DeepScience
Multidisciplinary Research: Innovations in Science, Arts and Commerce
Published in October 2025 by Deep Science Publishing (USA | UK | India | Turkey)
ISBN: 978-93-7185-157-2 | E-ISBN: 978-93-7185-737-6 | DOI: https://doi.org/10.70593/978-93-7185-737-6

ICT and Preservation of Indigenous Arts and Heritage: Insights from Assam and Northeast India

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Abstract

In today's world, Information and Communication Technologies (ICTs) have become powerful instruments for documenting and safeguarding indigenous culture. From digitizing manuscripts to promoting handicrafts through e-commerce, ICT provides opportunities to preserve traditions that are at risk of fading away. This paper focuses on Assam and the wider Northeast India, a region rich in cultural diversity yet vulnerable to rapid socio-economic change. By drawing on specific examples—such as the Assam Archive, community-led digital repositories, museum initiatives, and online promotion of handloom and handicrafts—this study highlights both the possibilities and challenges of using ICT for cultural preservation. The discussion emphasizes the importance of community participation, sustainable infrastructure, and ethical practices to ensure that ICT contributes not only to documentation but also to cultural continuity and livelihoods.

Keywords*: ICT, indigenous heritage, Assam, Northeast India, digital preservation, handloom, oral traditions*

Introduction

Assam and the Northeast of India represent a vibrant cultural mosaic, where each community possesses its own distinct art forms, weaving techniques, oral traditions, music, and rituals. These rich cultural expressions, however, are increasingly under threat due to rapid urbanization, migration, globalization, and environmental challenges such as floods and soil erosion. Traditionally, cultural knowledge and practices were preserved through oral transmission and manual documentation, but with changing times, these methods are proving insufficient. In recent years, Information and Communication Technology (ICT) has emerged as a vital bridge connecting tradition with modernity. This paper seeks to explore how ICT can play a significant role in preserving the indigenous arts and heritage of Assam and the Northeast, drawing upon real-life examples from the region to analyze their effectiveness, challenges, and future possibilities.

Background and Literature Context:

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The discourse on the role of Information and Communication Technology (ICT) in heritage preservation has gained significant academic and practical attention over the past few decades. Globally, ICT has transformed the ways in which cultural materials are safeguarded, accessed, and transmitted. Digitization projects have played a vital role in preserving fragile manuscripts, rare photographs, traditional art forms, and oral traditions that were once vulnerable to decay or loss. Initiatives such as UNESCO's "Memory of the World" programme and the European digital platform have demonstrated how technology can bridge the gap between the past and the present by providing open access to cultural heritage resources.

In the Indian context, the integration of ICT in heritage preservation has been steadily growing. Major national institutions—including libraries, museums, and archives—have undertaken large-scale digitization drives to protect and disseminate their valuable collections. The National Mission for Manuscripts and the National Digital Library of India are noteworthy examples that aim to conserve rare texts and make them available to scholars and the public through digital platforms.

In Assam and the broader Northeast, similar discussions have emerged within academic and policy circles. Scholars and cultural activists have highlighted the urgent need for creating digital repositories to safeguard rare manuscripts, ancient scripts, and traditional knowledge systems. More recently, the scope of ICT-based preservation has expanded to include oral narratives, indigenous crafts, folk music, and ritual practices—elements that represent the living and dynamic dimensions of heritage.

Government agencies and institutions such as the Centre for Development of Advanced Computing (CDAC) have been instrumental in supporting ICT-based documentation initiatives in the region. These institutional efforts are complemented by community-driven digital archives, where indigenous groups themselves actively record, curate, and upload their histories, songs, and oral traditions. Such grassroots initiatives not only democratize heritage preservation but also ensure that cultural ownership remains within the community. The coexistence of institutional frameworks and community-led digital movements thus reflects a growing recognition that cultural heritage in the twenty-first century must exist and evolve both offline and online, bridging tradition with technology.

Examples from Assam and the Northeast :

~ **The Project - Digitizing অসম**

The project is a pioneering attempt to digitize rare Assamese books and journals. By scanning and uploading these texts, the project not only reduces wear and tear of fragile originals but also makes them accessible worldwide. Researchers, students, and Assamese diaspora can now read works that were once confined to libraries.Concurrently, the Assam State Archives is actively engaged in preserving official public records through digitization, microfilming, and creating digital reference tools.

