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LOCAL LORE RESOURCES OF THE FERGANA REGION AND THE METHODOLOGY OF THEIR DIGITIZATION: THE EXPERIENCE OF THE AHMAD FARGONI REGIONAL AKM AND STRATEGIC DEVELOPMENT MODELS

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Abstract: This study analyzes the problems of systematizing local lore materials of the Fergana region, chronicles of the local and regional periodical press, and the heritage of prominent scientists and cultural figures of the region in accordance with the requirements of the global digital ecosystem. On fundamental and applied levels, the processes of database creation, convergence, and digitization of local newspaper articles by the local lore sector of the Fergana Regional Information and Library Center named after Ahmad Fargoni are studied. The article analyzes the integration capabilities of the UZNeL (National Electronic Library) system, scanning technologies, and metadata architecture, and develops innovative proposals for enriching the library collection and improving modern information services for users at the level of international standards.

Keywords: local lore, information and library center, digital transformation, press annals, metadata, UZNeL, digitization methodology, multimedia resources, information integration.

1. Introduction

In the modern information-driven society, the preservation, systematization, and digital distribution of national and regional cultural heritage represent fundamental responsibilities of the library and information sector. Libraries have historically served as epicenters of spirituality and enlightenment, functioning as the intellectual mirrors of societal evolution. Historical manuscripts, lithographs, and early periodical press materials have survived to the present day primarily due to libraries and their dedicated specialists. While cities within Uzbekistan have long been recognized as historic hubs of science and culture, their libraries have acted as strategic pivot points for intellectual advancement.

Today, comprehensive decrees and systematic reforms initiated by the Head of State, Shavkat Mirziyoyev, aimed at enhancing youth spiritual-intellectual potential and fostering a reading culture (specifically, Resolution No. PP-3271 and the activities of reading commissions), have established legal and economic frameworks for modernizing information resource centers across the regions (1; 2). Within this context, local lore materials serve as the primary and most valuable source reflecting the social, economic, cultural, and scientific dynamics of a specific territory.

However, the physical degradation of paper-based information, material aging, and the limitations of remote access necessitate a thorough digital transformation of library practices. In the context of the Fergana region, the intellectual legacy of dozens of academicians, scientists, and historical narratives captured in district newspapers remains fragmented. The most pressing challenge facing the local lore sector of the Ahmad Fargoni Regional Information and Library Center (AKM) is elevating these data streams to international metadata standards (such as Dublin Core, MARC21), implementing advanced digitization methodologies, and integrating them into global scientific networks. This study analyzes the theoretical-methodological frameworks and practical efficiency of this transition.

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2. Literature Review

Library local lore and its corresponding digital models are subjects of extensive international academic discourse. IFLA (International Federation of Library Associations and Institutions) guidelines consistently advocate for the dual principles of "local context and global inclusivity" when digitizing regional heritage. Western researchers, including T. Kuny and G. Cleveland, emphasize in their frameworks on digital library architecture that any localized resource must be anchored by universal metadata schema upon electronic catalog ingestion.

In Uzbekistan, the structural formation of local lore bibliography traces back to the early 20th century, closely aligning with the Jadid enlightenment movement. National reformers utilized personal capital to establish public libraries, such as the "Kutubxonai Is'hoqiya" founded by Is'hoqxon Ibrat in Namangan in 1908, the "Nashriyoti Behbudiya" opened by Mahmudxo'ja Behbudiy in 1913, and the "G'ayrat" library organized by Hamza Hakimzoda in Qo'qon in 1915. These institutions accumulated regional and foreign periodic press that captured the contemporary sociopolitical climate.

Over its 125-year history of institutional development, the Ahmad Fargoni Regional AKM underwent several critical transformations. Originating as the New Margilan Town Library in 1899 with an initial repository of only 853 volumes, the institution initiated systematic local lore data collection in 1956, ultimately expanding into a massive repository containing over 1.5 million analytical index cards.

While prominent library scientists and specialists like G.A. Lenina and Z.V. Konchalovskaya established the structural foundations for systematic cataloging, subsequent decades saw researchers such as M. Qodirov and X. Salyaxova analyze the integration of internet networks and institutional participation in international cultural initiatives like the "Pushkin Library" and "Central Asia" projects (7; 9). Nevertheless, amidst the rapid contemporary emergence of artificial intelligence, Big Data architectures, and cloud computing paradigms, a unified methodological framework for digitizing 18 distinct district and municipal newspapers into a structured "annual press chronicle" has remained unaddressed within national scientific literature.

3. Research Methodology

The methodological foundation of this research relies on a systems approach, structural-functional analysis, bibliographic grouping, and information system modeling. The empirical datasets, statistical annual reports, and digitization metrics of the local lore sector of the Ahmad Fargoni Fergana Regional AKM spanning 2024–2026 served as the primary objects of study.

Within the scope of this research, a 4-stage technological model (pipeline) for transforming local lore resources into digital formats was developed and empirically validated:

1. **Heuristic Stage:** Detecting and screening local lore articles within regional, district periodic press networks and archival repositories.

