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e-mail: o.simonenko@nbuv.gov.ua, ORCID 0000-0002-8698-9280**Libraries' Preparedness for Emergencies and the Protection of Cultural Heritage: International Experience and Ukrainian Realities (the Case of the V. I. Vernadskyi National Library of Ukraine)**

Objective. This scholarly publication aims to analyze international experience in preparing libraries for emergencies and to highlight the efforts of the V. I. Vernadskyi National Library of Ukraine (NLU) in this area.

Methods. To achieve the stated objective, the study employed methods of comparative analysis, systematization, generalization, and case study. **Results.** The main outcome of the research is the identification of the current level of library preparedness for emergencies.

The majority of institutions lack formalized emergency response and cultural heritage preservation plans, or their plans are outdated. This finding is supported by international surveys and the analysis of practices in Southeast Asia and the United States. The case of the V. I. Vernadskyi National Library of Ukraine revealed the implementation of a multi-level system of measures aimed at minimizing risks and ensuring the preservation of cultural heritage under emergency conditions, particularly during wartime. This system has proven effective in countering contemporary threats and has positioned the NLU as a leader in emergency response in times of war. **Conclusions.** International practice demonstrates that effective emergency planning is a critical factor in minimizing risks for libraries, ensuring the preservation of cultural heritage even in the context of armed conflicts and other disasters. The experience of the V. I. Vernadskyi National Library of Ukraine serves as an example of an integrated approach to emergency preparedness. Such a comprehensive strategy enables not only the minimization of cultural heritage loss but also enhances the resilience of the library system in the face of multidimensional crises. To enhance the effectiveness of libraries' responses to emergencies, particularly in safeguarding cultural heritage, it is essential to implement flexible plans adapted to local realities, ensure continuous staff training, and undertake digital modernization, which should become a standard in contemporary library practice.

Keywords: libraries; emergencies; planning; cultural heritage; V. I. Vernadskyi National Library of Ukraine; international experience

Introduction

Cultural heritage, especially written heritage preserved in libraries, is an integral part of the identity of nations and humanity as a whole. In the 21st century, it is increasingly threatened by wars, terrorist acts, climate change, and man-made disasters. Libraries, as institutions safeguarding cultural memory, are particularly vulnerable to these risks. In Ukraine, this has become especially critical since the start of Russia's full-scale military invasion in 2022. Consequently, the perilous situation of libraries during emergencies compels scholars worldwide, including Ukrainian researchers, to consistently study this issue and uncover new, relevant aspects.

The work presented below is primarily based on materials published on the official websites of leading international organizations for cultural heritage preservation in the library sector, as well as academic research and analytical publications on this topic. Collectively, these sources comprehensively represent the diverse approaches to library emergency planning and preparedness.

Simultaneously, during the research, the author identified a dearth of empirical studies reflecting the actual state of library crisis preparedness. Despite the availability of international resources, many libraries lack formalized action plans or fail to provide regular staff training. The reasons for this include insufficient funding, a low level of risk awareness, and the absence of localized response models. These issues are further exacerbated by wartime conditions.

The purpose of this scholarly publication is to analyze international experiences in library emergency preparedness and the protection of their cultural heritage, as well as to present the advancements made by the V. I. Vernadsky National Library of Ukraine in this critical area.

Methods

To achieve the stated objective, a comparative analysis method was employed to juxtapose data from different periods (e.g., the IFLA 2004 study and the Heritage Health Index 2004 and 2014) and to identify trends, progress, or challenges in library emergency preparedness. Systematization and generalization allowed for the formation of a comprehensive understanding of the problem and the identification of key trends and challenges in emergency planning for libraries. Applying the case study method, the author presents the experience of the V. I. Vernadsky National Library of Ukraine as an example of successful implementation of emergency response measures in wartime conditions.

Results and Discussion

Emergency planning is a key method for minimizing risks to libraries. An effective plan ensures a clear understanding of actions to take before, during, and after an emergency. It enables an awareness of potential threats and helps define response algorithms. Crucial stages of planning include risk assessment, risk management, response preparation, immediate response, and post-disaster recovery. Furthermore, a plan must be flexible, concise, and easily recoverable. Staff training, regular drills, and plan updates should become standard practice for all libraries. Researchers globally emphasize the importance of comprehensive emergency preparedness plans for libraries (Abidin, Abdullah, Shaari, & Saad, 2024; Ellis, 2019; Mukha, Zatoka, & Kuiava, 2019; Posch, 2020; O. Symonenko & T. Symonenko, 2025).

It is worth noting that international experience in library emergency response primarily consists of practical recommendations for developing plans and training staff. In this regard, significant contributions have been made by organizations such as IFLA (International Federation of Library Associations and Institutions) and Heritage Preservation (USA), among others.

