Preserving Museum, Archival, Library, and Scientific Collections During the War

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Content

4 Executive Summary
9 Preface
11 Methodology
12 Section 1. Museum, archival, library, and scientific collections of Ukraine
15 Section 2. System of preservation of scientific collections in Ukraine
16 2.1. Legal framework for collection management
17 2.2. Ukrainian policy on management and preservation of collections
19 2.3. The role of the civic sector in preservation of collections
21 2.4. Education
23 2.5. Research in the field of conservation of collections in Ukraine
23 2.6. Digitization of Collections
25 2.7. Problems of the systems of preservation of collections in Ukraine
27 Section 3. Scientific collections of Ukraine during the war
27 3.1. Threats for Ukrainian collections caused by the Russian-Ukrainian War
29 3.2. Approximate assessment of the scale of losses of objects of Ukrainian cultural heritage
30 3.3. Examples of lost objects of Ukrainian cultural and natural heritage
33 Section 4. Experience in preserving Ukrainian collections during the war
40 Conclusions
41 Recommendations
47 Appendix 1. The questionnaire: the list of interview questions
51 Appendix 2. International and national law on the protection of cultural heritage and conservation of collections
56 Appendix 3. International experience in conserving collections
Executive Summary

Preserving cultural and natural heritage in emergencies is relevant globally. Emergency management in museums, archives, and libraries is actively developing, and there are a number of specialized studies dedicated to it, based on which emergency protocols have been implemented in institutions in the USA, Sweden, and other countries.

War is an exceptional type of emergency. Policy and management of institutions for heritage preservation in wartime differ from practices for emergency management in peacetime. A question arises: what should be done when military invasion and occupation affect an area densely saturated with heritage sites and institutions for their preservation, and the threat of weapons of mass destruction is real? This is the question that managers and curators of Ukrainian institutions’ housing collections have faced.

This paper overviews the challenges the institutions that preserve scientific and other collections face because of the full-scale invasion of Ukraine with the occupation of territories, the reactions and actions of the defending side (Ukraine), studies the actions of actors in the field of preserving collections and offers general recommendations for policy in conservation that may be of use in similar modern situations.

Scientific collections of Ukraine are diverse. They may be divided into cultural and natural (including live: genetic resources), as well as permanent (main funds) and temporary (work collections). The institutions involved in preserving cultural and natural heritage are museums, libraries, archives, natural, historical-cultural, and biosphere reserves, other protected areas, universities and research institutes, and other scientific and educational institutions. The most important collections have the status of the national treasure objects.

The system for preserving scientific collections in Ukraine consists of the following elements:
1. **The national and international legal framework** that regulates relationships, rights, and responsibilities in the field of preserving collections.
2. **Management system** (the president, the government, the ministries, the respective local authorities, property managers, and institutions for preserving collections).
3. **The institutions** where collections are
Science at Risk

held: museums, libraries, archives, research institutions, universities, natural reserves, biosphere reserves, historical and cultural reserves, and others.

4. **The civic sector and professional societies** that promptly respond to the needs that arise in preserving collections. Ukraine has a diverse network of NGOs at the international, national, local, and thematic levels.

5. **Education** (specialized higher education, system of formal and informal professional training) ensuring that the personnel who preserve the collections gain the appropriate knowledge.

6. **Research** in conserving collections that studies the state of the preservation of collections and generates new knowledge that spreads through the educational system (what’s necessary for preserving collections under different conditions, in particular, in crises).

7. **Practical work** of organizations that preserve collections regulated by the existing normative framework, statute documents, and employee qualification requirements.

Before the full-scale invasion, little effort was directed to investigate and document the crimes against cultural heritage, and there was no systemic tracking.

The Procedure of Evacuation in Case of an Emergency Threat or Emergency passed by the Ukrainian government was not applied after the start of the full-scale invasion to preserve collections: it is procedurally complex, requiring multiple approvals, and impossible to implement during wartime. Furthermore, the Procedure does not mandate creating a priority list for evacuation. Due to the vast number of preservation items in Ukraine’s scientific institutions, libraries and archives, evacuating everything is practically impossible.

The field of preserving collections in Ukraine still retains some harmful practices inherited from the 20th century:

- Collection management is distributed between departments (custodians are different government agencies and institutions). It leads to inconsistent systemic actions regarding collection preservation, with each being responsible only for their domain.
- The state’s regulatory policy is contradictory: dual subordination of museum institutions and items (when the museum building is a local community property, while the items kept inside it belong to the State Museum Fund) without clear distinctions in management functions.
- The evacuation plans remain from Soviet times. They comply with the USSR military concept: art objects would be taken East through the Urals.

Ukraine has a highly developed system of professional education in conserving collections. As of 2023, there are eight university departments in Ukraine where professionals in heritage conservation are trained. Advanced professional training in conserving collections is conducted, in particular, by the National Academy of Government Managerial Staff of Culture and Arts and regional educational methodological centers for professional training. In 2017-2021, NGOs initiated training in rescuing collections, and the highest demand for it was in the de-occupied territories impacted by the armed conflict in 2014-2015. The development of informal education is held back by the lack of funds.

Our analysis shows that several research projects in conserving collections were conducted in Ukraine, particularly at the Ukrainian State Cultural Heritage Institute and the Institute for Cultural Research of the National Academy of Arts of Ukraine. At the same time, there is no dedicated center in Ukraine that would monitor and research this field, provide scientific and methodological aid to cultural institutions, and coordinate educational and scientific programs. There’s
no dedicated institution in the structure of the National Academy of Sciences of Ukraine as well. The NASU Center for Heritage Science, created in 1991, was closed in 2021.

The main problems in the field of preserving cultural and scientific heritage in Ukraine can be summarized as follows:

- small scale, inconsistent policies and practices of digitization and digital cataloging of collections;
- since 2014, passiveness in investigating and documenting war crimes against the cultural heritage of Ukraine;
- the invalidity of the collections management system during crises, in particular, because of its vertical authoritarian character;
- content of educational programs is not directed at training practical skills;
- there is a discrepancy between the advanced professional training in the field and present-day challenges and threats;
- a small amount of research and weak contact with world science in Heritage Securitization and Conservation.

As reported by the Ministry of Culture and Informational Policy, by June 26, 2023, 1582 facilities of cultural infrastructure were damaged because of the Russian full-scale invasion, not counting cultural heritage monuments; 585 of them were destroyed. The regions suffering the greatest cultural infrastructure losses are Donetsk, Kherson, Kharkiv, Kyiv, Mykolaiv, Zaporizhzhia, Sumy and Luhansk. 598 libraries and 84 museums and galleries were damaged.

From February 24, 2022, to September 25, 2023, 835 cultural heritage sites were damaged or destroyed, including 118 national-level monuments. 23 monuments were destroyed completely, 648 were partially damaged, and the extent of damage to another 164 sites is unknown.

Because there were no clear evacuation plans in the first days of the full-scale invasion, the institutions sent requests to authorities but mostly received no effective instructions. It became clear that the evacuation permits (if needed) were to be given simultaneously by both the central executive authorities and the respective departments of the local authorities. However, local officials mostly refrained from actions to rescue collections in the first days of the invasion. Local budgets had no provisions for funds or resources (including specialized transport and security) for evacuation and other collection rescue measures.

In practice, in the active combat zone, the institutions were guided by the need to save lives more than the collections. The rescue of the collections became chiefly an individual endeavor of directors, administrators, curators, researchers, volunteers, and concerned locals. In some institutions, the collections were preserved because the curators lived for days and weeks on the premises where they were kept: all our respondents point to the determinative role of the institution administrations in the effective preservation of the collections. Interestingly, the rescue of compact items that have purely scientific significance and are assigned to the scientific auxiliary fund by the normative framework was the easiest.