2. **Analytical-Synthetic Stage:** Executing bibliographic descriptions based on international schemas, authoring analytical abstracts, and assigning controlled subject keywords.

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3. **Technical Stage:** Generating high-resolution digital surrogates using specialized scanning hardware (300-600 dpi resolution, target formats: TIFF and PDF/A) alongside rigorous quality control protocols.

4. **Integration Stage:** Ingesting resources into the national UZNeL software suite and making them queryable via the AKM web portal interface.

4. Analysis and Results

The library and information infrastructure of the Fergana region encompasses an expansive network. Today, 1 central regional AKM and 18 district and municipal information-library centers operate under a unified network paradigm. Their combined holdings total 1,398,612 copies, comprising 1,242,484 books, 19,822 periodical press items, and 136,302 electronic assets. The central regional AKM collection independently accounts for 365,447 copies.

By leveraging modern information and communication technologies, the local lore sector digitized 7,798 unique regional historical items (totaling 1,162,501 pages) in 2024 alone. Within the framework of the "National Electronic Library" initiative, 19,011 bibliographic records were processed into the UZNeL system, comprising 13,007 books and 6,004 localized periodical press articles.

Automated Workstations (AWS / APM) play an essential role in transitioning traditional library practices to a digital ecosystem. Currently, 7 localized AWS models are fully operational:

- AWS “Acquisitions” – Ordering new regional publications and managing accounting data;
- AWS “Cataloger” – Formatting and populating the Electronic Catalog (EC);
- AWS “Reader Registration” – Patron database maintenance;
- AWS “Administrator” – Overall database architecture management and customization;
- AWS “Reader” – User search interface navigation across the EC;
- AWS “Circulation” – Electronic tracking of resource distribution and collection;
- AWS “Statistics” – Real-time tracking of daily attendance, queries, and analytical processing.

A primary functional responsibility of the local lore sector involves the systematic entry of regional scientific and cultural figures—specifically academicians originating from Fergana—into the relational database infrastructure, alongside public outreach via media channels. Table 1 outlines the analytical distribution of prominent figures and yubilee milestones for which the sector designs full-text databases and multimedia resources:

Table 1: Architecture of Bio-Bibliographic Digital Resources and Targeted Outreach Initiatives Developed by the Local Lore Sector

№	Prominent Figure / Academician /	Scientific Field and Title	Jubile e Milestone	Target Digital Resource /	Responsib le Specialist

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	Creator			Outreach Format	
1	**Azizxon Qayumov**	Literary Scholar, Source Specialist, Academician of the Uzbekistan Academy of Sciences, Doctor of Philological Sciences	100th Anniversary	Seminar & Full-Text Digital Database: "Devotion to Science and Literature: The Legacy of Academician Azizxon Qayumov"	N. Madaripova
2	**Shokir Farmonov**	Mathematician, Academician of the Uzbekistan Academy of Sciences, Doctor of Physical-Mathematical Sciences, Professor	85th Anniversary	Multimedia Bibliographic Guide & Electronic Exhibition: "The Summits of Mathematics and Intellect"	M. Ermatova
3	**Tesha Zohidov**	Biologist, Academician of the Uzbekistan Academy of Sciences, Honored Scientist, Doctor of Biological Sciences	120th Anniversary	Targeted Bio-Bibliography & Digitized Records: "Devotee of Nature and Science: Academician Tesha Zohidov – 120"	N. Madaripova
4	**Muhammad O'rozboyev**	Mechanical Engineer, Academician of the Uzbekistan Academy of Sciences, Honored Scientist and	120th Anniversary	Analytical Roundtable & Annotated Registry: "Researcher of the Laws of Motion"	M. Ermatova

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		Engineer			
5	**Abduqodir Hayitmetov**	Literary Scholar, Honored Scientist of Uzbekistan, Doctor of Philological Sciences, Professor	100th Anniversary	Personal Bibliographic Index & Multimedia Disc Asset: "In the Service of Words and Science: In Memory of Professor Hayitmetov"	M. Ermatova
6	**Olim Aminov**	Economist, Honored Scientist of Uzbekistan, Corresponding Member of the Uzbekistan Academy of Sciences	120th Anniversary	Scientific Seminar Proceedings Collection & Electronic Catalog: "Scientific Heritage on the Path of Development: Professor Olim Aminov"	N. Madaripova
7	**Xalil Jalilov**	Economist, Honored Scientist of Uzbekistan, Doctor of Economic Sciences	115th Anniversary	Structural Database & Bibliographic Edition: "A Worthy Mark on Economic Progress: Xalil Jalilov – 115"	M. Ermatova
8	**Mulla Alimqul Husanboy o'g'li**	Commander-in-Chief, Regent, and Mingboshi of the Qo'qon Khanate	195th Anniversary	Historical -Universal Bibliographic Index: "Hero of the Qo'qon Khanate: Amiri Lashkar	N. Madaripova

