Reviving India's Intellectual Heritage: The Role of Joint Libraries in Restoring the Indian Knowledge System

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Abstract

This study explores the critical role of joint libraries in preserving and revitalizing the Indian Knowledge System (IKS), which encompasses centuries-old wisdom in disciplines such as medicine, astronomy, linguistics, and philosophy. The primary objective is to assess how collaborative library models contribute to safeguarding and disseminating traditional Indian knowledge in the context of modern education and research. Employing a qualitative research approach, the study integrates data from expert interviews, document analysis, and case studies of national and international joint library initiatives. Key findings indicate that joint libraries—particularly those integrating governmental, academic, and cultural institutions—play a vital role in digitizing manuscripts, supporting interdisciplinary research, and preventing knowledge erosion. Initiatives like the Traditional Knowledge Digital Library (TKDL), National Manuscripts Mission (NMM), and National Digital Library (NDL) demonstrate successful models for access, preservation, and policy impact. The study also draws comparative insights from global projects such as AIKS and the Smithsonian's Recovering Voices program to highlight best practices. This research is significant for its timely focus on institutional mechanisms that support India's cultural and intellectual renaissance. By presenting a scalable and integrative model of joint libraries, the study provides actionable insights for policymakers, educators, and library professionals committed to restoring and sustaining India's vast traditional knowledge for future generations.

Keywords: Joint Libraries; Indian Knowledge System (IKS); Knowledge Management Assessment Tool; Traditional Knowledge Digital Library (TKDL); National Manuscripts Mission (NMM); National Digital Library (NDL).

1. Introduction

India's intellectual and cultural legacy is one of the richest in the world, encompassing millennia of traditional knowledge systems (IKS) across disciplines such as medicine, astronomy, philosophy, architecture, agriculture, and linguistics. Historically transmitted through manuscripts, oral traditions, and institutional learning centres, this heritage has suffered significant neglect and fragmentation due to colonization, modernization, and lack of systemic preservation efforts. Consequently, much of this knowledge remains inaccessible or is at risk of being permanently lost.

In recent decades, efforts to restore and preserve IKS have gained national attention. However, the challenge lies not only in conservation but also in creating inclusive platforms for access, interpretation, and integration of this knowledge into mainstream educational and research ecosystems. Joint libraries—collaborative institutions involving universities, government bodies, and cultural organizations—have emerged as crucial infrastructures in this context. They enable shared access to rare manuscripts, foster interdisciplinary scholarship, and support digital preservation initiatives.

This study investigates the role of joint libraries in the restoration of the Indian Knowledge System, focusing on their potential to bridge traditional wisdom and modern information systems. It examines how joint libraries contribute to knowledge preservation, dissemination, and utilization through both national and international case studies. The research employs qualitative methodologies, drawing insights from existing literature, expert interviews, and assessment tools to evaluate performance across dimensions of knowledge management.

The study also considers challenges such as definitional ambiguities, resource limitations, institutional coordination, and ethical handling of indigenous knowledge. By addressing these issues, this research aims to identify sustainable strategies for reviving IKS through joint library initiatives and proposes policy-level interventions for long-term impact.

2. Objectives of the Study

The study aims to examine the role of joint libraries in restoring and revitalizing the Indian Knowledge System (IKS), focusing on preservation, access, collaboration, and community participation. The specific objectives of the study are as follows:

I. **To analyse the historical and cultural need for restoring the Indian Knowledge System (IKS)**
This objective seeks to understand the historical marginalization and erosion of IKS due to colonialism and modernization and establishes the significance of revitalizing this heritage for contemporary research and education.

II. **To examine the functional role of joint libraries in preserving traditional Indian knowledge**
The study investigates how joint libraries function as repositories for manuscripts, rare books, and indigenous records, and their contribution to digitization and preservation efforts.

