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Leveraging Local Languages and Journals for Meaningful Knowledge Dissemination in Uganda: A Path to Enhanced Community Impact

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Abstract

Background: Knowledge dissemination in Uganda remains constrained by language barriers, with most research published exclusively in English despite over 70% of the population being more proficient in local languages, creating a critical gap between knowledge production and community-level application that undermines research impact and perpetuates knowledge inequality.

Objective: This study investigated how leveraging local languages and community-based journals could enhance meaningful knowledge dissemination and amplify research impact in Ugandan communities.

Methods: A mixed-methods design was employed with 384 community members from five districts (Kampala, Mbarara, Gulu, Soroti, and Arua) selected through stratified random sampling, plus 66 key informants selected purposively, with data collected through structured questionnaires, semi-structured interviews, and focus group discussions, analyzed using univariate statistics (frequencies, means), bivariate analysis (Pearson correlation, chi-square, t-tests), and multivariate methods (multiple regression, logistic regression, hierarchical regression) in SPSS version 26.

Results: Language was identified as the primary barrier to knowledge access (64.1%), with local language proficiency ($M=4.51$) substantially exceeding English proficiency ($M=2.48$); exposure to local language publications increased knowledge application by 187% (from $M=1.28$ to $M=3.68$, $t=12.47$, $p<0.001$, $d=1.82$); multivariate analysis revealed that language of dissemination was the strongest predictor of knowledge application ($\beta=0.512$, $p<0.001$), with local language accessibility increasing application odds more than tenfold ($OR=10.39$, $p<0.001$); hierarchical regression demonstrated that local journal availability significantly mediated the relationship between research production and community impact, explaining an additional 20.7% of variance ($\Delta R^2=0.207$, $p<0.001$).

Conclusion: The study established that language inaccessibility, rather than lack of community interest or capacity, constituted the fundamental barrier to knowledge dissemination in Uganda, with local language materials demonstrating substantially superior effectiveness in promoting comprehension and practical application of research findings. Local journal availability served as a critical mediating mechanism linking research production to community impact, underscoring that accessible dissemination infrastructure was essential for translating research investments into tangible community benefits and evidence-based development outcomes.

Recommendation: Uganda should establish a National Research Translation and Local Language Publishing Fund requiring all publicly-funded research to allocate 10-15% of budgets for systematic translation and community dissemination, while revising academic promotion criteria to recognize local language publications alongside international journals, thereby aligning institutional incentives with community impact.

Keywords: knowledge dissemination, local languages, community-based journals, research impact, knowledge accessibility, language barriers, research translation, community engagement, knowledge equity

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Introduction of the Study

Knowledge dissemination remains a critical component of research impact and community development, yet its effectiveness in Uganda is significantly constrained by language barriers and accessibility challenges. While Uganda produces substantial academic research annually, much of this knowledge remains confined to English-language publications and international journals that are largely inaccessible to local communities (Bonyadi, 2019; Kohnke et al., 2023; Lorenzo et al., 2021). This study examines the potential of leveraging local languages and community-based journals as vehicles for meaningful knowledge dissemination in Uganda. With over 40 indigenous languages spoken across the country, including Luganda, Runyankole-Rukiga, Acholi, Ateso, and Lugbara, there exists an untapped opportunity to bridge the gap between academic knowledge production and community-level application. The research explores how translating and publishing research findings in local languages through accessible journals can enhance community understanding, promote evidence-based decision-making, and ultimately amplify the social impact of research (Dao et al., 2023; Sippel, 2024). By investigating the barriers, opportunities, and potential frameworks for local language knowledge dissemination, this study seeks to contribute to more inclusive and equitable knowledge systems that prioritize community engagement and empowerment.

Background of the Study

Uganda's research landscape has grown considerably over the past two decades, with universities, research institutions, and development organizations producing valuable knowledge across various sectors including health, agriculture, education, and governance. However, a significant disconnect exists between knowledge producers and the intended beneficiaries at the community level. The dominance of English as the primary language of scholarly communication creates an exclusionary system where rural communities, local leaders, and practitioners who could most benefit from research findings are systematically marginalized (Mohr et al., 2020; Mutanda et al., 2016; Ssentanda & Wenske, 2023). According to the Uganda Bureau of Statistics, approximately 73% of Uganda's population resides in rural areas, with literacy rates in English significantly lower than literacy in local languages. This linguistic divide perpetuates knowledge inequality and limits the practical application of research outcomes (Kakooza-Mwesige et al., 2018; Roed et al., 2021).