A significant international study, conducted in 2004 by IFLA-PAC (International Federation of Library Associations and Institutions – Preservation and Conservation), focused on disaster planning in national libraries. The survey questionnaire was prepared in English, French, and Spanish and dispatched via postal mail. It encompassed 177 national libraries globally, with 73 libraries responding (approximately 41%). The results revealed that only 39 of them (approximately 53%) had a developed disaster action plan. Another 28 libraries reported that they did not have such a plan for the time present but intended to create one, while six stated they had no plans to develop such a document. Among those surveyed, 13 libraries possessed emergency plans that were integrated into a broader national plan (Posch, 2020).

This research served as a crucial impetus for increasing awareness of disaster issues within the library sector. It stimulated the creation of new guidelines, the conduct of training sessions, and the development of national and local emergency action plans in libraries worldwide. Notably, as a direct outcome of this study, IFLA-PAC developed a foundational guide to disaster preparedness and planning for libraries, published in three languages to ensure maximum accessibility for the global library community (McIlwaine & Varlamoff, 2006).

Similar findings emerged from Heritage Preservation studies conducted in the United States (2004, 2014), as well as subsequent surveys in Southeast Asia.

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For instance, Heritage Preservation's focus on preservation plans, the condition of collections, and collection care within libraries, museums, and archives became a point of pride and a practical achievement through two significant initiatives: the 2004 Heritage Health Index (HHI) and the 2014 Heritage Health Information Survey.

Heritage Preservation undertook the task of documenting the state and protection of America's cultural heritage through a survey conducted in 2004 (Heritage Health Index, HHI). This survey was distributed to over 14,500 institutions, including archives, libraries, and others, across all U.S. states and territories. The study revealed that 78% of libraries lacked a written emergency plan with specifically trained personnel to execute it (HHI, 2005). Overall, 80 % of cultural heritage-preserving institutions (libraries, museums, archives) did not possess such a plan, endangering approximately 2.6 billion collection items (HHI, n.d.).

Ten years later, in the fall of 2014, Heritage Preservation disseminated the Heritage Health Information Survey (HHIS). This survey included a sample of nearly 7,000 cultural heritage-preserving institutions. Timed to coincide with the tenth anniversary of the Heritage Health Index (HHI), its objective was to examine changes in preservation conditions and practices over the preceding decade, among other aims. Notably, the HHIS survey was modeled after the HHI, with some expanded questions. The research findings revealed an encouraging trend: 42% of institutions reported having an emergency or disaster action plan, double the percentage recorded in 2004.

The results of the 2014 survey also highlight opportunities for further improvement, particularly concerning emergency planning. In 2014, 24% of respondents indicated they possessed both an emergency plan and trained personnel to implement it, a four-percentage-point increase from 2004. Furthermore, it was discovered that only 28% of institutions holding digital collections had a plan for digital preservation. Challenges persist, especially for smaller institutions, which frequently lack written action plans or sufficient funding to ensure the preservation of their collections (Institute of Museum and Library Services, 2019).

As of April 2025, there are unfortunately no available official reports or updates for the Heritage Health Index (HHI) or the Heritage Health Information Survey (HHIS) covering the subsequent ten-year period (2024). The most recent data publicly accessible was published in 2014.

Regarding Southeast Asia, researchers (Abidin, Abdullah, Shaari, & Saad, 2024) indicate that the level of preparedness in most libraries remains low, even for those that have previously faced emergencies. A significant proportion of these institutions lack formalized emergency response plans, or their existing plans are outdated. For instance, a study of libraries in Southeast Asia revealed that only 23.3% had written emergency action plans. Specifically, in academic libraries, this figure was 47.1% in Malaysia and 45% in Indonesia (Abidin, Abdullah, Shaari, & Saad, 2024).

The importance of having a clear action plan in case of emergencies is also indicated by studies on the protection of Filipino cultural properties, especially during the transport and relocation of collections (Galora, 2023).

For example, the National Library of the Philippines has created detailed written instructions regarding its systems and procedures, which it continuously improves based on practical experience. In turn, detailed documentation of processes ensures the proper handling of collections and protective equipment. Overall, an analysis of 5 Philippine institutions (Filipinas Heritage Library, Lopez Museum and Library, National Archives of the Philippines, National Library of the Philippines, and the Main Library of the University of the Philippines Diliman) (Galora, 2023) reveals that some of them have official instructions, while others rely on staff experience. However, in all cases, meticulous planning, documentation, and training were

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critically important. The study also emphasizes that, particularly during transport, it is important to consider not only the risks to the collections but also to the personnel, including health threats and unforeseen circumstances (Galora, 2023). Identifying and prioritizing these risks helps in making balanced and informed decisions in the process of preserving cultural heritage.