III. **To evaluate national and international joint library initiatives relevant to IKS preservation**
The research compares Indian projects like TKDL, NMM, and NDL with global initiatives such as the AIKS (Africa), Recovering Voices (USA), and IKC (Australia), to identify models and best practices adaptable to the Indian context.

IV. **To assess the effectiveness of joint libraries using the Knowledge Management Assessment Tool (KMAT)**
This objective involves the application of KMAT to examine how joint libraries perform across four dimensions: knowledge creation, storage, transfer, and application in the context of IKS.

V. **To identify the challenges faced by joint libraries in managing, curating, and disseminating traditional knowledge**
The study explores barriers such as institutional coordination, definitional ambiguities, limited access, funding constraints, and lack of community involvement.

VI. **To propose a framework for strengthening joint libraries as sustainable hubs for IKS preservation and scholarly collaboration**
Based on findings, the study aims to develop practical recommendations for enhancing policy, funding, digital infrastructure, and community-based participation in joint library systems.

3. Literature Review

The significance of preserving traditional knowledge systems (IKS) has drawn increasing scholarly attention, especially in the context of digital preservation and intellectual property rights. Scholars such as Sandhu and Goel (2019) emphasize the role of digital technologies in promoting Indian knowledge systems through collaborative efforts like joint libraries. Their work illustrates how partnerships between academic institutions and government agencies facilitate digitization and accessibility of traditional manuscripts, especially in fields like Ayurveda and classical sciences(Sandhu, J. S., & Goel, 2019).

Karthik, Sujatha, and Singh (2020) propose a conceptual framework for joint libraries that integrates decentralized knowledge management and community participation, highlighting the potential of such collaborations to create knowledge ecosystems grounded in local cultural contexts. Their work reflects a shift from institutional centrality toward user engagement and local custodianship of knowledge(Karthik, S., Sujatha, R., & Singh, 2020).

Earlier efforts by government bodies, notably the National Mission for Manuscripts and the Traditional Knowledge Digital Library (TKDL), focus on safeguarding heritage against biopiracy and patent infringement. These initiatives, as documented by Morales-Gómez (1993) and Hirwade (2010), have laid the groundwork for large-scale digitization and classification of India's traditional knowledge(Hirwade, 2010; Morales-Gómez, 1993).

However, McNicol (2014) raises concerns about the structural limitations of joint-use libraries, particularly the lack of standardized metadata, integration challenges across multiple institutions, and the need for dedicated policies to ensure sustainability(McNicol, 2014). Meanwhile, global models like the African Indigenous Knowledge Systems (AIKS) and the Maori Knowledge Database show successful community-led preservation, offering valuable comparative insights.

The actual gap in Literature Despite growing attention, limited empirical research exists on the **impact assessment** of joint libraries in restoring IKS, especially in the Indian context. Studies often remain conceptual or policy-focused, with inadequate field-based data on user engagement, operational challenges, or interdisciplinary applications of preserved knowledge(Sophia Twarog and Promila Kapoor, 2004). The reviewed literature establishes the foundational role of joint libraries in preserving IKS and integrating traditional wisdom with modern research frameworks. However, there is a need for more empirical and evaluative studies focusing on how joint libraries actually function on the ground, influence community

access, and contribute to India's cultural and educational renaissance. This study seeks to address that gap(TKDL, 2005).

4. Research Methodology

This study adopts an **empirical research approach** to explore the role of libraries in preserving and disseminating the Traditional Indian Knowledge System (IKS) through collaborative models. The researcher conducted **virtual visits** to selected libraries across India known for their active involvement in IKS preservation and public service delivery.

Data was primarily collected through **website analysis**, focusing on library services, digitized resources, partnerships, and institutional outreach programs. Particular attention was given to libraries functioning under **Memoranda of Understanding (MoUs)** with nearby or distant academic and research institutions offering IKS-based curricula.

In addition to observational data, **semi-structured telephonic interviews** were conducted with key institutional stakeholders (such as librarians, faculty members, and administrators) to gain insights into the effectiveness, challenges, and prospects of these joint operational models. The observations and interviews together informed the practical relevance of the **Joint Library System** as a sustainable framework for preserving traditional knowledge in collaboration with academic institutions.