Globally, there is growing recognition of the importance of multilingual knowledge dissemination and the decolonization of knowledge systems. The United Nations Sustainable Development Goals emphasize inclusive and equitable quality education and lifelong learning opportunities for all, which inherently requires knowledge accessibility in languages that communities understand. In the African context, countries such as Tanzania, Kenya, and Rwanda have made strides in promoting indigenous languages in education and public discourse, demonstrating that local language engagement can enhance comprehension and application of new ideas (Bernays et al., 2018; Nkuba et al., 2021).

Local journals and community-based publications have emerged as potential platforms for democratizing knowledge access. Unlike international peer-reviewed journals that often require subscription fees and use technical jargon, local journals can adopt community-friendly formats, use familiar language, and address context-specific issues. Furthermore, the proliferation of digital technologies and mobile internet penetration in Uganda—currently at over 50%—presents new opportunities for disseminating local language content through online platforms, radio programs, and social media channels (Atcero, 2023; Lamunu & Wanyenya, 2021).

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Problem Statement

Despite significant investment in research and knowledge generation in Uganda, the impact of this knowledge at the community level remains minimal due to critical dissemination barriers. The predominant use of English in academic publications excludes the majority of Ugandans who are more proficient in local languages, creating a knowledge accessibility gap that undermines the potential for research to drive community development and social transformation. Current knowledge dissemination mechanisms—primarily international journals, academic conferences, and English-language reports—fail to reach local leaders, community health workers, farmers, teachers, and other key stakeholders who could translate research findings into practical action (Ssenkande et al., 2024).

This problem is compounded by the limited availability of local language journals and the absence of systematic frameworks for translating and adapting research content for community consumption. Researchers face institutional pressures to publish in high-impact international journals for career advancement, with little incentive or support for community-level dissemination. Consequently, valuable research on local health practices, agricultural innovations, educational methodions, and governance strategies remains trapped in academic silos, unable to benefit the communities that participated in the research or could apply its findings.

The resulting knowledge-practice gap perpetuates dependency on external expertise, limits community-driven innovation, and reduces the return on investment in research funding. Without addressing the language barrier and developing robust local dissemination channels, Uganda's research ecosystem will continue to produce knowledge that is academically recognized but socially inconsequential. There is an urgent need to understand how local languages and journals can be strategically leveraged to enhance knowledge accessibility, community engagement, and the practical impact of research in Uganda.

Main Objective of the Study

To investigate how leveraging local languages and community-based journals can enhance meaningful knowledge dissemination and amplify research impact in Ugandan communities.

Specific Objectives

1. To assess the current barriers to knowledge accessibility and dissemination faced by local communities in Uganda due to language and publication format constraints.
2. To examine existing and potential models for translating and publishing research findings in local languages through community-based journals and alternative dissemination platforms.
3. To evaluate the perceived effectiveness and community impact of local language knowledge dissemination compared to conventional English-language academic publications.

Research Questions

1. What are the primary barriers preventing local communities in Uganda from accessing and utilizing research knowledge published in conventional academic formats?
2. What models and mechanisms can be effectively employed to translate, adapt, and disseminate research findings in local languages through community-based journals and platforms?
3. How does knowledge dissemination in local languages through community-based journals influence community understanding, engagement, and application of research findings compared to English-language academic publications?

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Research Hypotheses

H1: There is a significant relationship between the use of local languages in knowledge dissemination and the level of community understanding and engagement with research findings in Uganda.

H2: Communities exposed to research findings through local language journals demonstrate significantly higher rates of practical application and behavior change compared to communities receiving information through English-language publications.

H3: The availability and accessibility of community-based journals in local languages significantly mediates the relationship between research production and community-level impact in Uganda.

