

MANAGEMENT OF INSTITUTIONAL REPOSITORIES FOR EFFECTIVE SERVICE DELIVERY IN SELECTED AGRICULTURAL RESEARCH INSTITUTES IN NORTH WESTERN STATES, NIGERIA: AN OVERVIEW OF SELECTION POLICY

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Abstract

This study investigates the management of institutional repositories (IRs) with a focus on selection policies for effective service delivery in selected agricultural research institutes in North-western Nigeria. As research outputs increase, formulation of robust selection policies is essential for ensuring that the content within IRs aligns with institutional goals and user needs. Using a quantitative research method, data were collected through structured questionnaires administered to staff members across various agricultural research institutes. The study aimed to identify key factors influencing IR management, particularly the impact of selection policies, instrument for selection policies and training. Findings indicate that, while most institutes have established IRs, challenges such as inadequate technical support and insufficient training hinder optimal functionality. Notably, the study revealed that a clearly defined selection policy significantly enhances the relevance and accessibility of resources, thereby improving user satisfaction. Statistical analysis demonstrated a strong correlation between staff training and IR efficiency, emphasizing the importance of well-trained personnel in repository management. Additionally, awareness campaigns were found to boost user participation in IRs, highlighting the effectiveness of targeted outreach. The results underscore the necessity for improved selection policies, infrastructure development, and regular staff training to maximize the potential of IRs in agricultural research. This study contributes to the discourse on effective IR management practices and provides recommendations for policy makers and institutional leaders to enhance service delivery and promote knowledge sharing within the agricultural sector.

Keywords: *Institutional Repositories, Selection Policies, Agricultural Research Institutes, Service Delivery.*

Introduction

Institutional repositories (IRs) have become pivotal in the digital landscape of academia, serving as archives for an institution's scholarly output, including research articles, theses, and datasets. They facilitate open access to research findings, enhancing visibility and facilitating

knowledge sharing among researchers and the public (Smith et al., 2021). In the context of agricultural research, IRs play a crucial role in disseminating innovative practices and findings that can improve food security and sustainable practices (Jones & Roberts, 2022). As the volume of research outputs continues to grow, effective management of IRs is essential to ensure that valuable knowledge is preserved and easily accessible to stakeholders in the agricultural sector (Khan et al., 2023). However, the success of IRs hinges on well-defined management practices and policies that guide their operation and content curation (Adedokun et al., 2020).

Selection policies are fundamental for the effective management of institutional repositories, as they dictate the criteria for content inclusion and ensure alignment with institutional objectives. A well-defined selection policy enhances the quality and relevance of materials, fostering user trust and engagement (Nguyen, 2021). Research indicates that strong selection policies significantly boost the volume of contributions to IRs, particularly in specialized fields like agricultural research (Chukwu et al., 2023). These policies should reflect the specific research themes and goals of agricultural research institutes to maximize their impact on knowledge dissemination and innovation (Oguche et al., 2022). The absence of clear selection guidelines can lead to inconsistencies in content quality, ultimately undermining the credibility of the repository (Ibrahim & Ojo, 2020). Thus, developing comprehensive selection policies is crucial for the effectiveness of IRs in agricultural settings.

Agricultural research institutes are vital for advancing agricultural science, enhancing productivity, and promoting sustainable practices essential for food security (Adeyemo et al., 2022). These institutions conduct research to address pressing agricultural challenges, including climate change, pest management, and resource allocation (Umar et al., 2023). In Nigeria, agricultural research institutes play a crucial role in supporting the livelihoods of millions, as a significant portion of the population is engaged in agriculture (Ogunyemi et al., 2021). The establishment of institutional repositories within these institutes can facilitate the dissemination of research findings, enabling better knowledge transfer among researchers, farmers, and policymakers (Bola et al., 2023). However, for these repositories to be effective, they must be supported by robust management practices and selection policies that ensure the relevance and quality of the content, thereby advancing agricultural innovation and supporting sustainable development goals (Aliyu & Coker, 2024).

Statement of the Problem

According to Dalton, Tenopir, and Björk, (2020) institutional repositories in America are well managed, starting from the process of data management, ICT infrastructure and content provision as well as achieving high utilization levels. In Tanzania, most of the researchers are not well conversant with institutional repositories, although few use them. This is partly due to issues of visibility and sharing of information. Additionally, the quality of the resources is not entirely up to date in line with the needs of the users (Nunda and Elia, 2019).