I. **Sampling Strategy:**
   The study focused on institutions directly or indirectly involved in joint library initiatives in India.
   - **Population:** Librarians, administrators, scholars, and technical personnel from joint libraries and traditional knowledge centres.
   - **Sample Size:** 6 respondents from six major institutions, including national and regional university-public library collaborations.
   - **Sampling Technique: Purposive sampling** was adopted to ensure representation from relevant experts and stakeholders with direct experience in IKS preservation.

II. **Data Analysis Methods:**
   Collected data were analysed using **thematic analysis**, focusing on patterns related to collaboration, resource sharing, preservation challenges, and policy implications.

III. **Ethical Considerations:**
   Participants were informed of the study's purpose and gave consent before participation. Confidentiality and anonymity were assured. Ethical issues related to cultural sensitivity and intellectual property were carefully considered, especially in discussions involving indigenous or sacred knowledge systems.

IV. **Constraints and Mitigation:**
   Time and access limitations were encountered during fieldwork due to institutional restrictions and scheduling challenges. These were addressed by conducting virtual interviews and supplementing gaps with document-based analysis and publicly available institutional data.

Case Studies: National & International Joint Library and Museum Collaboration Projects:

The relevancy for including a sample from outside India would depend on the specific research question, methodology, and goals of your study. There could be several reasons why we include these samples from outside India. For example:

- *Comparative analysis:* We want to compare the traditional knowledge systems and joint library practices in India with those in other countries to identify similarities and differences, learn from best practices, or understand the unique challenges faced by each country.
- *Global relevance:* We contend that conventional and traditional knowledge systems are not limited to India alone, but are found in many other cultures as well. Including a sample from another country could help to illustrate the global relevance of the topic.
- *Diversity and inclusivity:* We want to highlight the diversity of perspectives and experiences in your study by including voices from outside India. This could help to broaden the scope of your research and make it more inclusive.

Additionally, it is important to ensure that your research is respectful of the cultural background and intellectual property rights of the traditional knowledge systems we are studying, particularly if you are working with communities outside India.

a. The African Indigenous Knowledge Systems (AIKS) project is a joint library initiative aimed at preserving and restoring traditional knowledge among African communities. The project involves a collaborative effort between academic institutions, NGOs, and local communities to document and promote indigenous knowledge systems through research, education, and community outreach programs.

b. The Traditional Knowledge Digital Library (TKDL) in India is another example of a joint library project that seeks to preserve and conserve traditional knowledge systems. The TKDL is a collaborative effort between the Indian Ministry of Science & Technology, the Council of Scientific and Industrial Research, and other government agencies to create a digital repository of traditional knowledge related to medicine, agriculture, and other domains(Ramesh, 2000).