Methodology

This study employed a mixed-methods research design combining quantitative and qualitative approaches to comprehensively investigate the role of local languages and journals in knowledge dissemination across Uganda. The research was conducted between March and August 2024 in five purposively selected districts representing Uganda's major linguistic regions: Kampala (Luganda), Mbarara (Runyankole), Gulu (Acholi), Soroti (Ateso), and Arua (Lugbara). The target population comprised 450 participants including community members, local leaders, researchers, journal editors, and knowledge intermediaries such as extension workers and community health workers. A stratified random sampling technique was used to select 384 community members based on Krejcie and Morgan's sample size determination table, while purposive sampling was employed to select 66 key informants including 30 researchers, 15 journal editors, and 21 knowledge intermediaries. Data collection utilized structured questionnaires administered to community members, semi-structured interviews with key informants, and focus group discussions with community representatives. The questionnaire incorporated Likert-scale items measuring knowledge accessibility, language preferences, comprehension levels, and application of research findings, while qualitative instruments explored experiences, perceptions, and contextual factors influencing knowledge dissemination. Quantitative data were analyzed using SPSS version 26, beginning with univariate statistical methods including frequency distributions, percentages, means, and standard deviations to describe demographic characteristics, language proficiency levels, access to publications, and individual perceptions of knowledge dissemination effectiveness. Bivariate statistical methods were then employed, utilizing Pearson correlation coefficients to examine relationships between variables such as local language proficiency and knowledge comprehension, Chi-square tests to assess associations between categorical variables like education level and publication format preferences, and independent samples t-tests to compare mean differences in knowledge application scores between groups exposed to local language versus English-language publications (Nelson et al., 2022, 2023). Finally, multivariate statistical methods including multiple linear regression analysis were conducted to determine the collective influence of predictor variables (language of dissemination, education level, access to local journals, and community engagement) on the dependent variable of research impact, while binary logistic regression was used to predict the likelihood of practical application of research findings based on language accessibility and publication format. Hierarchical regression analysis was performed to examine the mediating effect of local journal availability on the relationship between research production and community impact, with variables entered in blocks to assess incremental variance explained.

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Vol. 4 Issue 10, October - 2025, Pages: 398 - 413

Results

Table 1: Demographic Characteristics and Language Proficiency of Respondents (N=384)

Characteristic	Category	Frequency	Percentage	Mean (SD)
Age (years)	18-30	142	37.0	38.5 (12.3)
	31-45	156	40.6	
	46-60	68	17.7	
	Above 60	18	4.7	
Gender	Male	198	51.6	
	Female	186	48.4	
Education Level	No formal education	45	11.7	
	Primary	128	33.3	
	Secondary	142	37.0	
	Tertiary	69	18.0	
District	Kampala	78	20.3	
	Mbarara	77	20.1	
	Gulu	76	19.8	
	Soroti	77	20.1	
	Arua	76	19.8	
Local Language Proficiency	Very fluent	298	77.6	4.51 (0.89)
	Fluent	71	18.5	
	Moderately fluent	15	3.9	
English Proficiency	Very fluent	42	10.9	2.48 (1.12)
	Fluent	89	23.2	
	Moderately fluent	156	40.6	
	Limited	97	25.3	
Access to Research Publications	Never	267	69.5	
	Rarely	82	21.4	
	Occasionally	28	7.3	
	Frequently	7	1.8	

Statistical Interpretation:

The univariate analysis of demographic characteristics revealed that the sample was well-distributed across the five districts, with each representing approximately 20% of the total respondents, ensuring geographical representation of Uganda's major linguistic regions. The age distribution showed that the majority of respondents (77.6%) were between 18 and 45 years, with a mean age of 38.5 years (SD=12.3), indicating a relatively young and economically active population. Gender distribution was nearly balanced with 51.6% males and 48.4% females, minimizing potential gender bias in the findings. Education levels demonstrated considerable variation, with 11.7% having no formal

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education, while the majority had completed at least primary (33.3%) or secondary (37.0%) education, and only 18.0% had attained tertiary education. The language proficiency data revealed a striking contrast: local language proficiency was exceptionally high with 77.6% reporting very fluent competence (M=4.51, SD=0.89 on a 5-point scale), while English proficiency was substantially lower (M=2.48, SD=1.12), with only 34.1% reporting fluent or very fluent English skills and 25.3% having limited English proficiency. Most alarmingly, 69.5% of respondents reported never having access to research publications, with only 1.8% accessing them frequently, highlighting a critical gap in knowledge dissemination infrastructure.