~ **Visual Histories and Photography Collections**

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Projects like Visual Histories of Northeast India have digitized old photographs of tribal life, festivals, and landscapes. These collections preserve moments of history that might otherwise be forgotten, while also raising questions of representation—who owns these images, and how should they be shared?

~ Community-Led Archives

One of the most inspiring developments has been the creation of community-driven digital archives which are crucial for preserving the cultural and linguistic traditions of indegenous people, particularly for communities with strong oral traditions. For example, the Bodo Dimasa Heritage Digital Archive (BDA) initiatives by the Dimasa and Bodo communities, which is entirely community-based involve training local youth to record songs, stories, and even traditional instruments. This ensures that culture is not just "studied" but preserved by the people themselves.

~ Handloom and Handicrafts in the Digital Age

The Northeast region of India is home to more than 1.6 million handloom weavers, forming one of the largest concentrations of traditional artisans in the country. In Assam, the silk industry—particularly known for its exquisite Muga and Eri varieties—continues to symbolize the region's rich cultural identity and craftsmanship. In recent years, Information and Communication Technology (ICT) has brought new opportunities for these artisans. Through e-commerce platforms, digital exhibitions, and online catalogues, many weavers and craftsperson's are now able to reach wider markets and showcase their work beyond local boundaries. For example, The North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC) launched the e-commerce portal Purbashree.com to sell handloom and handicraft items directly to consumers across India and abroad as well.

However, the benefits of this digital shift have not reached everyone equally. Studies and field reports indicate that a significant number of artisans still remain disconnected from such digital platforms. Poor internet connectivity, lack of infrastructure, and limited digital literacy continue to pose major challenges. As a result, while ICT has the potential to transform the handloom and handicraft sectors, its success largely depends on inclusive access, training, and sustained institutional support.

~ Local Museums and Colleges

Institutions like Gargaon College in Sivasagar have set up museums that display traditional looms, masks, and instruments. Importantly, these are being catalogued digitally so that researchers and students can access them online. This blending of physical museums with digital records strengthens education and awareness.

Opportunities of ICT for Heritage :

The use of Information and Communication Technology (ICT) has opened up several promising opportunities for the preservation and promotion of cultural heritage.

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One major advantage is documentation at scale—fragile manuscripts, rare photographs, and oral traditions can now be digitized and stored for future generations, ensuring their survival beyond physical decay.

ICT has also enabled global visibility for regional cultures. Assamese crafts, traditional music, and textiles can now reach audiences far beyond the state through digital exhibitions, online platforms, and social media. This not only enhances appreciation for local heritage but also connects artisans and performers to a wider network of admirers and consumers.

Another important aspect is community empowerment. By creating and managing their own digital archives, local communities can take ownership of their cultural resources, reducing dependence on external institutions and ensuring that representation remains authentic and inclusive.

Moreover, ICT contributes to livelihood support by expanding market access. E-commerce platforms and online marketing tools provide artisans, weavers, and performers with new economic opportunities, helping them sustain traditional practices in a modern economy.

Finally, ICT enhances educational access. Digital repositories and virtual archives make cultural materials accessible to students, scholars, and researchers across the world, encouraging interdisciplinary study and global cultural exchange.

Together, these opportunities demonstrate how ICT can act as a bridge between tradition and modernity—preserving heritage while enabling it to evolve and thrive in the digital age.

Challenges and Concerns

While the potential of ICT in preserving and promoting cultural heritage is immense, several challenges and concerns continue to hinder its effective implementation.

First, a significant digital divide persists among artisans, especially in rural and remote areas. Many traditional craftsperson's and performers have limited or no access to reliable internet connectivity, smartphones, or computers. Even when such facilities exist, a lack of digital literacy often prevents them from using online tools, social media, or e-commerce platforms to their full advantage. This gap not only limits participation but also risks widening socio-economic inequalities between digitally literate and non-literate communities.

Second, digitization is not a one-time process—it requires ongoing maintenance, technical upgrades, and financial support. Digital archives, for instance, demand regular data backup, software updates, and secure storage to prevent data loss or corruption. However, many local institutions and community projects struggle to secure consistent funding, resulting in incomplete or outdated repositories.

Another major concern is the lack of standardized metadata and technical guidelines. Without uniform cataloguing methods or metadata frameworks, digital collections often become difficult to navigate or

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search. This limits their academic and public utility and prevents integration with larger national or global digital heritage databases.