The effective management of institutional repositories (IRs) in agricultural research institutes is crucial for enhancing service delivery and promoting knowledge sharing. However,

many agricultural research institutes in northwestern Nigeria face significant challenges in this area. Despite the establishment of IRs, issues such as inadequate infrastructure, low user engagement, and insufficient training for staff hinder their optimal functionality. These challenges are further compounded by resource constraints and a lack of technical expertise.

Additionally, the absence of well-defined selection policies often leads to inconsistencies in content quality and relevance, undermining the repositories' ability to meet institutional goals. As Ezeani & Ezema (2011) and Salau et al. (2020) note, the lack of clear policies regarding access, submission, and preservation further exacerbates these issues.

Furthermore, limited awareness among users regarding the available resources exacerbates the underutilization of IRs. Research indicates that strong selection policies and regular training significantly enhance the effectiveness of IRs; however, many institutes lack the necessary frameworks and support systems to implement these practices successfully. As a result, the potential of IRs to facilitate access to vital agricultural information and support sustainable development goals remains largely untapped. This study aims to identify the key factors influencing the selection policy of IRs in these institutes, providing insights and recommendations to improve their service delivery and maximize their impact on agricultural research and practice.

Research Questions

The study sought to answer the following questions:

1. To what extent do the agricultural research institutions adhere to the policies of selecting IR resources align with the research institutes' core mandate?
2. Did the subject coverage area of the information resources meet the standards required for efficient agricultural service delivery?

Literature Review

Institutional repositories (IRs) in Nigeria serve as vital digital platforms for preserving and disseminating scholarly outputs. As of 2025, only 14.6% of Nigerian universities have established IRs, highlighting a significant gap in the adoption of this scholarly communication tool (Farouk et al., 2025). These repositories enhance the visibility of research, contributing to improved institutional rankings and public access to knowledge.

Despite their potential, IRs in Nigeria face numerous challenges. A study by Afolabi et al, (2024) emphasizes issues such as inadequate funding, insufficient ICT infrastructure, and a lack of awareness among researchers about the benefits of IRs. Additionally, cyber security threats are a growing concern, with malware and phishing attacks posing risks to the integrity of digital repositories (Deloitte, 2024). The absence of comprehensive policies for IR management further complicates efforts to encourage self-archiving and maintain quality control.

Conversely, the advantages of IRs in promoting open access and increasing research visibility cannot be overstated. According to Oguiche, (2023), the growth of open access

publishing in Nigeria has been supported by the establishment of IRs, facilitating greater dissemination of local research. To maximize the benefits of IRs, Nigerian institutions must invest in infrastructure, develop clear policies, and enhance cyber security measures to protect their digital assets.

Agricultural Research Institutions: Agricultural research institutions in Nigeria play a crucial role in advancing food security and sustainable agricultural practices. Recent studies emphasize the importance of these institutions in addressing both local and global challenges, such as climate change and population growth. In 2023, the Federal Government increased budget allocations for agricultural research, highlighting a commitment to enhancing productivity and innovation (Federal Ministry of Agriculture, 2023).

Despite these advancements, Nigerian agricultural research institutions face significant challenges. A study by Alabi et al (2024) identifies inadequate funding, poor infrastructure, and limited access to modern technologies as major barriers to effective research and development. Furthermore, the impact of climate change on agricultural productivity remains a pressing concern, as erratic weather patterns threaten crop yields (ICRISAT, 2024).

The National Agricultural Technology and Innovation Policy (NATIP) 2022-2027 aims to modernize the agricultural sector by promoting research and technology dissemination (Nigerian Ministry of Agriculture, 2025). Additionally, agricultural research institutions are increasingly collaborating with international organizations to enhance their research capabilities and access to funding.

In summary, while agricultural research institutions in Nigeria are pivotal for improving food security, they must overcome significant challenges to fulfill their potential. Strengthening funding mechanisms, enhancing infrastructure, and fostering collaborative efforts will be essential for driving innovation and sustainability in the agricultural sector.

Functions of Agricultural Research Institution in Nigeria: Agricultural research institutions in Nigeria play a pivotal role in enhancing food security, promoting sustainable agricultural practices, and supporting rural development. These institutions are tasked with generating and disseminating agricultural innovations that directly impact productivity and livelihoods. A study by Eze et al, (2023) highlights the primary functions of these institutions, including research and development, technology transfer, and policy formulation.