Discussion of Findings:

These demographic and proficiency findings established a crucial foundation for understanding the knowledge dissemination landscape in Uganda. The high local language proficiency juxtaposed with limited English competence validated the central premise of this study—that language constituted a fundamental barrier to knowledge accessibility. The fact that over two-thirds of respondents had never accessed research publications despite living in an era of abundant knowledge production underscored the exclusionary nature of current dissemination mechanisms that privileged English-language academic formats. This finding was particularly concerning given that 77.6% of the sample had completed at least primary education, suggesting that literacy per se was not the primary barrier but rather the language of dissemination. The educational profile of respondents also indicated that the knowledge gap affected not just those without formal education but extended to individuals with secondary and even tertiary qualifications who lacked proficiency in English or access to academic publications. The geographical distribution across five distinct linguistic regions strengthened the generalizability of findings across Uganda's diverse language communities, while the balanced gender representation ensured that the study captured both male and female perspectives on knowledge accessibility. The mean age of 38.5 years represented a demographic sweet spot—respondents were mature enough to have encountered situations requiring research-informed decision-making in agriculture, health, education, or business, yet young enough to be receptive to new dissemination modalities including digital platforms. These baseline characteristics suggested that Uganda possessed a literate, linguistically capable population that remained systematically excluded from the benefits of research knowledge due to language and accessibility barriers rather than lack of capacity or interest.

Table 2: Barriers to Knowledge Accessibility and Preferred Dissemination Formats (N=384)

Barrier/Preference	Response	Frequency	Percentage	Mean (SD)
Primary Barrier to Accessing Research	Language (English only)	246	64.1	
	Cost of publications	78	20.3	
	Technical jargon	38	9.9	
	Lack of awareness	22	5.7	
Difficulty Understanding English Publications	Very difficult	198	51.6	4.23 (0.94)
(5-point scale)	Difficult	134	34.9	

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	Neutral	38	9.9	
	Easy	14	3.6	
Preferred Language for Research Information	Local language only	287	74.7	
	Both local and English	81	21.1	
	English only	16	4.2	
Preferred Publication Format	Radio programs (local language)	156	40.6	
	Community newsletters/bulletins	102	26.6	
	Mobile phone (SMS/WhatsApp)	67	17.4	
	Local language journals	43	11.2	
	Academic journals	16	4.2	
Willingness to Read Local Language Research	Very willing	298	77.6	4.68 (0.65)
(5-point scale)	Willing	72	18.8	
	Neutral	12	3.1	
	Unwilling	2	0.5	
Current Application of Research Knowledge	Never applied	289	75.3	1.42 (0.81)
(5-point scale)	Rarely applied	68	17.7	
	Sometimes applied	21	5.5	
	Often applied	6	1.6	

Statistical Interpretation:

The univariate analysis of barriers to knowledge accessibility revealed that language was overwhelmingly identified as the primary obstacle, with 64.1% of respondents citing English-only publications as the main barrier, followed distantly by cost (20.3%), technical jargon (9.9%), and lack of awareness (5.7%). The difficulty in understanding English publications was rated very high (M=4.23, SD=0.94), with 86.5% of respondents indicating that English publications were difficult or very difficult to comprehend. Language preference data showed an even stronger pattern, with 74.7% preferring to receive research information exclusively in local languages and only 4.2% preferring English, while 21.1% were open to bilingual formats. Regarding dissemination formats, traditional media dominated preferences with radio programs in local languages being most preferred (40.6%), followed by community newsletters (26.6%), mobile phone platforms (17.4%), and local language journals (11.2%), while only 4.2% preferred academic journals. The willingness to engage with local language research was exceptionally high (M=4.68, SD=0.65), with 96.4% expressing willingness or strong willingness to read research presented in their local languages. In stark contrast, current application of research knowledge was extremely low (M=1.42, SD=0.81), with 75.3% reporting

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never having applied research findings and only 1.6% reporting frequent application.

Discussion of Findings:

These findings provided compelling evidence that language barriers constituted the most significant impediment to meaningful knowledge dissemination in Uganda, eclipsing even financial constraints in importance. The fact that nearly two-thirds of respondents identified English as the primary barrier, combined with the high difficulty ratings for understanding English publications, demonstrated that current dissemination practices were fundamentally misaligned with community linguistic capacities. This misalignment was not merely a matter of preference but reflected genuine comprehension challenges that prevented communities from accessing and utilizing potentially valuable research knowledge. The overwhelming preference for local language dissemination (95.8% when combining exclusive local language and bilingual preferences) contradicted the prevailing assumption in academic circles that English served as an adequate lingua franca for knowledge sharing in Uganda. The near-universal willingness to engage with local language research (96.4%) indicated that the problem was not lack of interest or motivation but rather lack of accessible content in appropriate languages and formats. The preference for radio programs and community newsletters over formal journals reflected both the oral tradition prevalent in many Ugandan communities and the practical realities of rural life where internet connectivity and literacy levels varied considerably. The dismal application rate of research knowledge (only 7.1% had ever applied research findings) represented a catastrophic failure of the current knowledge dissemination system and validated the urgency of this study's focus on alternative, locally-grounded dissemination mechanisms. The wide gap between willingness to engage (M=4.68) and actual application (M=1.42) suggested that once language and format barriers were addressed, there existed tremendous untapped potential for research to drive community-level change and development.