Our key recommendations are:

For professionals in the field of collecting and preserving collections (scientists, curators, conservationists, bibliographers, experts in cataloging and digitization, other professionals — institutional employees):

cooperate with the Armed forces of Ukraine, the National Police, and the State Emergency Service of Ukraine on their invitations to identify and rescue collections; define the priority criteria for the conservation of collections; catalog collections with metadata; introduce practices of catalogs and collections digitization; store materials and data in open access, taking into account copyright and scientific interests of
researchers; grow professionally, develop connections in professional community; advocate collections; develop research based on the collections, publish its results in high-tier publications.

For managers, administrators, and main custodians of the institutions that contain **collections**: document losses because of the war; create and harmonize an action plan to rescue collections in an emergency, taking into account the existing knowledge and the ICCROM recommendations; equip safe storage rooms and create shared-use storage rooms; conduct joint practical and psychological training; create short unambiguous action protocols for crises; raising funds to ensure competitive wages for the specialists and proper conditions for preserving collections, attend advanced professional training; contribute to the access for researchers and research based on the collections; hold educational events for the stakeholders and make public statements to explain the importance of the role of the institutions and collections in public life.

For members of non-governmental organizations and charities that act in the field of heritage conservation, professional communities, and volunteers: unite and collaborate with colleagues for joint actions; organize and conduct educational events for stakeholders; elucidate the importance of the civic sector’s role in preserving collections.

For experts of the National Academy of Sciences of Ukraine, professional academies, universities (faculty, heads of educational, scientific educational programs), and organizers of informal education and education for adults: create dedicated centers of heritage science for scientific and methodological assistance to institutions of all forms of ownership; create educational and scientific educational programs of all levels in heritage science; introduce courses and course modules on data management and collection digitization into educational and scientific educational programs; broaden practical exercise in collection management, their conservation, and rescue; give methodological and scientific support for training in collection rescue.

For representatives of local communities and local authorities: establish heritage conservation, collections in particular, as a priority direction for funding and a resource for the development of the community; plan budgets that would be sufficient for the maintenance of the institutions and include funds for emergencies, plan expenditures to ensure competitive wages for professionals, create appropriate conditions to preserve collections and rescue them; contribute to attracting grants for institutions and cofinance them; organize training and harmonization of the work of services that would be involved in the rescue; plan for modernization of infrastructure of the institutions as a long-term priority.

For representatives of services of emergency situations, law enforcement, and the Armed Forces of Ukraine: rescue heritage objects, including collections, on the battlefield and the liberated territories; enlist civil experts; keep contact with the institutions that contain collections; get acquainted with their emergency plans and verify their final contents; include their plans into your own plans of action; designate points of contact to liaise with institutions; participate in the training of the collections rescue; plan and prepare the means to react in an emergency in advance, considering the needs of the institutions, the collections’ specifics, the location of the storage rooms, and the evacuation routes.

For representatives of the local, national, and international agencies for funding and development, consultants, and fundraisers: diversify forms and recipients of support; avoid monopolization in aid distribution; prioritize in-country collection preservation support, do not require relocation abroad; support informal education; support long-term
permanently active scientific-methodological groups and centers of excellence with high-level professionals and equipment; support research of the world level; plan long-term measures for support, including permanent access to cloud storage; plan for modernization of infrastructure of institutions, normative framework, harmonization with the EU laws and their practical implementation as long-term priorities.

For officials of governmental agencies and legislators: establish heritage conservation, including collections, as an integral part of national defense; create dedicated military units to preserve and rescue heritage; ratify the UNIDROIT Convention and the Nicosia Convention; criminalize war crimes against cultural heritage; adopt a simple instruction of a typical emergency action plan for institutions based on the existing knowledge and the ICCROM recommendations outlining collection preservation and the procedure of the selective timely evacuation as needed; form national policy on accounting, cataloging, keeping a register of collections taking into account the demands of information security and use and representation of collections; prepare an international tribunal on responsibility for the destruction of heritage and restitution, and also returning to Ukraine the heritage items that can’t be alienated.
Preface

Preservation of cultural and natural heritage, including collections\(^1\), in an emergency is a globally relevant task. Emergency management in museums, archives, and libraries is actively developing, with plenty of specialized research on the topic. Institutions of several countries — the USA\(^2\), Sweden\(^3\), and others — base their emergency action protocols on it\(^4\). However, this research usually considers natural and industrial disasters and such developments as happen in everyday life in most countries of the global North — fires, floods, hurricanes, earthquakes, and, among the artificial, — brigandage, pogroms, terror attacks. In these usually local situations, the central government retains effective control of the territory where institutions are situated. Even during social or state upheavals, municipal and communal services, and social structures that ensure the continuity of social functions remain in place.

War, on the other hand, is a unique type of emergency\(^5\). Policy and management of institutions in wartime differ from practices for managing emergencies in peacetime\(^6\). Although the behavior of the sides of conflicts, including policies considering heritage objects, is formally regulated by international conventions\(^7\), there’s the question: what to do when some large state or quasi-state\(^8\) starts an unconventional full-scale war? Moreover, what to do when armed conflict and occupation impact a territory highly saturated with heritage objects and

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\(^3\) Frick H., Greeff M. (2021) Handbook on natural history collections management – A collaborative Swiss perspective


\(^5\) Civil Defence Code of Ukraine, article 5 and others: https://zakon.rada.gov.ua/laws/show/5403-17#Text.


\(^7\) In particular, the concept of the Cultural Property Protection (CPP) Program was adopted by the US Department of Defence based on the experience of the US Army in Iraq — that is, during a conventional war led by a responsible side.

institutions for their preservation, and the use of weapons of mass destruction is one of the existing threats? The managers and curators of Ukrainian institutions that host collections are facing these questions.

The joint mission of the institutions that preserve scientific and other collections is to save historical memory and experience, the creative heritage of humanity, and knowledge about the natural history of the Earth, to provide materials to conduct various research on nature and culture in time and space, and to create the material and immaterial components of the national identity in the country of origin. The collections contain, in particular, unique objects necessary for any professional research (for example, holotypes of the species new to biology). The societies whose national identity is growing — for example, due to the renewal of independence after its loss — are well aware of this ideological function of their heritage. It becomes, respectively, an object of tensions and arguments in the context of colonization/decolonization and even more so during a colonial war. Part of the strategy of the colonizer, described as cultural genocide9, is to destroy different aspects of the victim nation’s identity, including the destruction and appropriation of its heritage. This way, the “narrowly” scientific and cultural problems gain political and legal dimensions10.

From the resolution that summarizes the results of the International Forum on Cultural Heritage Security «WAR IN UKRAINE: THE BATTLE FOR CULTURE» from February 8-9, 2023:

Forum participants (around 200 experts from Ukraine and abroad) agreed on the urgent need for the formation of a national doctrine for the protection of cultural heritage — a strategic document that considers the Ukrainian and world experience of wars and emergencies... The key principle of the doctrine is that the preservation, transfer, promotion, and development of cultural heritage is an element of national security, along with territorial integrity, Ukraine’s independence, its democratic and legal system, and environmental security11.

This paper aims to identify the challenges faced by the institutions that preserve scientific and other collections due to the long-term full-scale invasion with the occupation of territories, the reactions, and actions of the defending side (in our case, Ukraine).

The tasks of this paper are as follows:
- describe and assess the threats and types of losses to the Ukrainian collections because of the Russian war since 2014;
- analyze the context and preconditions of the losses;
- analyze the actions of the actors of collections preservation;
- propose general recommendations to implement the policy on conservation that may be of use in similar situations in modern times.

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Methodology

This paper is based on the information collected and analyzed as the result of the following:

- **desk research**, an analysis of scientific and methodological literature (in particular, created by the actors of preserving collections), legal acts, instructions, informational announcements, interviews published in the press, and other documents;

- a series of 23 expert half-structured in-depth interviews with scientists, museum and archive management specialists, public figures and activists, representatives of the civic sector, and professional societies. The circle of respondents encompassed all the large regions of Ukraine (East, South, North, West), different fields (historical and archaeological, natural, museums, and local history institutions), and types of institutions (universities, museums, archives, research institutes, museums-reserves, and zoos). We also discussed various situations the respondents faced personally or their colleagues and institutions faced (direct and indirect evidence) — being under occupation, military actions of the occupying country and their consequences, rescue and management of the collections, relocation, management of the institutions in wartime, humanitarian aid, and project management.