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				Alimqul”	
9	**Usmonqori Rayimbekov**	Traditional Humorous Performer, National Theater and Culture Figure	130th Anniversary	Multimedia Presentation with Integrated Audio/Video Resource Links: “The Comedian Who Made Generations Laugh”	M. Ermatova
10	**Avliyo Muhammadiyev**	Hydrobiologist, Hydrobiocenologist, Academician of the Uzbekistan Academy of Sciences, Honored Scientist	120th Anniversary	Specialized Digital Bibliography Guide: “Leader of Hydrobiological Science”	N. Madaripova
11	**Muzaffar Xayrullayev**	Philosopher, Honored Scientist of Uzbekistan, Doctor of Philosophical Sciences, Professor	95th Anniversary	Electronic Chronicle of Scientific Achievements: “The Light of Philosophy and Rationality: Muzaffar Xayrullayev – 95”	N. Madaripova
12	**Bahodir Iso**	Poet and Journalist, Member of the Writers' Union of Uzbekistan, Honored Youth Mentor	70th Anniversary	Cultural Event & Full-Text Poetry Database: “Mentor of the Word and the Soul: Bahodir Iso – 70”	N. Madaripova, M. Ermatova
13	**Gavhar Rahimova**	Dancer, Ballet Master,	115th Anniversary	Art Criticism Media	N. Madaripova,

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		People's Artist of Uzbekistan		Asset Repository: "Talent Reflected in Motion: Ballet Master Gavhar Rahimova"	M. Ermatova
14	**Saydali Odilov**	Journalist, Publicist, Playwright, and Writer	85th Anniversary	Roundtable Discussions & Digital Playwright Index: "Master of the Literary Stage: Saydali Odilov – 85"	N. Madaripova

A distinguishing feature (know-how) of the local lore sector's workflows involves collaborating with personnel across district AKMs to evaluate historical articles from local publications (such as "Marg‘ilon Haqiqati", "Quva Hayoti", and "Vodil Yog‘dusi"). These entries are systematically processed into the central "Chronicle of the Regional Press" and uploaded to the main AKM platform.

To foster broader civic engagement, partnerships have been forged with state institutions. This includes establishing departmental library units within 62 distinct public agencies and corporate offices, alongside hosting the regional "Reading Civil Servant" competition. Media coverage tracking registered 1,276 features across public broadcasting and social channels (including 370 on Telegram, 358 on Facebook, and 339 on Instagram), demonstrating that these localized historical assets carry substantial socio-public value alongside their academic utility.

5. Discussion and Strategic Development Models

International best practices indicate that scanning local history assets and appending them to localized systems is insufficient for addressing evolving query requirements. Modern library networks require adherence to global semantic data frameworks:

1. **Semantic Web and Linked Open Data (LOD):** Bibliographic descriptions within the electronic catalog should map directly to global semantic frameworks like Wikidata, VIAF (Virtual International Authority File), and ORCID. This configuration ensures that historical data on regional academicians is discoverable across international semantic engines.

2. **Metadata Standardization (Dublin Core Initiative):** Every digital asset derived from district newspaper indices must adhere to a standardized schema comprising 15 core elements (Title, Creator, Date, Subject, Format, Identifier, etc.). This uniform metama’lumotlar setup improves search recall and precision thresholds across open-access networks by 45-50%.

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While digitizing over 1.1 million pages within a single annual cycle is a significant milestone, integrating Optical Character Recognition (OCR) engines tailored to regional typographic variations remains essential. Legacy prints and mid-20th-century newsprint stored exclusively as raw bitmap surrogates (PDF/TIFF raster format) prevent string-based indexing. Implementing localized OCR pipeline optimization trained on historical Uzbek-Latin and Uzbek-Cyrillic configurations allows for full-text search capability, transforming static images into an accessible text corpus.

6. Conclusion and Recommendations

The operational activities of the local lore sector at the Ahmad Fargoni Fergana Regional AKM serve as a model for preserving regional historical narratives and adapting collection data to digital economic models. Systematizing local press assets and syncing regional scientific data with the national UZNeL environment reinforces the academic authority of localized bibliographies.

Based on these research conclusions and international library science developments, the following strategies are proposed:

- **Unified Local History Geo-Portal:** Developing a Geographical Information Systems (GIS) interactive map interface for the Fergana region. Users targeting specific territorial coordinates (e.g., Dang‘ara or Oltiariq districts) can instantaneously retrieve hyperlinked nodes of localized press chronicles, architectural monuments, and regional intellectual registries.

- **Mobile-Centric Local Lore (QR-Bibliography):** Formatting the bio-bibliographic multimedia profiles of the 14 major figures into responsive, mobile-accessible platforms paired with localized QR-code dissemination nodes and educational audio podcasts.

- **Automated Network Monitoring:** Utilizing cloud computing infrastructure to accelerate real-time data sync for press chronicles across outlying municipal AKMs, while completely transitioning the core metadata catalog to the MARC21 exchange standard.

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