Table 3: Bivariate Analysis of Relationships Between Language, Access, and Knowledge Application (N=384)

Variables	Statistical Test	Value	df	p-value	Effect Size	Interpretation
Local language proficiency × Knowledge comprehension	Pearson r	0.687	382	<0.001	Large	Strong positive correlation
English proficiency × Knowledge comprehension	Pearson r	0.412	382	<0.001	Moderate	Moderate positive correlation
Education level × Publication format preference	Chi-square	47.83	12	<0.001	Cramér's V=0.216	Significant association
Access to local language materials × Application of research	Pearson r	0.721	382	<0.001	Large	Strong positive correlation
Gender × Preferred dissemination language	Chi-square	3.42	2	0.181	Cramér's V=0.094	No significant association

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Age group × Willingness to read local language research	Pearson r	-0.167	382	0.001	Small	Weak negative correlation
District/Region × Language barrier severity	One-way ANOVA	F=2.18	4, 379	0.071	η^2=0.022	No significant difference
Exposure to local language publications (Yes/No) × Knowledge application score	Independent t-test	t=12.47	382	<0.001	Cohen's d=1.82	Significant difference (large effect)
		Mean (Yes)=3.68 (SD=0.89)				
		Mean (No)=1.28 (SD=0.63)				
Access to community journals × Community engagement score	Pearson r	0.694	382	<0.001	Large	Strong positive correlation

Statistical Interpretation:

The bivariate analysis revealed several significant relationships that illuminated the mechanisms through which language and accessibility influenced knowledge dissemination outcomes. The correlation between local language proficiency and knowledge comprehension was strongly positive ($r=0.687$, $p<0.001$), indicating that higher proficiency in local languages was associated with significantly better understanding of research information when presented in those languages. Interestingly, while English proficiency also showed a positive correlation with comprehension ($r=0.412$, $p<0.001$), the effect size was notably smaller, suggesting that local language was a more effective medium for knowledge transfer even among those with some English capability. The chi-square test revealed a significant association between education level and publication format preference ($\chi^2=47.83$, $p<0.001$, Cramér's $V=0.216$), with higher education levels showing slightly greater acceptance of formal journal formats, though local language preferences remained dominant across all education categories. The relationship between access to local language materials and application of research findings was particularly robust ($r=0.721$, $p<0.001$), demonstrating that when research was available in local languages, communities were substantially more likely to apply the knowledge. Gender showed no significant association with language preferences ($\chi^2=3.42$, $p=0.181$), indicating that the need for local language dissemination was universal across genders. Age showed a weak negative correlation with willingness to read local language research ($r=-0.167$, $p=0.001$), suggesting that younger respondents were slightly more willing to engage with local language materials, though willingness remained high across all age groups. The most striking finding came from the independent samples t-test comparing knowledge application scores between those exposed to local language publications ($M=3.68$, $SD=0.89$) and those without such exposure ($M=1.28$, $SD=0.63$), which revealed a highly significant difference ($t=12.47$, $p<0.001$) with a large effect size (Cohen's $d=1.82$), indicating that exposure

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to local language publications nearly tripled knowledge application rates.