Fig 1: Represent the database of TKDL

c. The Smithsonian National Museum of Natural History's Recovering Voices program is a joint library initiative focused on preserving and revitalizing endangered languages and traditional knowledge systems. The program brings together scholars, community leaders, and other shareholders to document and promote linguistic diversity and cultural heritage around the world(Laely et al., 2018).
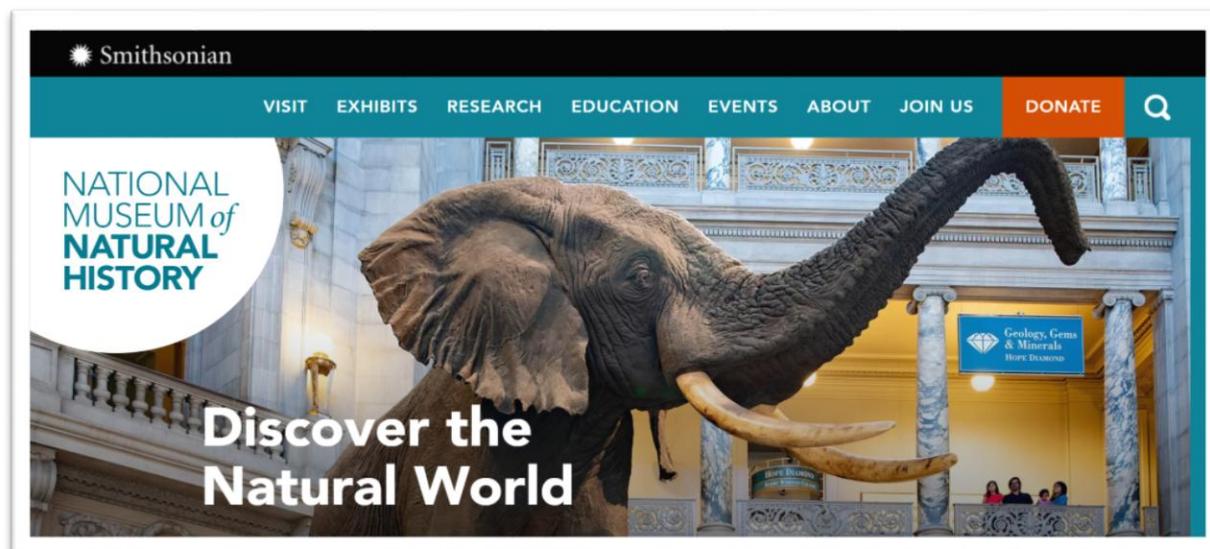

Fig 2: Represent the database of Smithsonian National Museum of Natural History's

d. The Maori Knowledge and Development Database in New Zealand is a joint library initiative that seeks to reservation and promote Maori traditional knowledge and practices. The database is a collaboration between universities, government agencies, and local societies to file and share Maori knowledge across different domains, including language, health, and environmental management(VanFleet, 2010).

e. The Indigenous Knowledge Centre (IKC) in Australia is another example of a joint library project focused on preserving and promoting traditional knowledge systems. The IKC is a partnership between the Australian Institute of Aboriginal and Torres Strait Islander Studies, the National Library of Australia, and other organizations to support research, education, and community outreach related to indigenous knowledge and culture(Fitzgibbons, 2000).

Fig 3: Represent the database of Indigenous Knowledge Centre (IKC) in Australia

5.1 Indian Perspectives

In our country so many creativities have been taken by the central government to preserve/conserve or traditional Indian Knowledge System, so that the consequence is coming out in the form of National Manuscript Mission, Traditional Knowledge Digital Library, National Digital Library, National Archives of India and many more. A few details are discussing below.

- *National Manuscript Mission (NMM):* The National Manuscripts Mission (NMM) is an independent society of the Government of India's Ministry of Culture established to inspect, locate and preserve Indian manuscripts with the aim of establishing a national manuscript resource base to facilitate their access, them improve knowledge and its use. an educational purpose. The Mission was launched by the Government of India's Department of Tourism and Culture in February 2003 and the Indira Gandhi National Centre for the Arts (IGNCA) is the central agency for the application of this project. These cover a diversity of themes, touches and aesthetics, typefaces, languages, calligraphy, lighting and illustrations. Together they form the "memory" of Indian history, heritage and assumed. The National Manuscript Mission aims to locate, document, preserve and make accessible Indian manuscripts in order to connect India's past with its future (www.ignca.nic.in).

- *Traditional Knowledge Digital Library (TKDL):* The Traditional Knowledge Digital Library is India's digital knowledge base of traditional knowledge, particularly medical plants and preparations used in Indian medical systems. Established in 2001 as a collaboration between the Council for Scientific and Industrial Research (CSIR) and the Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH Department), Ministry of Health and Welfare, Government of India, The Target The library's goal is to defend the country's ancient and traditional knowledge from exploitation through biopiracy and unethical patents by documenting it automatically and categorising it according to global patent classification systems(Mahadevan & BHAT, 2022).