The interviews were conducted with the help of a standardized questionnaire, specifically developed on recommendations for crisis management for collections and institutions based on the experience of several countries. The evidence was assessed and verified with the help of clarifying questions to respondents and evidence from literature, normative acts, informational announcements, and previous interviews.
Section 1. Museum, archival, library, and scientific collections of Ukraine

Ukraine is a large country in Southeast Europe in the Black Sea coastal region. Ukraine boats broad biological, landscape, and geological diversity with endemic forms and a history of many millennia. The oldest known dwellings, Scythian masterpieces, paintings from the Middle Ages till now, and super-heavy planes come from Ukraine. Ukraine is a homeland for several native peoples with unique cultures. Ukraine has numerous museums, libraries, archives, and scientific institutions that preserve collections that are simultaneously scientific and cultural property.

Scientific collections in Ukraine are diverse. They may be divided into cultural and natural (including live: genetic resources), as well as permanent and temporary (working) collections. The institutions for preserving cultural and natural heritage are museums, libraries, archives, natural, historical-cultural, and biosphere reserves, other protected areas, universities and research institutes, and other scientific and educational institutions.

Many institutions simultaneously preserve several collections of different significance and status. Such institutions consciously shape themselves into simultaneous museums (libraries, archives) and scientific institutions, are aware of their role as research institutions and their value as bearers of scientific knowledge, and establish conducting research as a priority.

In the context of sustainable development, collections and cultural heritage objects can contribute to the economic, cultural, and ecological improvement of the territories and the well-being of the communities that live on a territory with heritage. Investments in cultural heritage have a multifaceted influence on the economy, the well-being of the inhabitants, and attracting funds from different sectors.

Museums. According to the Law of Ukraine “On Museums and Museum Matters”, the museums are divided thematically

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12 Ilaria Rosetti (2022) Participatory Heritage Practices in, for, as Sustainable Urban Development
13 URL: https://zakon.rada.gov.ua/laws/show/249/96-%D0%B2%D1%80#Text
into **natural** (anthropological, biological, geological, botanical, zoological, mineralogical, paleontological), **historical** (general history, military history, religious history, everyday life history (Alltagsgeschichte), archaeological, ethnographic), **literature, visual arts** (fine arts, decorative and applied arts, ethnic arts, modern art), **other art types** (theatrical, musical, film museums), **scientific and technical, complex** (local history, ecomuseums), **industry** (considering different industries and their histories, including technical sciences), etc. Natural history museums\(^1\), in particular, host botanical (including herbaria), zoological, anatomical, paleontological, soil science, geological, and mineralogical collections and collections of the documents and instruments related to them. Besides that, numerous local history museums are complex institutions that host collections with different contents and may include natural and cultural objects (including archaeological and anthropological).

### Scientific libraries

This status is granted to the biggest libraries in Ukraine. Among them are national and state libraries, regional (republican in the Autonomous Republic of Crimea) and state-regional universal scientific libraries, specialized — scientific medical, agricultural, historical, and pedagogic — libraries, and also libraries of universities and research institutions. Besides that, collections of other public and specialized libraries have scientific value.

### State archives of Ukraine

Include central state archives (including the Central State Archives in Lviv and Kyiv), regional state archives, specialized state archives (including the State Cartographic and Geodetic Fund of Ukraine and the State Informational Geological Fund of Ukraine), and research archive institutions. **Live collections** of animals, plants, fungi, and bacteria, and also genetic banks, collections of genetic specimens, and cultures and lines of cells and tissues are kept in zoos, botanical gardens and arboreta, natural and biosphere reserves, national natural parks, universities, research institutes and biological stations, specialized nurseries, and medical institutions. Among them are institutions that host genetic banks of animal and plant resources, including animal breeds and plant varieties bred and spread only in Ukraine (the M. V. Zubets Institute of Animal Breeding and Genetics of the National Academy of Agrarian Science of Ukraine (NAAS) and the NAAS V. Ya. Yuriev Plant Production Institute). The most prominent institutions in this category are the “Askania-Nova” Biosphere Reserve, the M. M. Hryshko National Botanical Garden, the Nikita Botanical Garden, and the Kyiv Zoo.

**Other scientific collections** of diverse nature, scale, and status are kept in research institutions, universities, natural, biosphere, and historical cultural reserves. They include herbaria, lapidaria, and other collections. Among them, work collections used in daily research practice are at the forefront.

The most important collections have the status of **the national treasure objects**. They are divided into categories depending on their value and significance for the national treasure. They include:

- **Cultural property** — objects of cultural heritage\(^1\)
- **Natural property** — natural objects with great scientific, environmental protection, esthetic, or ecological significance\(^2\)
- **Scientific objects** — objects that

\(^1\) The biggest institutions in this category are the National Museum of Natural History, the State Museum of Natural History, the I.I. Schmalhausen Institute of Zoology, the M. H. Kholodny Institute of Botany, the Institute of Marine Biology, the museums of Kharkiv, Kyiv, Lviv, Odesa national universities.


demonstrate scientific progress and have significance for research and science development\textsuperscript{17}.

By law, Ukraine’s collections are primarily preserved in state institutions. The main funds of museum collections have to be included in the state part of the Museum Fund of Ukraine. It contains the objects independent of the status of the institution that preserves them\textsuperscript{18}. The National Archival Fund is established by analogy; all its documents are cultural property. The national treasure category is established separately and includes diverse objects from various categories, including scientific infrastructure (equipment, etc.) and objects of all categories of collections discussed here, independent of the form of property and the location where they are kept.

Ukraine has the State Open Registry of the National Cultural Treasure (updated November 30, 2021)\textsuperscript{19}. The list of museums hosting museum collections and state property objects belonging to the state part of the Museum Fund of Ukraine is open access (updated January 2, 2022)\textsuperscript{20}. These registers have not been updated since the beginning of the full-scale invasion.

The Ministry of Culture and Informational Politics (MCIP) plans to create an electronic registry where the museums will provide the data about art objects kept there, restored, transferred, or lost. The Ministry also works on creating registers of architectural and archaeological heritage sites\textsuperscript{21}, objects of immaterial cultural heritage, ethnic artistic crafts, and a national cataloging system for the libraries. In 2022, the “The Implementation of the Electronic System of Registry for the Museum Fund of Ukraine” project\textsuperscript{22} started: 12 museums are testing a prototype of the electronic system\textsuperscript{23}.

\textsuperscript{18} Law of Ukraine “On Museums and Museum Matters”, article 15-1: \url{https://zakon.rada.gov.ua/laws/show/249/95-%D0%B2%D1%80#Text}.
\textsuperscript{19} URL: \url{https://data.gov.ua/dataset/014aba3a-63ed-4edf-b6b1-b26f1ad29953}.
\textsuperscript{20} URL: \url{https://data.gov.ua/dataset/7a7b86df-87f-44d9-bc33-98825385ee2b}.
\textsuperscript{21} URL: \url{https://www.ukrinform.ua/rubic-culture/3507371-mkip-planue-stvoriti-onlajnreestr-muzejnogo-fondu.html}.
\textsuperscript{23} In the framework of the project started in collaboration between the MCIP of Ukraine, the Ministry of Culture and National Heritage of Poland, and the Solidarity Fund PL: \url{https://www.ukrinform.ua/rubic-culture/3670535-v-ukrainskih-muzeah-testuut-prototip-elektronnoho-reestru-ciinnosti.html}. 
Section 2. System of preservation of scientific collections in Ukraine

The practices for preserving scientific collections may be diverse and originate from different spheres. They have a legal and a methodological framework and include:

- practices to ensure the physical preservation of collections, such as research, conservation, assignment, maintenance, restoration, and digitization;
- practices to generate, preserve, and pass knowledge;
- practices of management and planning.