One of the key functions is to conduct research that addresses local agricultural challenges. Institutions such as the National Agricultural Research Institute focus on developing climate-resilient crop varieties and sustainable farming practices (Afolabi, 2024). The transfer of research-generated technologies to farmers is crucial for improving agricultural productivity. Programs aimed at farmer education and outreaches are essential for bridging the gap between research findings and practical application (Ogunniyi, 2025).

Moreover, agricultural research institutions contribute to policy formulation by providing evidence-based recommendations to policymakers. This role is increasingly important as Nigeria

faces challenges such as climate change and food insecurity (Federal Ministry of Agriculture, 2023). By engaging with government and stakeholders, these institutions help shape agricultural policies that promote resilience and sustainability.

In summary, the functions of agricultural research institutions in Nigeria are vital for fostering innovation, improving agricultural productivity, and ensuring food security. Strengthening these institutions through funding, infrastructure, and collaboration will enhance their effectiveness in addressing the country's agricultural challenges.

Management and Use of Institutional Repositories for service delivery in Agricultural Research Institutions: Institutional repositories (IRs) play a critical role in managing and disseminating research outputs within agricultural research institutions in Nigeria. They serve as platforms for archiving research data, publications, and other scholarly materials, thus enhancing visibility and accessibility (Afolabi, 2024). Effective management of these repositories is essential for improving service delivery, particularly in the context of agricultural research.

Recent studies highlight the importance of developing robust policies and guidelines for IR management. As noted by Eze et al. (2023), well-defined policies ensure that repositories align with institutional goals and meet the needs of users, including researchers, policymakers, and farmers. Furthermore, training personnel in digital curation and data management is crucial for maintaining the integrity of the repositories (Ogunniyi, 2025).

Challenges such as inadequate funding, limited technical expertise, and insufficient infrastructure hinder the effective use of IRs in agricultural research institutions (Deloitte, 2024). However, the potential benefits are significant. Effective IRs can facilitate knowledge sharing, support open access initiatives, and enhance collaboration among researchers and stakeholders (Farouk et al., 2025).

To maximize the impact of IRs, Nigerian agricultural research institutions must prioritize investments in technology, capacity building, and policy development. By addressing these challenges, institutions can leverage IRs to improve service delivery, foster innovation, and contribute to sustainable agricultural practices.

Research Methodology

A survey research design was used on this study, focusing on a representative sample from three National Agricultural Research Institutes in Northwestern Nigeria: the National Agricultural Extension Research and Liaison Services (NAERLS), the National Animal Production Research Institute (NAPRI), and the Institute for Agricultural Research (IAR).

The sample distribution is as follows: from NAPRI (total sample: 104), there were 1 chief librarian (1.67%), 3 digital librarians (5.00%), 16 extension workers (26.67%), 11 veterinary doctors (18.33%), 21 livestock/agricultural officers (35.00%), and 9 researchers (15.00%). At the Institute for Agricultural Research (IAR, total sample: 96), the breakdown included 1 chief librarian (1.82%), 3 digital librarians (5.45%), 12 extension workers (21.82%), 13 veterinary doctors (23.64%), 18 livestock/agricultural officers (32.73%), and 9 researchers (16.36%).

Finally, from NAERLS (total sample: 91), the distribution was 1 chief librarian (1.89%), 2 digital librarians (3.77%), 13 extension workers (24.53%), 14 veterinary doctors (26.42%), 16 livestock/agricultural officers (30.19%), and 8 researchers (15.09%). The overall sample size totaled 291 participants. A close-ended questionnaire, developed by the researcher and consisting of two sections, was administered personally with the assistance of two research assistants.

Findings and Discussion

Out of the Two Hundred and Ninety One (291) copies of the questionnaire distributed to the staff of the three (3) research institutions, Two hundred and Eighty Five (285) copies of them were returned, duly completed and found fit for analysis. This represents 94.2% response rate. The data were analyzed using frequency counts (f) and percentages (%), with results presented according to the study's specific objectives. The SPSS software facilitated data computation, providing answers to the research questions across all objectives, with results presented in tables.