- *National Digital Library (NDL):* Digital Library of India (DLI) is an open access digital collection of rare books from many libraries in India. The DLI project began in the early 2000s with the vision of archiving, digitally preserving all of humanity's major literary, creative and scientific works and making them freely accessible to everyone via the Internet for education, study, appreciation and for future generations make. As a first step towards understanding this vision, it is proposed to create the Digital Library with a collection of one million freely readable and searchable books, mainly in Indian languages. The project was started by the Office of the Chief Scientific Advisor to the Government of India and was later taken over by the Department of Electronics and Information Technology (DeitY) of the Government's Ministry of Communications and

Information Technology (MCIT). This 24x7 resource would also be an outstanding proving crushed for linguistic dispensation study in areas such as machine translation, visual character acknowledgement, summarization, speech and handwriting acknowledgement, intelligent indexing, and Indic language information search(K.V, 2010).

- *National Archives of India (NAI):* NAI's primary mandate is to act as the central repository for public records. However, NAI has also taken some initiatives to preserve and catalogue manuscripts. NAI has been consecutively a project called the National Registry of Private Archives since 1957. As part of this project, NAI conducts surveys and lists of private records, manuscripts and historical archives held by individuals, NGOs, churches, temples and stray dogs in collaboration with the NAI Departments of the State Archives 3. The material thus gathered is published regularly. The National Archives have printed 19 volumes of the National Register of Private Records with over 34,000 entries to date. However, this database is not a comprehensive reference work on the manuscripts, nor does it offer the required level of feature on the nature of the manuscripts or their state of preservation4. In addition to publishing the National Register of Private Archives, NAI operates the following two programs:1. Grant Program for Archives, Government Libraries and Museums of State/Union Territories and 2nd Grant Program for Manuscript/Rare Book Preservation. Funding is provided through these agendas for government archival archives, museums, libraries, volunteer organizations, educational institutions, temples, stray dogs, and the like(Hirwade, 2010).

Despite the detail that the resource base and material about manuscripts with independent administrations funded by the Department of Culture is extremely extensive, these organizations have made no systematic endeavour to unify the database into theme catalogues.

6. Thrust Area of the Study:

Public Library	Academic Library	Link	Estd.	Partnership
Rampur Raza Library	IIT Bombay & Oth.	https://indianculture.gov.in/MoCorganization/rampur-raza-library https://www.iitb.ac.in/	1774	Over all Partnership
Khuda Baksh Oriental Public Library	Jamia Millia Islamia & oth	https://www.indiaculture.gov.in/khuda-baksh-oriental-public-library-patna https://jmi.ac.in/	1891	Over all Partnership
Asiatic Society	Kolkata Society for Asian Studies & oth	https://www.asiaticsocietykolkata.org/ https://www.kolkatasocietyforasianstudies.com/	1784	Over all Partnership
National Library	Indian Statistical Institute & oth	https://www.nationallibrary.gov.in/ https://www.isical.ac.in/	**1953**	Over all Partnership
Central Institute of Higher Tibetan Studies	Tibetan Medical and Astro Institute (Men-Tsee-Khang), Dharamsala & oth	https://cibs.ac.in/ https://mentseekhang.org/	**1964**	Over all Partnership
Salar Jung Museum	Indian Institute of Technology (IIT) Hyderabad & oth	https://www.salarjungmuseum.in/ https://www.iith.ac.in/	1951	Over all Partnership

Over all Partnership Means: Joint resource Utilization, Research Support Service, Technical Support, User benefit, Collaborative programme, Teaching Learning support & many more.

7. Analysis: Consolidated Institutional Response in Statement Form

Q1. Role and Function in Preserving Traditional Indian Knowledge

All institutions actively preserve rare manuscripts, indigenous texts, art, and oral traditions rooted in Indian culture. Their libraries function as custodians, curators, and access providers of traditional knowledge materials in various forms and languages.