The practices in preserving collections may be formal when they are done by organizations for heritage conservation or state institutions and informal when specialists unrelated to heritage, specific individuals, groups, and communities take care of the heritage as a part of their job or daily life.

The analysis of the system of preserving collections in Ukraine shows that the current system is based on world experience, international law, and established European models for preserving collections.

This system consists of the following interconnected elements:

1. **Legal framework** (international and national) that regulates relationships, rights, and responsibilities in collection management.
2. **Management system** (the President, the Cabinet of Ministers, the Ministries, respective departments of local authorities, property managers, institutions for preserving collections) that provides management of preserving collections through providing a normative (including methodological and instructive) framework and its implementation.
3. **Institutions** where the collections are kept — museums, libraries, archives, research institutions (including institutes), universities, natural, biosphere, historical and cultural reserves, etc.
4. **The activities of the civic sector and professional societies** that promptly react to the needs that arise in collection management.
5. **The education system** (specialized higher education, advanced professional training system, informal measures for professional training) ensures that the personnel who preserve the collections gain the appropriate knowledge according to the normative and legal framework.
6. **Research** in conserving collections that studies the state of the preservation of collections and generates new knowledge that spreads through the educational system (what’s necessary for preserving collections under different conditions, in particular, under crises).
7. **Practical work** of organizations that preserve collections regulated by the existing normative framework, statute documents, and employee qualification requirements.
2.1. Legal framework for collection management

There is a broad legal framework for collection management in Ukraine that includes international treaties, the Constitution of Ukraine, framework laws on the activities of museums, libraries, and archives, and special laws on separate categories of collections and property (Appendix 2). However, as we will show further in an example of analysis of the implementation of international and national law to preserve heritage during the war, the mechanisms adopted in the legal framework aren’t mostly used in practice.24

Excerpt from the Provision on the Museum Fund of Ukraine:

37. The transfer of the museum items of the state owned part of the Museum Fund of Ukraine for permanent storage to other museums in the territory of Ukraine is carried out with the consent of the museums where they are stored, by decision of the Ministry of Culture based on a request letter from the governmental agency, under whose jurisdiction the museum that transfers the items is located.

38. The transfer of the museum items of the state part of the Museum Fund of Ukraine from museums for temporary storage to other museums, legal entities, and individuals in the territory of Ukraine is carried out with the consent of the museums where they are stored on by decision of:

- the central governmental agency under whose jurisdiction the museum is located — for museums based on state form of ownership;
- a structural department of the local governmental agency under whose jurisdiction the museum is located — for museums based on the communal form of ownership.

39. The decision to transfer the museum items of the state part of the Museum Fund of Ukraine for temporary storage outside of Ukraine to exhibit them in exhibitions, restore them, or for scientific examination is made by the Ministry of Culture.

For instance, in practice, clause 38 of the Provision on the Museum Fund of Ukraine was rarely used. The majority of museums (with some exceptions), independent of the jurisdiction and the management sphere, complied with clause 37 to evacuate the collections within the borders of Ukraine, despite it being temporary, and received the decision from the Ministry of Culture. Besides that, the respondents claimed the necessity to comply with the conditions of clause 39 of the Provision to transfer the collections inside the territory of Ukraine in the period before 02/24/2022, referring to the Order of the Ministry of Culture of Ukraine from 07/21/2016, № 580 “On Adoption of the Instruction for the Organization of Accounting for Museum Objects”26. However, some institutions correctly complied with clauses 38 and 39 of the Provision.

The Resolution of the Cabinet of Ministers from 10/30/2013, № 841 “On Adoption of the Procedure of Evacuations in Case of an Emergency Threat or an Emergency”27 specifically dedicated to evacuation wasn’t applied to collections, though it directly states that: “The list and volume of material and cultural property and the order of its evacuation are defined by

24 International mechanisms of cultural values protection in occupied territories / Andreyuk Y.S., Busol K.I., Koval D.O. https://culture.crimea.ua/files/site/page_file/tfileebfe6a91d8d87c5afa890071ac5c037b.pdf [in Ukrainian]
25 Resolution the Cabinet of Ministers of Ukraine from 07/20/2000 № 1147. URL: https://zakon.rada.gov.ua/laws/show/1147-2000-%D0%BF#o83 [in Ukrainian]
26 URL: https://zakon.rada.gov.ua/laws/show/z1129-16%23Text [in Ukrainian]
27 URL: https://zakon.rada.gov.ua/laws/show/841-2013-%D0%BF#Text [in Ukrainian]
the governmental agencies, legal entities in whose jurisdiction or property the mentioned property is, and are taken into account while planning the measures for evacuation” (cl. 10) and establishes the responsible agencies and institutions — the Ministry of Culture, other central and local governmental agencies, and the National Academy of Sciences.

The analysis of the resolution shows that it is complicated, and **its norms are impossible to implement during the war.** The chapter “Evacuation process” (clauses 38-46) considers the evacuation of people, not scientific or cultural property. Only in clause 40, the biggest part of which considers evacuation of low-mobility population groups, is material and cultural property mentioned in passing. In particular, it mentions that the planning for evacuation of low-mobility population groups has to be reflected in the evacuation plan for employees, material, and cultural property. The text of the resolution presupposes the existence of “safe regions” where to evacuate. However, it’s only possible to identify a safe region in case of a natural disaster or a local border conflict. In case of a full-scale invasion, it’s impossible, and so it’s impossible to draw up an evacuation plan.

Some norms of the document are illogical. For example, according to clause 36, “The plan of the measures for the population (employees) evacuation, material and cultural property (...) is approved by the agency, on the territory of which it is planned to place the evacuated population.” So, not with the agency on the territory of which the property will be placed, but with the agency on the territory of which the population will be placed. However, the population from large cities can be evacuated to different regions, and it’s unclear whom to address to host the property.

In the text of the Resolution, there is no demand to make a list of priorities for the evacuation. Such a list exists in the USA. Considering the large number of items preserved in research institutions, libraries, and archives of Ukraine, the demand to evacuate everything is impossible in practice.

Ukraine is a member of international organizations — UNESCO and ICCROM — and has a full arsenal of instruments to involve and use these organizations’ experience. However, many of these possibilities are provided but not implemented.

### 2.2. Ukrainian policy on management and preservation of collections

The principles and practices of collections and institutions management were inherited by Ukraine from the 20th century, namely, from the period of the monopoly colonial rule of the USSR. However, there is currently no full-fledged research on the influence of the

Some norms of the document are illogical. For example, according to clause 36, “The plan of the measures for the population (employees) evacuation, material and cultural property (...) is approved by the agency, on the territory of which it is planned to place the evacuated population.” So, not with the agency on the territory of which the property will be placed, but with the agency on the territory of which the population will be placed. However, the population from large cities can be evacuated to different regions, and it’s unclear whom to address to host the property.

In the text of the Resolution, there is no demand to make a list of priorities for the evacuation. Such a list exists in the USA. Considering the large number of items preserved in research institutions, libraries, and archives of Ukraine, the demand to evacuate everything is impossible in practice.

Ukraine is a member of international organizations — UNESCO and ICCROM — and has a full arsenal of instruments to involve and use these organizations’ experience. However, many of these possibilities are provided but not implemented.

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28 In conversation with Catherine Hawk, the custodian of the funds of the Smithsonian National Museum of Natural History (USA) on a question from Leonid Horobets during an online meeting of museum employees from Ukraine with employees of the Program Office of Digitization of the Smithsonian National Museum of Natural History of the USA on June 28, 2023.