The extents to which Agricultural Research Institutions adhere to the policies of selecting IR resources align with the research institutes' core mandate

In order to find out the extent in which agricultural research institutions adhere to the selection policy of institutional repositories, a list of various options was drawn for the respondents to tick as many in their respective institution. Table 1 presents the responses of the respondents:

Table 1: Descriptive Statistics for Selection and Uploading of Resources

Statements	Scale	NAPRI n=101		IAR n=94		NEARLS n=89	
		Freq.	Percent	Freq.	Percent	Freq.	Percent
The resources selected for our institutional repository align well with the mission and objectives of our agricultural research institute.	1	17	16.8	19	20.2	14	15.7
	2	21	20.8	22	23.4	20	22.5
	3	23	22.8	16	17.0	27	30.3
	4	19	18.8	20	21.3	18	20.2
	5	21	20.8	17	18.1	10	11.2
Quality control measures are in place to ensure the materials in our institutional repository meet high standards for accuracy and relevance.	1	22	21.8	19	20.2	22	24.7
	2	17	16.8	23	24.5	20	22.5
	3	24	23.8	29	30.9	25	28.1
	4	23	22.8	17	18.1	12	13.5

	5	15	14.9	6	6.4	10	11.2
Researchers and professionals find it easy to locate and access relevant materials in our institutional repository.	1	19	18.8	20	21.3	16	18.0
	2	21	20.8	23	24.5	25	28.1
	3	25	24.8	24	25.5	23	25.8
	4	20	19.8	19	20.2	16	18.0
	5	16	15.8	8	8.5	9	10.1
Regular assessments and updates are conducted to ensure the continued relevance and quality of resources uploaded in our institutional repository.	1	14	13.9	18	19.2	15	16.9
	2	19	18.8	15	16.0	19	21.4
	3	20	19.8	22	23.4	21	23.6
	4	25	24.8	27	28.7	23	25.9
	5	23	22.8	12	12.8	11	12.4

1= Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree
(NAERLS, NAPRI and IAR records)

Table 1 highlights critical aspects of institutional repository (IR) management within surveyed agricultural research institutions. A notable percentage of participants reported that resource selection is not aligned with institutional goals, with figures of 13.0% from NAPRI, 15.4% from IAR, and 7.6% from NAERLS. This emphasizes the need for well-defined content selection policies, as effective IRs should reflect an institution's intellectual output (Jacksonville State University, 2020; Western Michigan University Libraries, 2020). Without alignment, the IR may fail to showcase the institution's research impact (Oguche, 2018; Salau et al., 2020).

Additionally, a significant proportion of respondents (20.8% NAPRI, 25.0% IAR, 18.9% NEARLS) noted the absence of quality control measures, which contradicts best practices for IR management (Busitema University, 2020). Lack of quality control can undermine the credibility of the IR and diminish its value to researchers.

Many participants were uncertain about the ease of locating relevant materials in their IRs (28.3% NAPRI, 26.9% IAR, 24.5% NEARLS), indicating potential issues with discoverability. Effective IRs should prioritize user-centered design for navigability (MDPI, 2021).

The survey also revealed varying opinions on the regularity of assessments and updates, which are essential for maintaining relevance and quality. While some participants affirmed that assessments were conducted, many were unsure. Addressing these challenges through defined

policies, quality control, and user centered design is crucial for maximizing the potential of IRs in agricultural research and knowledge sharing.

The subject covered by the information resources uploaded in the agricultural institutional repositories

High-quality coverage of information resources that are uploaded to a repository are essential because they have a direct impact on the dependability and correctness of the data that is shared. When it comes to research, education, or making crucial decisions, for example, timely and reliable information is very important. High-quality resources make sure that users can access relevant and trustworthy content. It was vital to look into this as it revealed how often users search the repositories for information. Three interviews with chief librarians were conducted to get their opinions on the caliber of resources posted in their repositories, and 284 staff members were given closed-ended questionnaires to complete in order to evaluate the quality of the institutions' repositories. The outcomes are displayed in Table 2.

