data collected from interviews, focus group discussions, household surveys, and observations.	The study identified mass media as the main source of agricultural information for smallholder farmers, followed by peer interactions. Challenges include **language barriers**, poorly scheduled media programs, and limited budgets for extension officers, which affect farmers' access to information.	The study implies that effort are needed by the government to **repackage the farming information** and use mass media to disseminate it to farmers.
26. Sigigaba et al., 2022	Assessed the delivery of agricultural information to smallholder farmers by the extension officers and community libraries in Amathole District Municipality, South Africa	Quantitative - Study of a total of 169 smallholders Five extension officers and 15 community librarians	Farmers perceived that community libraries are meant for the literate, no repackaging efforts mentioned, no collaboration between extension officers and the library.	Repackage information in **audio, audio-visual, and graphical f**ormats of information make them available to the farmers in various agro-enterprises

27. Sobalaje, 2020	Assess the library support to extension services in Nigeria	Quantitative - Survey 160 extension workers to collect data	The study **found inadequate information repackaging**. **Library staff's inability to meet farmers' information** needs and **low ICT skills among extension workers** were significant issues in the area. Extension workers frequently visit public libraries to gather information beneficial to farmers.	This study findings imply that effort is needed to equip librarians **with information repackaging skills** and facilities to support agriculture extension workers effectively. ICTs skills are also needed for the Extension workers to be able to access online farming information for rural population.
28. Steinke, 2019	Investigated the viability of an automated advisory service that gathers household data from farmers via conventional mobile phone keypads.	Quantitative - A total of 249 households were surveyed in Ethiopia, 316 in Kenya, and 521 in Tanzania	The study found limited straightforward data from farmers. Focusing on **ICT-mediated agricultural extension,** making household-specific advisory messaging via digital communication feasible, can improve the situation.	The study implies that focused digital-mediated agricultural extension and household-specific advisory messaging were important.
29. Zimu-Biyela et al., 2020	To identify the information needs of women smallholder farmers and the different sources they use to address these needs.	Qualitative - Gathered data from 14 women farmers using focus group interviews and observations, KwaZulu-Natal Province, South Africa	The study found that women farmers needed support with seeds, soil treatment, and drought management, while livestock keepers sought information on feeds and disease treatment. **Local libraries were unresponsive to farmers' need**s, and oral communication was the main information source, with limited use of radio, television, and extension officers.	This study aligns with other research emphasizing the need for libraries, NGOs, and extension officers to **repackage scientific information** to meet the specific needs of smallholder farmers, particularly women.