Of interest in this context is the research by specialists from Bosnia and Herzegovina and Germany (Knezevic & Skulysh, 2023). In their presentation, the scholars examine types of disasters and their devastating consequences for libraries. The authors of the presentation emphasize prophylactic measures and the necessity for every library to have an emergency action plan. Furthermore, the researchers clearly define the exact components that the plan should contain: identification of responsible parties; identification and assessment of potential hazards; establishing connections with local emergency services; defining the goals and tasks of team members; financial assessment; the plan document; ease of implementation, and more (Knezevic & Skulysh, 2023).

The role of library personnel during emergencies should be highlighted separately. Specifically, their function in combating the negative consequences of crises in the information space. As experts assert (Knezevic & Skulysh, 2023), the role of librarians and information literacy experts is crucial for countering fake news and rumors. According to the research, the information infrastructure provided by libraries is fundamental for social change (Knezevic & Skulysh, 2023).

Therefore, an analysis of contemporary international approaches to library emergency planning demonstrates that the primary challenges persist: the absence of clear plans, a shortage of national standards, and a deficit of qualified personnel. The underlying reasons for these issues include limited funding, low risk perception, and a lack of adapted templates and models, as existing guides are often complex and do not account for institutional specificities. Studies reveal that even in large national libraries, the issue of disaster preparedness is often underestimated. At the same time, at the international level, there is a noticeable trend toward moving away from merely copying formal templates toward: developing customized instructions and plans that are continuously improved based on practical experience; advancing training systems; fostering cooperation and regular monitoring of plan implementation, as evidenced by resources such as dPlan (USA), FEMA templates, ALA guidelines, the Library of Congress instructions, and recommendations from IFLA and UNESCO (O. Symonenko & T. Symonenko, 2025).

The experience of the V. I. Vernadsky National Library of Ukraine deserves particular attention, especially in the current context of Russian aggression.

The V. I. Vernadsky National Library of Ukraine (NBUV) stands as Ukraine's largest state library, a leading scientific-information and socio-cultural center, and a research institute of the National Academy of Sciences of Ukraine. Its uniqueness lies not only in the scale of its collections but also in its status as a public heritage of humanity and a place of memory. This status imparts a special responsibility for preserving historical and cultural heritage, particularly amidst social catastrophes and military conflicts (National Library of Ukraine named after V. I. Vernadskyi, n.d.).

Under the conditions of the Russian-Ukrainian war, questions of security and the protection of cultural heritage have taken on new dimensions and significance for the NBUV. Military actions have created unprecedented threats to the preservation of library collections and infrastructure. Contemporary threats to the library include not only direct destruction from shelling but also damage to infrastructure, fire protection systems, risks of flooding, shortages of heating and electricity, as well as potential cyberattacks and terrorist acts (Dubrovina, 2024).

A strategic planning approach has been the response to these challenges. The V. I. Vernadsky National Library of Ukraine is implementing a multi-level system of measures. These measures are integrated into the NBUV Development Strategy for 2022-2025 (National

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Library of Ukraine named after V. I. Vernadskyi, n.d.), which emphasizes a comprehensive approach combining security provision and cultural heritage preservation in emergency situations, particularly during martial law. The strategy is based on a combination of preventive, organizational, technical, and social solutions tailored to contemporary Ukrainian realities.

The foundation of the NBUV's strategy consists of preventive measures aimed at minimizing risks. This involves assessing threats, identifying critical building areas, vulnerable collections, and infrastructure nodes, and developing response scenarios for various types of emergencies. These range from planned events (like exhibit evacuation) to sudden disasters (such as shelling or fires). Significant attention is also given to digitization and digital security. This includes the large-scale creation of digital copies of rare editions, manuscripts, archives, and other unique documents. These digital archives are stored in secure systems, minimizing the risk of loss due to destruction or cyberattacks.

The effectiveness of the organizational and management mechanisms in emergencies is emphasized by the establishment of headquarters for coordinating actions. This body conducts meetings to analyze completed work and plan subsequent steps. For example, in 2002, an operational headquarters was formed to manage the aftermath of an emergency caused by a heating system burst, which excessively humidified the collections of several departments with hot water and steam. This headquarters coordinated rescue efforts, including developing detailed algorithms for evacuating particularly valuable documents, drying them, and ensuring the safety of staff and visitors (Mukha, Zatoka, & Kuiava, 2019).

In this context, special mention should be made of the work of volunteer security groups comprised of NBUV staff. Leveraging their experience from the winter and spring of 2022, facing military challenges brought on by the Russian-Ukrainian war, they prepared special provisions to prevent unauthorized access to premises (Dubrovina, 2024) and developed instructions for personnel on actions during air raids, evacuations, and handling dangerous finds (National Library of Ukraine named after V. I. Vernadskyi, 2023).