Q2. Adoption of Western Joint Library Models

Most institutions acknowledge adapting selective elements of Western joint library operations—particularly in digitization, metadata standards, collaborative cataloguing, and shared user services—while contextualizing them for Indian heritage.

Q3. Evaluation of Collaboration with Academic Institutions

All participating libraries have evaluated or periodically reviewed their collaborative frameworks with academic institutions through MoUs, audits, research projects, or metadata partnerships, confirming an ongoing institutional dialogue.

Q4. Suggestions to Make Joint Library Operations More Effective for IKS

Common suggestions include creating centralized digital repositories, interoperable metadata systems, multilingual access tools, collaborative digital humanities projects, and capacity building in IKS-specific scholarship.

Q5. Challenges in Joint Library Management of IKS

Recurrent challenges include lack of trained staff, inconsistent cataloguing standards, multilingual complexities, technological limitations, and funding gaps—especially when bridging public and academic library missions.

Q6. Proposed Frameworks for Strengthening Joint Libraries

Institutions propose national-level or city-based joint frameworks featuring shared infrastructure, AI-based tools, domain-specific curation, AR/VR integration, academic research partnerships, and policy-level coordination under unified schemes.

Response summary Thematic Pattern

Theme	Observation
Collaborative Models	All institutions emphasize the relevance of joint operations. They have drawn parallels with Western consortiums and are adapting these models to the Indian context.
Challenges	Common barriers include language complexities, inconsistent metadata practices, limited budgets, and digital skill gaps.
Evaluation of Partnerships	Most have evaluated partnerships either through MoUs, audits, or collaborative research projects, showing commitment to academic synergy.
Preservation Priorities	Manuscripts, oral traditions, regional languages, and subject-specific knowledge systems (e.g., medicine, astrology, religion) are key areas.
Future Frameworks	Suggestions include a centralized digital platform, decentralized domain curation, AI tools, multilingual metadata standards, and AR/VR for user engagement.

These collected responses reflect a **strong inclination among major knowledge institutions** in India to collaborate for the **preservation and dissemination of Traditional Indian Knowledge Systems**. While they face systemic and operational challenges, most of them **recognize the power of joint library models** inspired by global best practices. The need of the hour is a **national-level policy framework** that encourages **shared infrastructure, funding, and scholarly exchange**—placing libraries at the heart of India's IKS revival.

8. Discussion: Strengthening Joint Libraries for IKS Restoration

This study confirms joint libraries as pivotal agents in restoring India's fragmented knowledge systems, aligning with global precedents while highlighting context-specific gaps. Historically, colonial epistemicide (Sophia Twarog and Promila Kapoor, 2004) and post-independence institutional neglect marginalized IKS.

Joint libraries counter this by centralizing scattered manuscripts (e.g., TKDL's 34,000+ entries) and enabling interdisciplinary access, echoing Morales-Gómez's (1993) emphasis on *knowledge democratization*. However, India's digitization focus (NDL, TKDL) contrasts with initiatives like *Recovering Voices* (USA), which prioritizes **community co-curation** of linguistic heritage (Laely et al., 2018)- a model India should integrate to counter top-down preservation.

Functionally, KMAT reveals strengths in **knowledge storage** (digitized repositories) but weaknesses in **knowledge transfer** and **application**. While TKDL prevents biopiracy (Mahadevan & BHAT, 2022), its limited rural accessibility(Hirwade, 2010) restricts grassroots utilization. Similarly, African AIKS projects excel in decentralizing management via NGOs (Karthik, S., Sujatha, R., & Singh, 2020), whereas Indian counterparts (e.g., NMM) remain institutionally siloed, hindering cross-repository search-ability.