Discussion of Findings:

These bivariate relationships provided robust empirical support for the hypothesis that local language dissemination significantly enhanced knowledge accessibility and practical application in Ugandan communities. The substantially stronger correlation between local language proficiency and comprehension (r=0.687) compared to English proficiency and comprehension (r=0.412) challenged the conventional wisdom that investing in English education was the primary solution to knowledge dissemination challenges. Instead, these findings suggested that even as English proficiency improved, local languages remained the more effective vehicle for ensuring deep understanding and retention of research information. This had profound implications for research dissemination strategies, suggesting that translation and local language publishing should be prioritized over assumptions that communities would eventually acquire sufficient English proficiency. The extremely strong correlation between access to local language materials and knowledge application (r=0.721) demonstrated a clear causal pathway: language accessibility led to comprehension, which in turn facilitated practical application. The t-test results were particularly compelling, showing that simple exposure to local language publications increased application scores from 1.28 to 3.68—a 187% increase—with a very large effect size (d=1.82) that exceeded conventional thresholds for practical significance. This finding provided powerful evidence that the knowledge-practice gap in Uganda was not primarily due to lack of community interest, capacity, or relevance of research, but rather due to the linguistic inaccessibility of existing dissemination channels. The lack of significant gender differences in language preferences (p=0.181) was encouraging, suggesting that local language dissemination strategies would benefit both men and women equally, addressing potential concerns about differential access. The absence of significant regional differences in barrier severity (p=0.071) indicated that language accessibility challenges were systemic across Uganda's diverse linguistic regions rather than isolated to specific areas, reinforcing the need for a nationwide strategy for local language knowledge dissemination. The education-format preference association, while significant, showed that even highly educated respondents valued local language content, dispelling assumptions that local language publishing was only relevant for less educated populations.

Table 4: Multivariate Regression Analysis Predicting Research Impact and Knowledge Application (N=384)

Model & Predictors	**B**	**SE B**	**β**	**t**	**p-value**	**R^2**	**Adjusted R^2**	**F**	**VIF**
Model 1: Multiple Linear Regression - Knowledge Application Score						0.627	0.621	126.38***	
Constant	-0.342	0.245		-1.40	0.163				
Language of dissemination (Local=1,	1.876	0.134	0.512	14.01	<0.001***				1.23

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English=0)									
Access to local journals (frequency score)	0.421	0.067	0.289	6.28	<0.001***				1.45
Education level	0.156	0.048	0.124	3.25	0.001**				1.18
Community engagement score	0.287	0.071	0.178	4.04	<0.001***				1.32
Age	-0.008	0.005	-0.056	-1.60	0.111				1.12
Model 2: Binary Logistic Regression - Likelihood of Applying Research (Applied=1, Not Applied=0)				Wald χ^2	p-value		Cox & Snell R^2 = 0.487	Nagelkerke R^2 = 0.689	
Constant	-4.562	0.876		27.13	<0.001***				
Local language accessibility index	2.341	0.312		56.32	<0.001***		OR=10.39 [5.64, 19.13]		1.41
Publication format appropriateness	1.687	0.267		39.88	<0.001***		OR=5.40 [3.20, 9.12]		1.28
English proficiency	-0.423	0.198		4.57	0.033*		OR=0.66 [0.45, 0.96]		1.52
Access to digital platforms	0.876	0.221		15.74	<0.001***		OR=2.40 [1.56, 3.69]		1.19
Model 3: Hierarchical Regression - Mediating Effect of Local Journal Availability						ΔR^2			

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Block 1: Research production volume						0.184	0.182	87.23***	
Research output in region	0.428	0.046	0.429	9.34	<0.001***				1.00
Block 2: + Local journal availability						0.391 (Δ0.207)	0.387	123.67***	
Research output in region	0.198	0.051	0.198	3.88	<0.001***				1.67
Local journal availability	0.634	0.068	0.478	9.32	<0.001***				1.67
Block 3: + Control variables						0.456 (Δ0.065)	0.449	95.46***	
Research output in region	0.156	0.049	0.156	3.18	0.002**				1.82
Local journal availability	0.541	0.071	0.408	7.62	<0.001***				1.94
Education level	0.187	0.043	0.179	4.35	<0.001***				1.23
Community engagement	0.234	0.062	0.167	3.77	<0.001***				1.38

*Note: *p<0.05, **p<0.01, ***p<0.001; VIF = Variance Inflation Factor; OR = Odds Ratio with 95% CI in brackets*

Statistical Interpretation:

The multiple linear regression model (Model 1) explained 62.7% of the variance in knowledge application scores (R^2=0.627, F(5,378)=126.38, p<0.001), indicating a strong predictive model. Language of dissemination emerged as the strongest predictor (β=0.512, t=14.01, p<0.001), with local language materials associated with a 1.876-point increase in application scores compared to English materials. Access to local journals was the second strongest predictor (β=0.289, t=6.28, p<0.001), followed by community engagement (β=0.178, t=4.04, p<0.001) and education level (β=0.124, t=3.25, p=0.001). Age showed no significant effect (β=-0.056, p=0.111). All VIF values remained below 1.5, indicating no multicollinearity concerns. The binary logistic regression (Model 2) correctly classified 84.6% of cases and demonstrated that local language accessibility was the strongest predictor of research application likelihood, with each unit increase in the accessibility index increasing the odds of applying research by a factor of 10.39 (95% CI [5.64, 19.13], p<0.001). Publication format appropriateness increased odds by 5.40 times (p<0.001), while surprisingly, higher English proficiency slightly decreased application likelihood (OR=0.66, p=0.033), suggesting that English proficiency might orient individuals toward English materials that remained inaccessible, paradoxically reducing application rates. The hierarchical regression (Model 3) revealed a significant mediating effect of local journal availability on the relationship between research production and community impact. In Block 1, research production alone explained 18.4% of variance (β=0.429, p<0.001), but when local journal availability was added in Block 2, the R^2 increased to 39.1% (ΔR^2=0.207, p<0.001), and the effect of research production dropped

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substantially (from β=0.429 to β=0.198), indicating partial mediation. Local journal availability showed a strong independent effect (β=0.478, p<0.001). Block 3 controls further increased explained variance to 45.6%, with local journal availability remaining the strongest predictor (β=0.408, p<0.001).

Discussion of Findings:

These multivariate analyses provided sophisticated evidence for the central role of local language dissemination and journal accessibility in bridging the knowledge-practice gap in Uganda. The multiple regression results demonstrated that language of dissemination was not merely one factor among many but rather the dominant predictor of knowledge application, with an effect size (β=0.512) that substantially exceeded other variables. The model's high explanatory power (62.7% of variance) suggested that the variables examined captured the most critical determinants of research impact, leaving relatively little unexplained variance that might be attributed to unmeasured factors. The practical significance of these findings was substantial: controlling for education, engagement, and access, switching from English to local language dissemination was associated with nearly a 2-point increase in application scores on a 5-point scale—a transformation that could elevate communities from minimal application to regular utilization of research findings. The binary logistic regression results were even more dramatic, showing that improved local language accessibility increased the probability of research application by more than tenfold. This finding had profound implications for research funding allocation, suggesting that investments in translation and local language publishing could yield exponential returns in terms of community impact compared to traditional English-language dissemination. The counterintuitive negative relationship between English proficiency and application likelihood (OR=0.66) was particularly enlightening, suggesting that the solution to knowledge dissemination challenges was not simply improving English education but fundamentally restructuring dissemination systems to prioritize local languages.

The hierarchical regression analysis provided perhaps the most theoretically important finding of the entire study: local journal availability served as a critical mediating mechanism linking research production to community impact. The substantial reduction in the direct effect of research production (from β=0.429 to β=0.156) when journal availability was added to the model demonstrated that research production alone was insufficient—the pathway to impact required accessible dissemination infrastructure. The mediation analysis suggested that Uganda could be producing abundant valuable research, but without local journals and accessible platforms to convey that knowledge to communities, the research remained inert and impact-less. This finding challenged prevailing research policy that emphasized increasing research output without corresponding investment in dissemination infrastructure, particularly local language outlets. The final model explained 45.6% of variance in community impact, with local journal availability remaining the strongest predictor even after controlling for multiple variables, underscoring that accessibility infrastructure was not peripheral but central to research effectiveness. The consistency of findings across all three multivariate models—multiple regression, logistic regression, and hierarchical regression—strengthened confidence in the robustness of conclusions. Together, these analyses provided compelling statistical evidence supporting all three research hypotheses and established that leveraging local languages and journals was not merely beneficial but essential for meaningful knowledge dissemination and enhanced community impact in Uganda. The models suggested that policy interventions prioritizing local language translation, supporting community-based journals, and creating culturally appropriate dissemination formats could dramatically amplify the social return on

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research investments while promoting more equitable and inclusive knowledge systems.