The NBUV is also actively developing its research and development activities, organizing conferences and seminars to develop new strategies for responding to wartime challenges. This demonstrates its leadership in safeguarding cultural heritage amidst social catastrophes.

Therefore, in the face of unprecedented threats caused by the full-scale Russian aggression, the NBUV exhibits a proactive approach to ensuring emergency preparedness and protecting cultural heritage. Its implemented action plan reflects an integrated complex of preventive, organizational, technical, and social measures aimed at minimizing risks associated with direct destruction, infrastructural damage, energy crises, and cyberattacks. Key elements of this approach include the large-scale digitization of collections with secure storage, the development of detailed response scenarios for various types of emergencies, the effective functioning of operational headquarters for coordinating rescue efforts, and the engagement and training of staff, along with the development of safety instructions. In addition to practical measures, the NBUV actively promotes research and development in responding to wartime challenges, underscoring its role as a leading scientific and information center and a strategic entity in preserving national heritage in crisis situations.

Thus, Ukrainian realities deepen international experience by requiring the consideration of risks such as unpredictability, the lack of sufficient time for the planning and salvage of cultural property, and limited resources, especially during periods of active hostilities.

Conclusions

Analysis of both international and Ukrainian experiences in library emergency preparedness confirms that effective action planning is critically important for minimizing risks and preserving cultural heritage. Global trends highlighted in this study indicate a growing awareness of the problem. However, the primary obstacles to libraries' readiness for emergencies remain: a lack of national standards, limited funding, and low-risk perception. While international experience is undoubtedly valuable, it requires localization, as universal solutions do not exist. Each institution must adapt recommendations to its specific context, taking into account individual risk assessments and available resources.

In this context, the practices of the V. I. Vernadsky National Library of Ukraine (NBUV) are particularly valuable. During the full-scale Russian aggression, the NBUV has demonstrated a proactive and integrated approach to ensuring emergency preparedness, serving as a commendable example. Through its own experience, this institution not only adapts to unprecedented threats but also develops new approaches to cultural heritage preservation in crisis situations. The NBUV's experience underscores that flexibility, continuous training, and ongoing improvement are essential for the resilience of library institutions in the contemporary world.

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Готовність бібліотек до надзвичайних ситуацій і захист культурної спадщини: міжнародний досвід та українські реалії (на прикладі НБУВ)

Мета. Наукова публікація спрямована на аналіз міжнародного досвіду з підготовки бібліотек до надзвичайних ситуацій, а також демонстрацію напрацювань Національної бібліотеки України імені В. І. Вернадського у цьому напрямі. **Методи.** Для досягнення поставленої мети було застосовано методи порівняльного аналізу, систематизації та узагальнення, а також кейс-стаді. **Результати.** Основним результатом дослідження є виявлення наявного рівня готовності бібліотек до надзвичайних ситуацій: більшість установ не мають формалізованих планів реагування та забезпечення збереження культурної спадщини в умовах надзвичайних ситуацій або ці плани є застарілими, що підтверджується як міжнародними опитуваннями, так і аналізом практик у Південно-Східній Азії та США. Результати дослідження даної проблематики в Національній бібліотеці України імені В. І. Вернадського засвідчили, що тут було впроваджено багаторівневу систему заходів для мінімізації ризиків та забезпечення збереження культурної спадщини в умовах надзвичайних ситуацій, зокрема під час війни, що дозволяє ефективно протидіяти сучасним загрозам і забезпечує лідерство НБУВ у сфері реагування на виклики воєнного часу. **Висновки.** Міжнародна практика показує, що ефективне планування дій у надзвичайних ситуаціях є критично важливим чинником мінімізації ризиків для бібліотек, забезпечуючи збереження культурної спадщини навіть за умов воєнних конфліктів та інших катастроф. Досвід Національної бібліотеки України імені В. І. Вернадського є прикладом інтегрованого підходу до забезпечення готовності у контексті даного питання. Такий комплексний підхід дозволяє не лише мінімізувати ризики втрат культурної спадщини, а й забезпечити стійкість бібліотечної системи в умовах багатовимірних криз. Відповідно, для підвищення ефективності реагування бібліотек на надзвичайні ситуації, зокрема в захисті культурної спадщини, необхідне впровадження гнучких,

адаптованих до локальних реалій планів, постійне навчання персоналу та цифрова модернізація, що має стати стандартом у сучасній бібліотечній практиці.

Ключові слова: бібліотеки; надзвичайні ситуації; планування; культурна спадщина; НБУВ; міжнародний досвід

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