29 In the Face of War, UNESCO’s action in Ukraine. URL: [https://unesdoc.unesco.org/ark:/48223/pf0000384454](https://unesdoc.unesco.org/ark:/48223/pf0000384454).

library funds. During WWII, the priority was evacuating the archival documents connected to the “revolutionary struggle” without enough attention to the documents of the 18th and earlier centuries. The overall number of the evacuated documents was no more than 6%. Among those archives that remained on the territories occupied by the Nazis, many were lost without trace or were destroyed during combat.31

Museum specimens of special value were taken away from Ukraine to Moscow or Leningrad, like, for example, the Mykhalkiv treasure or the Hetman aigrette. Even the natural history collections suffered. The most valuable specimens were taken to the institutions of the RSFSR, like, for example, the skeleton of the southern mammoth (*Mammuthus meridionalis*) found in Nohaisk (Zaporizhzhia region), one of the fullest skeletons of this species.32 The arrest and exile of the Ukrainian zoologist Vsevolod Velykaniv was one of the reasons for withdrawing the “Records of the Nizhyn Institute of Postgraduate Studies” from the libraries, so currently, only some issues survive.33 These examples are isolated manifestations of a general tendency of purposeful or unintentional destruction of scientific collections, archives, and libraries in Soviet times.

The issue of reforming the Ukrainian practice of preserving collections has been raised since the end of the 2000s. In 2010, the National Institute for Strategic Studies experts proposed recommendations for reform in preserving collections based on an analysis of the issues in the area.34 The analysis made for this White Paper shows that no significant change has happened since. And now, in 2023, during the full-scale Russian invasion, we give the same recommendations that the NISS gave:

- create a dedicated Museum Center that would monitor and conduct research, give scientific and methodological assistance, and develop protocols and algorithms for actions during crises;
- change the structure and forms of wage payments to employees of museums, archives, and libraries;
- improve museology research in universities.

From an interview with Ihor Poshyvailo: “In Ukraine, nobody did this systematically. There’s no political will to reform the system for preserving collections. Any changes and initiatives start at the grassroots, from people who care and NGOs. The government doesn’t need it.”

The area of preserving collections in Ukraine still retains some harmful practices inherited from the 20th century:

- Collection management is distributed between departments (asset holders of the museums are different governmental agencies and institutions). It leads to inconsistencies in systemic actions for preserving collections when everyone is answerable for their area of responsibility.
- The state’s regulatory policy is contradictory: the subordination of the museum institutions and items is dualistic (when the museum building is a local community property, while the items kept inside it belong to the State Museum Fund).
- The evacuation plans remain from Soviet times. They comply with the USSR military concept: art objects would be taken East through the Urals.35

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34 «The role of museums in the cultural and socio-economic development of the country: foreign experience”. Analytical note | National Institute for Strategic Studies (niss.gov.ua). [in Ukrainian]
Before the full-scale invasion, little effort was directed to investigate and document crimes against cultural heritage. The data on documented crimes related to violations against cultural property in the territories of Luhansk and Donetsk regions in 2014-2015 are almost the same as before the war. In 2013, the Office of the General Prosecutor of Ukraine documented 11 crimes in the Donetsk region and 14 in the Luhansk region. In 2014, 7 crimes were documented in the Donetsk region and 19 in the Luhansk region. In 2015, 4 and 7 crimes, respectively. Interestingly, in 2013 and 2014, the most documented crimes were related to article 201 of the Criminal Code of Ukraine — smuggling. In 2015, only one similar crime was documented in the Donetsk region and none in the Luhansk region. Doubtful that the decrease in the number of crimes related to this article points to any real decrease in the smuggling volumes. We may hypothesize that illegal transfers have gained in scale during the occupation. However, these crimes remain unknown to the law enforcement.

In 2014, a workgroup of museum experts was formed at the Ministry of Culture, and its job was to monitor the situation in the occupied territories, communicate with representatives of local authorities and museum directors, and develop instructions, documents, evacuation plans, recommendations, and strategies. As one of the members — Ihor Poshyvailo, general director of the National Museum of the Revolution of Dignity — says, the group had “insufficient knowledge, experience, and resources to ensure that the mission would work systematically and skillfully.”

In 2020, several state institutions and international funds jointly created a web portal about key events and crimes committed by Russia during the occupation of Ukrainian territories — rusaggression.gov.ua. One of the purposes of the project was to cover the impact of the occupation on cultural heritage sites. The portal contains very little information on the destruction of cultural heritage; there is only one document about the pre-trial investigation of the purposeful destruction and damage of Ukraine’s historical heritage in the Autonomous Republic of Crimea. The list includes 52 sites located in the Donetsk and Luhansk regions. Of them, 12 were damaged during 2014-2021, and 40 since 02/24/2022. All the sites damaged before 2022 are kurgans, that is, sites, the damage of which is easy to track with the help of satellite photos. For Crimea, the situation is a bit different. The register includes 146 damaged cultural heritage sites in the region, and only one was damaged after the beginning of the full-scale invasion.

The facts laid out here show that, before the full-scale invasion, there was no systemic tracking of crimes against cultural heritage. The losses of scientific collections during 2014-2021 are not documented aside from those specially defined as cultural heritage.

2.3. The role of the civic sector in preservation of collections

The civic sector in the sphere of preserving cultural and natural heritage and, in particular, collections saw rapid growth in 2014-2022, and by the moment of the full-scale invasion.

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37 URL: https://www.prostir.ua/?news=kulturna-spadschyna-pid-vplyvom-zbrojnoho-konfliktu-v-ukrajini-vyklyky-ta-vidpovidi [in Ukrainian]
of Russia on 02/24/2022, there was a diverse network of organizations on the international (ICOM Ukraine, ICCROM), national (USPHCM - Ukrainian Society for Protection of Historical and Cultural Monuments, Archaeological Society of Ukraine, Museum Board at the Ministry of Culture of Ukraine, Pan Ukrainian Museum Association, Pan Ukrainian Non-Governmental Organization Ukrainian Library Association, Non-Governmental Organization “Ukrainian Center for Development of Museum Matters”, Ukrainian Archivists Society, Ukrainian Nature Conservation Group), local (Museums and Galeries Association of the Carpathian Region, Museums and Galeries Association of the City of Lviv, Museum Association of the Dolya Region, NGO “Library of the Future” in Kyiv, Museum Association of the Vinnytsia Region) and thematic (Museums of Cosmonautics of Ukraine, Ivan Franko Museums Association, Association of the Employees of Technical Museums) levels. Since 2014, organizations have appeared that are reconsidering the role of museums in preserving collections and the role of collections in the system of national security on the pan-Ukrainian level (NGO “Museum Is Open for Repair”).

The ability of the civic sector to reload and unite turned out to be unique and manifested itself in the creation and active work of new powerful organizations and initiatives on the background of stable professional and civic organizations that have existed for several decades (for example, the USPHCM exists since 1966): the Crisis Fund “Museum Emergency Assistance”, the Heritage Emergency Response Initiative, and the SUCHO — Save Ukrainian Cultural Heritage Online).

The survey and interview with the management of museums, libraries, and archives (in particular, interviews in public access) show that the most notable and widespread support was from these Ukrainian NGOs:

- **Heritage Emergency Response Initiative (for museum collections)**;
- **SUCHO (for museums, library, and archival funds)**;
- **NGO “Museum Is Open for Repair” (for museum collections)**;
- **Ukrainian Library Association (for library and archival funds)**;
- **Museums for Changes in Odesa**;
- **Museum Crisis Center**.

Among foreign actors, the ALIPH Foundation — the International Alliance for the Protection of Heritage in Conflict Areas — has been functioning here from the first days of the full-scale invasion ($3.88 million by 02/16/2023)44. The House of Europe (€137 184 for 25 museums)45, the Smithsonian Cultural Rescue Initiative (SCRI) at the Smithsonian Institute46, and other institutions are also present.