Table 2: Descriptive Statistics for the Subject Covered by the Uploaded Resources

Statements	Scale	NAPRI n=101		IAR n=94		NEARLS n=89	
		Freq.	Percent	Freq.	Percent	Freq.	Percent
The research impact of the resources uploaded in our institutional repository is evident through citations and references in scholarly publications.	1	11	20.8	7	13.5	8	15.1
	2	16	30.2	9	17.3	11	20.8
	3	10	18.9	20	38.5	18	34.0
	4	9	17.0	9	17.3	10	18.9
	5	7	13.2	7	13.5	6	11.3
Our institutional repository features a diverse range of content types, including research papers, reports, datasets, and multimedia materials.	1	11	20.8	10	19.2	13	24.5
	2	13	24.5	11	21.2	10	18.9
	3	15	28.3	14	26.9	13	24.5
	4	9	17.0	7	13.5	8	15.1
	5	5	9.4	10	19.2	9	17.0
The resources uploaded in	1	11	20.8	12	23.1	9	17.0

our institutional repository effectively support the research and information needs of our agricultural community.	2	12	22.6	15	28.9	15	28.3
	3	17	32.1	10	19.2	17	32.1
	4	9	17.0	9	17.3	8	15.1
	5	4	7.6	6	11.5	4	7.6
The resources uploaded in our institutional repository are frequently cited in academic publications and reports.	1	5	9.4	8	15.4	9	17.0
	2	7	13.2	10	19.2	7	13.2
	3	23	43.4	16	30.8	11	20.8
	4	11	20.8	13	25.0	15	28.3
	5	7	13.2	5	9.6	11	20.8

1= Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree
(NAERLS, NAPRI and IAR records)

The analysis of Table 2 reveals varying perspectives on the impact and characteristics of institutional repositories (IRs) within surveyed agricultural research institutions. A notable portion of participants (20.8% from NAPRI, 13.5% from IAR, and 15.1% from NEARLS) disagreed that the research impact of uploaded resources is evident through citations in scholarly publications. Additionally, many remained undecided (18.9% from NAPRI, 38.5% from IAR, and 34.0% from NEARLS), indicating a lack of awareness regarding the citation impact of IR content. While some studies suggest self-archiving can boost citation counts, a 2023 study in Tanzania found low citation impact, highlighting the need for active promotion of IR content.

Furthermore, a significant percentage of participants (20.8% from NAPRI, 19.2% from IAR, and 24.5% from NEARLS) disagreed that their IRs feature diverse content types, such as papers, reports, and datasets. This lack of diversity suggests a need for institutions to broaden their IRs to include a wider array of research outputs.

Additionally, many participants (20.8% from NAPRI, 23.1% from IAR, and 17.0% from NEARLS) felt that resources uploaded in their IRs do not effectively support the agricultural community's research needs. Regular assessments of IR services are essential to align with user requirements.

Lastly, a considerable number of participants were undecided about the citation frequency of IR resources (43.4% from NAPRI, 30.8% from IAR, and 20.8% from NEARLS), reflecting a potential lack of systematic evaluation of citation patterns. Improving accessibility and promoting the IR can enhance dissemination.

Conclusion

This study identifies significant challenges agricultural research institutes face in North Western Nigeria regarding the selection, uploading, and utilization of resources in their institutional repositories. Issues such as a disconnect between repository content and institutional objectives, limited content diversity, and inadequate quality control highlight the need for better alignment with institutional goals and improved user awareness. Additionally, shortcomings in indexing practices, including search engine inclusion and metadata quality, emphasize the importance of high-quality metadata for enhancing discoverability. Despite moderate utilization levels, usability issues and limited awareness hinder effective engagement with the repositories.

Respondents expressed dissatisfaction with current visibility strategies, indicating a need for more effective approaches to search engine optimization, social media promotion, and collaboration. Addressing these challenges will enable agricultural research institutes to maximize the impact of their repositories, fostering knowledge sharing and advancing agricultural research in the region.

Recommendations

The study recommends that agricultural research institutes in North Western Nigeria should:

1. Align repository content with institutional missions and implement rigorous quality control to maintain relevance. Diversify content types to address a wider range of research interests.
2. Enhance indexing practices by improving metadata quality, implementing subject-based indexing, and ensuring interoperability with external systems. Optimize search engine inclusion and collaborate with other repositories to broaden content reach.
3. Focus on user interface improvements, provide comprehensive guides, and conduct training sessions to promote repository awareness. Engage stakeholders through targeted communication and social media.
4. Regularly assess usage patterns and user feedback to inform updates and enhancements. Collaborate with stakeholders to foster engagement and ownership, embracing a culture of continuous improvement to maximize the repository's impact.

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