Ethical considerations also play a crucial role. Not all cultural materials are meant for public viewing—certain rituals, songs, or artifacts may hold sacred or restricted significance within specific communities. The question of "what should be digitized" or "who has the right to access it" remains sensitive and complex. Inappropriate digitization or open access can lead to cultural misrepresentation or exploitation.

Finally, the commercialization of culture through digital platforms introduces new dilemmas. While online marketing can empower artisans economically, it also risks reducing traditional and spiritual practices into marketable "products." Such commodification can dilute their cultural meaning and transform heritage into a form of consumer entertainment rather than a living tradition.

Thus, while ICT opens up transformative opportunities for cultural preservation, it must be approached with sensitivity, inclusivity, and ethical awareness to ensure that technological progress does not come at the cost of cultural integrity.

Discussion :

The cases from Assam and Northeast India show that ICT works best when communities are at the Centre. Government agencies and institutions provide infrastructure, but long-term success depends on whether people themselves feel ownership. For instance, community-led archives not only preserve heritage but also strengthen identity among younger generations.

On the economic side, handloom and handicraft sectors show how ICT can both preserve and promote culture. If artisans are trained in digital tools and given market access, ICT can improve their livelihoods while ensuring cultural sustainability.

Recommendations :

1. **Training local youth as cultural archivists:**

One of the most effective ways to ensure long-term preservation of indigenous heritage is by involving local communities themselves. Training local youth in basic digital and archival skills can empower them to document their own traditions—be it oral histories, crafts, or rituals. Such training can include photography, video documentation, metadata tagging, and basic editing. This not only creates employment opportunities for young people but also ensures that heritage documentation is done with cultural sensitivity and authenticity.

2. **Developing region-specific digital platforms:**

To make digitization inclusive, there is a need to create digital platforms in local languages such as Assamese and various tribal languages. Many existing heritage platforms are available only in English or Hindi, which limits accessibility for grassroots communities. Region-specific platforms would make it

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easier for artisans, performers, and researchers to upload, access, and share cultural materials. They would also help bridge the digital divide and encourage wider participation from rural and indigenous groups.

3. **Ensuring sustainable funding and long-term maintenance:**

Digitization initiatives often begin with enthusiasm but fade away due to lack of continued support. Therefore, funding for such projects should go beyond short-term grants. Governments, NGOs, and private institutions should collaborate to create sustainable financial models that ensure regular updates, server maintenance, and technological upgrades. This will make digital repositories reliable and functional in the long run.

4. **Linking artisans with e-commerce and training programs:**

For many traditional artisans, digital exposure can transform livelihoods. However, they often lack the skills to navigate e-commerce platforms or promote their work online. Organizing regular workshops, training sessions, and mentorship programs can help artisans learn about online marketing, digital payments, and packaging standards. Such initiatives would not only increase income but also promote cultural industries as viable economic sectors.

5. **Formulating ethical guidelines for cultural representation:**

Digitization must always respect the rights and sentiments of the communities involved. Ethical guidelines are essential to ensure that indigenous groups retain control over how their cultural materials are used or shared. Consent-based sharing, proper attribution, and community-led decision-making should form the foundation of any digital heritage initiative. This approach helps prevent cultural exploitation and promotes respectful representation of living traditions.

Conclusion

Information and Communication Technology (ICT) cannot fully replace the traditional means through which culture has been transmitted across generations—through oral narratives, apprenticeship, and community rituals. However, it can serve as a powerful complement to these practices by enhancing their reach, visibility, and longevity. In Assam and the wider Northeast region, where cultural diversity and artistic traditions are exceptionally rich, ICT has already begun to make a tangible difference. Digital archives now safeguard rare manuscripts and folk songs that were once vulnerable to decay, while online platforms allow artisans and performers to share their crafts with audiences far beyond their local communities.

Yet, the success of such initiatives depends on how responsibly these technologies are implemented. Heritage preservation must not become a one-sided process led by external agencies or technologists alone. Instead, it should involve the communities themselves as active collaborators, ensuring that their voices, values, and cultural rights remain at the Centre of every project. When applied thoughtfully, ICT can act as both a preservation tool and a means of empowerment—bridging the gap between tradition and

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modernity. In doing so, it can help ensure that the indigenous arts and cultural heritage of Assam and the Northeast are not only protected but continue to thrive and inspire future generations.

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