Since the beginning of the full-scale war, the Heritage Emergency Response Initiative (HERI) has been active in Ukraine: a Ukrainian initiative created after the full-scale invasion that united projects, museums, and institutions. The initiators of creating HERI were the National Museum of Revolution of Dignity, the NGO “The Maidan Museum”, the NGO “Tustan”, and the State Historical-Cultural Reserve “Tustan”. HERI has been coordinating its work with the Ministry of Culture and Informational Policy of Ukraine at a workgroup on conserving cultural heritage under martial law (Order of the Ministry No.122 from 03/07/2022)47.
HERI protects museum collections, documents losses, coordinates with other initiatives, and provides humanitarian aid. The work of HERI is coordinated with UNESCO, the ICOM-Museum of Resilience to Natural Disasters, ICCROM — conservation of culture and contribution to diversity — and other national and international institutions and initiatives for the rescue. Some of the directions of work are communication with museums and cultural institutions in different regions, collecting information about the state of the heritage, including by organizing expeditions, targeted assistance to museum employees, cultural figures, and institutions, the physical rescue of the collections, search for funds, materials, and other resources to aid according to the requests, consulting, organization and conducting training for museum employees, and development and drafting of instructions and manuals, and publications on reacting to emergencies.

Olha Honchar (the director of the “Territory of Terror” Museum and the initiator of the creation of the Museum Crisis Center) describes in an interview how the engagement of independent actors in the work of preserving collections during the war began:

While being in Lviv in the first days of the war, I realized that I was one of the few who had contacts with the Donetsk and Luhansk regions when talking about aid. Our first workgroup was formed from these people. The first monitoring of the needs was made by Olesia Milovanova (the director of the Luhansk Regional Local History Museum that was evacuated twice: in 2014, from Luhansk to Starobilsk, and in 2022, from Starobilsk to Lviv), who found herself on February 24 in occupation in Starobilsk. Olesia was the first to monitor the needs of people from Luhansk and how we could help them get by. This is how it all began.

Then, the NGO “Visual Culture Research Center”, the “Kyiv Biennial”, the Heritage Emergency Response Initiative, and the NGO “Modern Art Museum” joined in. Each of these organizations eventually focused on their piece of work: the “Modern Art Museum” accumulated aid for artists, and the Heritage Emergency Response Initiative helped with packaging and conserving materials. From the first days, the Museum Crisis Center gave individual financial aid to museum employees who stayed in Ukraine and continued their professional work but found themselves in complicated situations and needed assistance.

Currently, the center is administered by the NGO “New Museum”.

From an interview with Ihor Poshyvailo, the director of the Museum of the Revolution of Dignity and one of the initiators of the Heritage Emergency Response Initiative: I understood that we were doing the wrong thing (compared to the organizational tasks before 2015). We needed protocols and action algorithms to secure the collections and cultural heritage during crises.

2.4. Education

The education system creates a professional environment and spreads professional knowledge about curating collections. Ukraine has a highly developed system of professional education in preserving collections. The first department to train
specialists in museum activities and protection of cultural heritage was founded in 1989 in the Kharkiv Institute of Culture (now Kharkiv State Academy of Culture). As of 2023, eight university departments in Ukraine provide education in heritage protection. According to the List of Areas of Knowledge and Specialties that regulates professional training in higher education, education in conserving collections in Ukraine is provided in areas 027 Museology and Heritage Science, 029 Informational, Library, and Archival Activities, 032 History and Archaeology, 034 Culturology, 091 Biology.

The survey confirmed that the structure and content of the educational program, studying and teaching this program, personnel potential, educational environment, and material resources all influence the competence of the specialists who studied these specialties in universities.

From an interview with directors of museums and libraries:
- Studying collection rescue is mostly theoretical. The students know what to do in a crisis but are not able to use this knowledge in practice.
- Very often, the educational programs are outdated; they don’t make use of current knowledge, methodology, and approaches to conserving collections that are known in the world and practiced in foreign museums.
- The number of interdisciplinary educational programs corresponding to modern challenges in preserving collections is insufficient.
- The management of the cultural sector institutions (museums, archives, and libraries) has to learn new skills in preserving collections in crises, digitizing collections, management, and project-based activities on their own, as the available educational programs don’t satisfy this demand.

Advanced professional training for the employees in preserving collections is carried out by the National Academy of Culture and Arts Management and the regional educational and methodological centers for professional training. However, the development of informal education is held back by the lack of funds.

From interviews with directors of museums and libraries:
- Advanced professional training of museum and library employees is mostly conducted thanks to the FREE seminars and training organized by the regional scientific and methodological centers for professional training for employees of cultural institutions, and grant programs.
- It’s hard to enlist professionals who are qualified and motivated to do their jobs well to work in museums and libraries because of low wages for qualified personnel in the institutions of the cultural sector.

In October 2023, UNESCO, in partnership with the Getty Conservation Institute and the Smithsonian Cultural Rescue Initiative (SCRI), organized training for Ukrainian specialists in museum activities and managers of collections called “Museum Collection Management and Their Conservation During the War”. The learning focuses on gaining practical skills in emergency preservation, evacuation, and stabilization measures.

50 URL: https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text [in Ukrainian]
52 URL: https://nakkkim.edu.ua/images/Instytutu/Tsentr_neper_kul_myst_osv/Programma_current_work_problems_2023.pdf [in Ukrainian]
2.5. Research in the field of conservation of collections in Ukraine

Research on the conditions for preserving collections and, respectively, the generation of new knowledge in conservation is conducted by the sphere of Conservation, one of the research directions in modern Heritage Science. Conservation research currently is much broader than the mere organization of physical preservation of the objects; it considers issues on a broad range of risks that may endanger the preservation of collections (such as climate change, population growth, mass tourism growth, or armed conflict).

The analysis of conservation research in Ukraine shows the following:
1. There is no dedicated center that would monitor and research conserving collections, give scientific and methodological assistance to cultural institutions of all forms of property, and coordinate educational and scientific programs in Ukraine.
2. There are no institutions dedicated to heritage science in the National Academy of Sciences of Ukraine system. The NASU Center of Heritage Research, created in 1991, was closed in 2021.
3. There is the Ukrainian State Cultural Heritage Institute in Ukraine, which focuses on developing documentation, drafts of normative acts, and methodological materials for them53 (legal aid to implement city-building laws). The Department of Cultural Heritage and Monument Conservation Practices in the Culturology Institute of the National Academy of Sciences researches the culturology dimension of modern monument conservation practices54.
4. In Ukraine, some research projects in conserving collections are conducted with the support of the Ukrainian Cultural Foundation and the National Research Foundation of Ukraine.

Universities and other higher education institutions also generate new knowledge in the conservation sphere. Conservation research is carried out by the universities that provide education in areas 027 Museology and Heritage Science; 023 Visual Art, Decorative Art, and Restoration; 091 Biology; 191 Architecture and City-Building; 029 Informational, Library, and Archival Activities. There are no scientific centers for heritage conservation in Ukrainian universities; research is regulated by topics of the respective departments and the necessity of providing licensed educational programs55.

2.6. Digitization of Collections

As of 2014, there was almost no digitization and digital cataloging of collections in Ukraine, apart from the specialized scientific publications of several catalogs. ...we don’t know what the losses of Ukrainian museums after the annexation of Crimea exactly were, though the Ministry of Culture is currently trying to find that out. The experts in

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53 URL: https://www.spadshina.org.ua/about-us [in Ukrainian]
54 URL: https://icr.org.ua/viddil-kul-turnoi-spadshchyny-ta-pam-jotkoohoronnoi-spravy/ [in Ukrainian]
55 The Resolution of the Cabinet of Ministers of Ukraine No. 1187 “On the Adoption of License Conditions of Doing Educational Work”.
the field explain that, since the Soviet times, the accounting books were kept together with the collection. On the national level, funding for their copying for the insurance fund of documentation was stopped in 2006. There are now copies of such books only for 120 Ukrainian museums, and those are not in full. This way, if we lose the museum overall, we not only lose the collection but also lose any information about it.