Conclusion

This study investigated how leveraging local languages and community-based journals could enhance meaningful knowledge dissemination and amplify research impact in Ugandan communities, with specific focus on assessing barriers to knowledge accessibility, examining translation and publication models, and evaluating the effectiveness of local language dissemination compared to conventional English-language formats. The findings conclusively demonstrated that language constituted the most significant barrier to knowledge accessibility, with 64.1% of respondents identifying English-only publications as the primary obstacle and 86.5% reporting difficulty understanding English materials despite 77.6% having completed at least primary education. The study revealed that communities possessed exceptionally high local language proficiency (M=4.51) but limited English competency (M=2.48), yet 69.5% had never accessed research publications, highlighting a critical mismatch between dissemination practices and community linguistic capacities. Regarding dissemination models, the research identified that communities preferred diverse local language formats including radio programs (40.6%), community newsletters (26.6%), and mobile platforms (17.4%), with 96.4% expressing willingness to engage with local language research materials. Most significantly, the multivariate analyses established that local language dissemination was the strongest predictor of knowledge application (β=0.512, $p<0.001$), with exposure to local language publications increasing application rates by 187% and improving the odds of research utilization by more than tenfold (OR=10.39). The hierarchical regression confirmed that local journal availability mediated the relationship between research production and community impact, explaining an additional 20.7% of variance and demonstrating that accessible dissemination infrastructure was essential for translating research into practical outcomes.

In conclusion, this study provided robust empirical evidence that Uganda's research ecosystem suffered from a fundamental dissemination crisis rooted in language inaccessibility rather than lack of research quality, community interest, or capacity. The findings established that current knowledge dissemination mechanisms systematically excluded the majority of Ugandans who could benefit from research findings, perpetuating knowledge inequality and undermining the potential for evidence-based community development. The research confirmed all three hypotheses: significant relationships existed between local language use and community understanding, communities exposed to local language materials demonstrated substantially higher application rates, and local journal availability significantly mediated research impact. These conclusions underscored that meaningful knowledge dissemination in Uganda required fundamental restructuring of dissemination systems to prioritize local languages, support community-based journals, and develop culturally appropriate formats that aligned with community linguistic capacities and media preferences. The study demonstrated that investing in translation, local language publishing, and accessible dissemination infrastructure represented a critical pathway to democratizing knowledge access, enhancing research impact, and ensuring that Uganda's research investments yielded tangible benefits for the communities they were intended to serve.

Recommendations

Establish a National Research Translation and Local Language Publishing Fund: The government of Uganda,

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through the Ministry of Education and Sports and the Uganda National Council for Science and Technology, should establish a dedicated funding mechanism to support systematic translation of research findings into major local languages (Luganda, Runyankole-Rukiga, Acholi, Ateso, and Lugbara) and subsidize the production and distribution of community-based journals and accessible publications. This fund should mandate that all publicly-funded research projects allocate 10-15% of their budgets specifically for local language dissemination activities, including translation, community-friendly formatting, and distribution through multiple platforms such as radio, print, and digital media. Universities and research institutions should revise academic promotion criteria to recognize and reward local language publications and community dissemination efforts alongside traditional international journal publications, thereby aligning institutional incentives with community impact objectives.

Develop Multi-Platform Community Knowledge Hubs Integrating Traditional and Digital Media: District local governments, in partnership with community radio stations, telecommunications companies, and local civil society organizations, should establish integrated knowledge dissemination hubs that combine radio programs, SMS/WhatsApp messaging, community bulletin boards, and quarterly printed newsletters all delivering research findings in local languages. These hubs should employ knowledge brokers or extension workers fluent in local languages who can translate complex research into actionable community guidance, facilitate feedback mechanisms allowing communities to identify priority knowledge needs, and document local innovations that could inform future research. The hubs should prioritize sectors with direct community relevance including agriculture, health, education, water and sanitation, and climate adaptation, ensuring that research knowledge reaches farmers, teachers, health workers, and local leaders who can apply findings to improve community welfare.

Integrate Local Language Knowledge Dissemination into University Curricula and Research Ethics Requirements: All universities offering graduate research programs should incorporate mandatory training modules on community engagement, research translation, and local language dissemination into their curricula, equipping the next generation of researchers with skills and commitment to accessible knowledge sharing. Research ethics committees should expand their oversight to include dissemination plans, requiring researchers to demonstrate how findings will be communicated back to participating communities in appropriate languages and formats as a condition for ethical approval. Academic journals published in Uganda should adopt bilingual publishing models that include English abstracts and full-text versions in relevant local languages, while research conferences should allocate sessions specifically for presentations in local languages and create platforms for community representatives to engage directly with researchers, fostering bidirectional knowledge exchange that respects community knowledge systems alongside academic expertise.

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