Challenges persist in **institutional coordination** and **definitional ambiguity**. India's 34,000+ manuscripts across 7+ agencies lack unified metadata standards (Section 8), contrasting sharply with Australia's IKC, which uses centralized ontologies (Inglis, 1993). Funding constraints further impede digitization scalability, as noted in NAI's incomplete cataloguing, Crucially, **limited community involvement**—evident in TKDL's clinician-centric design—contradicts the Maori Database's participatory ethos(Hirwade, 2010; VanFleet, 2010) , risking cultural de-contextualization.

Globally, benchmarking confirms that successful IKS revival hinges on **four pillars**:

1. **Legal frameworks** (WIPO, 2009) shielding TK from exploitation.
2. **Decentralized infrastructure** (e.g., AIKS's village libraries).
3. **Multilingual accessibility** (NDL's Indic-language focus).
4. **Intergenerational knowledge transfer** via community workshops.
   India excels in (1) and (3) but lags in (2) and (4).

9. Recommendations

I. **Adopt Community-Driven Models**: Partner with *gram panchayats* (village councils) for participatory documentation, emulating AIKS.

II. **Integrate KMAT Metrics**: Mandate annual KMAT assessments focusing on *knowledge transfer* (e.g., user training programs) and *application* (e.g., IKS-based agricultural workshops).

III. **Unify Metadata Standards**: Develop a national ontology for manuscripts (aligned with WIPO's TK taxonomy) to enable cross-repository search.

IV. **Expand Rural Access**: Deploy mobile library units with offline-capable digital kiosks, preloaded with TKDL/NDL content.

V. **Incentivize Academic-Community Collaboration**: Offer grants for joint research projects between universities and *gurukuls* (traditional schools), as in New Zealand's Maori Database.

10. Conclusion

This study has successfully demonstrated that joint libraries play a pivotal role in revitalizing the Indian Knowledge System (IKS) by offering a collaborative, interdisciplinary platform for the preservation, digitization, and dissemination of traditional knowledge. Through a qualitative approach, supported by expert interviews and thematic analysis, the research revealed that institutions like TKDL, NMM, and NDL have made significant strides in documenting and safeguarding ancient manuscripts and indigenous practices.

A key achievement of this study lies in applying the Knowledge Management Assessment Tool (KMAT), which provided a structured evaluation of joint libraries across knowledge creation, storage, transfer, and application. The findings indicate that while India excels in digital infrastructure and legal protection against biopiracy, major gaps remain in community participation, interoperability across institutions, and grassroots-level accessibility.

The novelty of this work lies in its comparative insight—drawing lessons from global initiatives such as the AIKS in Africa and the Recovering Voices program in the USA—to critically assess Indian practices. It highlights the need to move from top-down digitization to bottom-up community-led preservation. Moreover, the study offers a comprehensive framework of recommendations emphasizing rural outreach, unified metadata standards, participatory documentation, and interdisciplinary academic engagement.

Looking forward, this research has interdisciplinary implications. The model of joint libraries can be extended to fields like public health (e.g., documenting Ayurveda practices), sustainable agriculture (e.g., reviving traditional cropping knowledge), and language preservation (e.g., tribal dialect archives). As India aligns its education and cultural policies with NEP 2020, joint libraries could become strategic hubs for integrating IKS into mainstream curricula, ensuring its dynamic survival for future generations.

In essence, joint libraries are not merely custodians of heritage—they are catalysts of cultural continuity and innovation.

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Annexure-A

Questionnaires used for collection of response from Thrust area institution through Telephonic Conversation.

Q1. Describe your role and function in preserving traditional Indian knowledge?

Q2. Do you follow any pattern of Western Countries of Joint Library Operation to preserve and disseminate Traditional Knowledge resources?

Q3. Did you ever evaluate your collaboration status with academic institution for preservation of Indian knowledge system?

Q4. What is your observation to make it more effective in concern to Joint library Operation for preservation of Indian Traditional Knowledge system?

Q5. Kindly identify the challenges faced by joint libraries in managing, curating, and disseminating traditional knowledge.

Q6. Do you want to propose any framework for strengthening joint libraries as sustainable hubs for IKS preservation and scholarly collaboration?