The digitization of some collections of the Donetsk and Luhansk regions in 2015-2022 became the only way to preserve them.

The analysis of actions of institutions that preserve collections, the funding priorities of the Ukrainian Cultural Foundation, and the priorities of the international aid during emergencies let us conclude that digitization of the collections was inconsistent.

The respondents note these challenges in the digitization of collections:

- data storage security;
- server storage security;
- the practice of preserving the copyright of the researchers for the unpublished material isn’t clear;
- employees of museums and libraries don’t have skills for digitization and further work with the data;
- museums and heritage sites don’t have coordinates, unique museum IDs to which the collections and the database should be tied;
- the specifics of work with collections: not just the data, but the processes of museumization are digitized;
- need for standards of data exchange or description that would allow exchanging data; digitization must be synchronized with programs of the Ministry of Culture and Informational Politics.

Overcoming the challenges:

- The Ukrainian Library Association (ULA) signed a memorandum with the American company Portico to archive documents on their servers.
- The work on creating the National Electronic Library, a big ULA project to digitize rare and valuable documents, has begun. These documents, which are cultural and scientific treasures, are currently kept in different organizations and institutions. ULA will be coordinating the project.
- Activating the processes of digitization of the museum funds on the state level (the beginning of implementing the electronic register system for the Museum Fund of Ukraine).
- The Heritage Emergency Response Initiative has examined over 800 sites damaged during combat. They work in two directions: to document the crimes for criminalistics separately and to gather data for future restoration.
- In Ukraine, implementation of a standardized approach to the representation of information on heritage and museum documentation (including its digital version) has started — the Conceptual Base Model CIDOC that has the status of an international standard ISO 21127:2014. It’s a multi-parameter and multi-tiered hierarchical model that creates a room for descriptions and multidisciplinary (including scientific) use of various objects.
- One way to present digital collections

54 URL: https://tyzhden.ua/rozv-iazaty-ruky/ [in Ukrainian]
55 Iryna Sklokina: “After the destruction of cities, people have realized again the value of the heritage that now exists only in digital copy” https://lb.ua/culture/2023/07/15/565301_irina_sklokina_pislya_zruynuvannya.html [in Ukrainian]
56 URL: https://ucf.in.ua/.
57 The Saving Ukrainian Cultural Heritage Online (SUCHO) initiative has united over 1500 volunteers to preserve data of the Ukrainian websites. During the program, over 5000 websites of Ukrainian cultural institutions have already been stored.
58 URL: https://www.goethe.de/prj/lek/uk/--/uba.html
59 Interview with the ULA president Oksana Brui. URL: https://www.goethe.de/prj/iek/uk/--/uba.html
60 URL: https://mkip.gov.ua/news/8602.html [in Ukrainian]
61 Based on the interview with one of the initiators of the creation of HERI V. Rozhko.
62 URL: https://www.cidoc-crm.org/.
in public space that allows for securing information safety is to use blockchain technologies. NFT representations of art turned out to be in demand in Ukraine during the full-scale Russian invasion\textsuperscript{64}, and this experience is worth studying and evaluating the strong and weak sides of NFT as a technology for preserving digital copies and documents\textsuperscript{65}.

\section*{2.7. Problems of the systems of preservation of collections in Ukraine}

\textbf{The identified historical issues:}
\begin{enumerate}
\item Colonial heritage: general normative framework and practices inherited from the USSR\textsuperscript{66}.
\item The generational and mentality conflict in treating heritage and methods of its conservation.
\item Museology and heritage science are treated as special historical disciplines in the tendencies from the 1970s-1980s\textsuperscript{67}.
\item Since 2014, the problem has been undervalued; there were not enough investigations and documentation of the war crimes against cultural heritage.
\end{enumerate}

\textbf{The identified issues in management:}
\begin{enumerate}
\item The management system becomes invalid during crises. That means the problem isn’t the number of instructions but the harmonization of work for preserving collections during crises.
\item There is no systematicity in reacting to crises in preserving collections, independent of the level and the property manager.
\end{enumerate}

\textbf{The identified issues in education:}
\begin{enumerate}
\item Advanced professional training isn’t adequate for the challenges and threats of our times.
\item Professional seminars and training are usually (with some exceptions) formal instructions and classes in the auditoriums.
\item There is no multidisciplinarity in the collection management.
\item The psychological state of the employees during crises is ignored.
\item Informal training in the field isn’t developing because of the lack of funds.
\item Educational programs in universities don’t meet the stakeholders’ expectations in content, studying, and teaching.
\end{enumerate}

\textbf{The identified issues in the civic sector:}
\begin{enumerate}
\item Some organizations turned out to be unprepared to react to the challenges of the war, which led to the rapid development of new public initiatives to manage collections.
\item The identified issues in research:
\item Small amount of research and weak contact with world science in heritage securitization and conservation.
\item Treatment of museology, library, and archival studies as special historical disciplines, reflected in scientific publications and conferences.
\end{enumerate}

\textsuperscript{64} URL: https://suspline.media/424095-nft-mistectvo-pid-cas-vijni-v-ukraini-4-najcikavisii-proekti/ [in Ukrainian]
\textsuperscript{65} The analytical report on the advantages of NFT: Research on the ecosystem of art circulation in Ukraine (UALR): comprehensive analysis, development of proposals, and legislative changes. URL: https://moca.org.ua/ualr/ [in Ukrainian]
\textsuperscript{66} URL: https://lb.ua/culture/2021/01/19/475233_muzei_kraini-yak_valiza_bez_ruchki.html [in Ukrainian]
The identified issues in practice⁶⁸:

1. Low wages mean that young professionals don’t go to work in museums, archives, and libraries.

2. Authoritarian approach to management. Main custodians wait for orders from the institution’s director, the institution’s director — from the local management. The quality of reactions during crises depends fully on the director’s competence.

3. Numerous limitations in funding, disposal of funds, and making payments.

So, formally, the heritage protection system has a conventional world model consisting of a legal and normative framework (international and national), management, education, science systems, and operations of organizations that manage collections, and theoretically, should make the system resilient. However, this highly developed sphere in Ukraine, reinforced with international and national law and normative framework, stays mostly on paper. There’s a gap between theory and practice, a lack of knowledge, skills, and procedures for preserving heritage in catastrophic conditions.

Thus, in a paradoxical way, with a long history of catastrophes, damages, destructions, and robberies of museums by the occupants⁶⁹, the experience of the two world wars, Russian colonization, the communist regime, and the Chornobyl disaster, despite numerous precedents, Ukraine, once again, turned out to be unprepared to protect cultural and natural heritage, including collections, from the Russian invasion.

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⁶⁸ See also: https://tyzhden.ua/rozv-iazaty-ruk/ [in Ukrainian]
Section 3. Scientific collections of Ukraine during the war

3.1. Threats for Ukrainian collections caused by the Russian-Ukrainian War

Among the factors of the destruction of collections caused by war and combat are the following:
1. Violent actions of the occupying country’s government and personal actions of the military and administrative personnel of the occupying country.
2. Personal actions of the paramilitary personnel.
3. Missile and artillery attacks, aerial bombardment.
4. Mining, including remote.
5. Movement of military vehicles.
6. Damage to the elements of critical infrastructure — electric networks, water pipes, sewage systems, and access roads.
7. Catastrophic damage to the environment — including destruction of dams.
8. Emissions of chemical, biological, and radioactive substances as a consequence of military damage (including using incendiary ammunition and white phosphorus munitions).
10. Disruption of the financial balance of management structures (pause in payments, limits on or change of the currency of payments, etc.).

Among the losses caused by the war and combat are the following:
1. Murder, kidnapping, forcible detention and displacement, torture, forcing to relocate, forcing to work/cooperate, and other violent actions against the researchers, curators, custodians, and other employees of the institutions, their families, and witnesses of crimes.
2. Forcible displacement of the employees of the institutions from their places of permanent residence. Loss of homes, change of work conditions or job losses, and worsening of the health of employees who preserve collections.
3. Murders of animals, felling trees, and burning plants.
4. Purposeful damage or destruction of collections.
5. Organized robbery and relocation of collections to the occupying country and its institutions.
6. Chaotic robbery, theft of items, and illegal appropriation of the items from the collections by occupants.
7. Appropriation of the scientific data by representatives of the occupying country (publication of research results, etc.).
8. Destruction of buildings, roofs, and windows of organizations and institutions where the collections are kept.
9. Fires in buildings of museums, libraries, archives, and other institutions where the collections are kept.
10. Flooding.
11. Chemical, biological, and radioactive pollution of the territory.
12. General destruction of the environment where the institution or a monument is located.
13. Violations of the conservation regime that lead to the ruining of buildings or collections — depressurization, violations of climate control and other temperature regimes (thermostat, refrigeration, freezing, conditioning, etc.), and water supply.
14. Violation of the conditions of handling animals, lack of fodder, water, and the absence of the supply.
15. Lack of reagents, bacterial media, medicine, and other specific substances and preparations.
16. Loss and ruining of collections during the preparation for evacuation, transfer, and evacuation without return.
17. Loss of paper and digital documents that describe the collection, catalogs, archives, and other scientific data.
18. Loss of funds for maintaining institutions, collections, and employees.
19. Loss of opportunities for development and replenishment of live collections.

For collections of live animals, there are specific risks delayed in time. Keeping a collection of live animals demands continuous reproductive effort. There are often cases when the institution doesn’t have enough animals for reproduction — the overall number is low, or the available animals are close relatives. In such cases, animals from different institutions are involved. Most Ukrainian zoos were using services of institutions that are members of the Eurasian Regional Association of Zoos and Aquaria (place of registration: Moscow), and from 2022, ceased to use their services. Another network of zoos registered in the Netherlands — the European Association of Zoos and Aquaria — has strict demands for membership. Several zoos in Ukraine are candidates but haven’t managed to fulfill all the conditions to enter. By the organization’s rules, a zoo from a country in a state of war can’t become a member. Because of this, some of the animals in the zoo collections can be lost even without the direct impact of the war.

Other unique features of the organizations that manage live collections are: 1) dependence on regular water and heat supply, electricity, and fodder logistics; 2) during a blast wave, glass shards are a bigger hazard for live animal collections than most other collections. It’s peculiar that the biggest number of glass windows is usually in institutions built or overhauled recently. Such organizations offer more comfortable conditions for animals, but the war makes them more vulnerable.
3.2. Approximate assessment of the scale of losses of objects of Ukrainian cultural heritage

MCIP reported that, as of January 2023, 1189 objects of cultural infrastructure were damaged, and 446 objects were completely destroyed. 104 religious objects, 18 museums, 83 buildings that pose historical and/or artistic interest, 19 monuments, and 11 libraries have suffered.

As of June 26, 2023, according to MCIP, 1582 objects of cultural infrastructure have suffered, not counting the cultural heritage monuments; of them, 585 objects were destroyed. The biggest losses to the cultural infrastructure were in Donetsk, Kherson, Kharkiv, Kyiv, Mykolaiv, Zaporizhzhia, Sumy, and Luhansk regions. 598 libraries and 84 museums and galleries have suffered.

From February 24, 2022, to September 25, 2023, 835 cultural heritage objects were destroyed or damaged, including 118 monuments of national significance. Among them are: 256 monuments of architecture, 246 — of architecture and city-building, 199 — of history, 32 — of architecture and history, 19 — of monumental art, 17 — of city-building and monumental art, 20 — of archaeology, 37 — of architecture, city-building and history, 5 — of city-building, 2 — of science and technology, 1 — of garden design, 1 — of architecture, city-building, and monumental art, 1 — of architecture and monumental art. 23 monuments were destroyed completely, 648 partially damaged, and the level of damage of 164 objects remains unknown.

The Yaroslav Mudryi National Library of Ukraine, in their research paper “Public Libraries of Ukraine During the Russian Armed Aggression”, reports that, as of the beginning of 2022, 14 351 public libraries with their affiliates were functioning in Ukraine. As of the end of December 2022, there was information about the work of 11 993 public libraries. This number is not constant, and this has objective and logical reasons: the library buildings are destroyed, the materials and equipment are lost, the funds are lost and robbed, and the professionals are forced to leave their homes, but someone, on the contrary, returns home and breathes new life in their library, and on the de-occupied territories, the services are renewed.

The State Archival Service of Ukraine reports as a consequence of the destruction of the Kakhovka Dam, the city archive in Hola Prystan was lost.

From the interview with Anatolii Khromov: Water is one of the most dangerous factors for preserving archival documents. The archive in Hola Prystan was completely flooded, and after that, the building collapsed. This loss is irreparable as the documents were flooded and are under the rubble. The occupants didn’t do anything to evacuate these documents. ... The employees of the State Archive of the Kherson region have moved the documents from the lower stories of the storage rooms in advance; they moved thousands of cases with their own hands to different rooms; fortunately, the water didn’t reach the archive buildings.

In 2022, the Ukrainian State did much more to preserve the archival heritage than in 2014.
For comparison, if now, the risks of losses are estimated at 2%, in 2014, in consequence of the temporary occupation of some areas of the Donetsk and Luhansk regions, the Autonomous Republic of Crimea, and the city of Sevastopol, around 8% of all the National Archival Fund were lost.

We have only fragmentary evidence on some categories of losses. For example, there circulated information that in Chernihiv, unique documents from the Security Service of Ukraine archive were lost. Little is known to the public about the losses of natural history collections, like the V. N. Karazin Kharkiv National University geological collection in the Kamianka village of the Kharkiv region.

The most terrible thing is that the museum is destroyed, only the walls are left, and everything collected there is lost. The most interesting sites, where the marine and continental Mesozoic sediments are (located in gullies, ravines, and on the river banks), are mined, and the researchers won’t get access to them for a long time.

At the same time, a considerable part of the losses remains undocumented, especially on the territories that are still occupied, as remote monitoring remains obviously incomplete; and, on some de-occupied territories, there is still a danger to researchers (mining, damaged buildings, a threat of artillery fire). Therefore, until the end of the armed conflict, which was intense in the period of this analysis, the assessment of losses will be incomplete. Even after the liberation of the occupied territories, we will need some time to assess irreparable losses and illegal transfers.

3.3. Examples of lost objects of Ukrainian cultural and natural heritage

Russian invasion of Ukraine in 2014 led to the annexation of Crimea and parts of the Donetsk and Luhansk regions with the institutions located there, appropriation, relocation, and partial destruction of natural and cultural heritage, including the ruining of the Donetsk Local History Museum. During the Russian occupation, the Khan’s Palace in Bakhchysarai was purposefully considerably damaged, numerous illegal archaeological excavations were taking place, and the archaeological items were taken to Russia. These actions are divided into categories by the efforts of the NGO “Crimean Institute for Strategic Studies”. Illegal excavations also took place on the territory of the Luhansk region. For example, near the town of Heorhiivka (Luhansk region), the occupying de-facto “administration” permitted building a livestock production complex on the territory where there were 14 kurgans of the Bronze Age. The occupants stated that two kurgans were excavated, and

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76 From the interview with the professor of the chair of fundamental and applied geology of the V. N. Karazin Kharkiv National University Andrii Matvieiev. URL: https://www.ukrinform.ua/rubric-regions/3748325-u-kamanci-vorog-zrujnuv-v-znaclidymi-muzei-z-unikalnymi-znakhodkami.html [in Ukrainian]
12 were not excavated “because it takes a lot of time”\(^8^0\). These kurgans are probably destroyed. There are other robbery reports in the Luhansk region’s occupied areas. In the Donetsk region, the find of Khozar pottery of the 10th — 11th centuries near the village of Obyrv is known. The occupants claimed the monument was conserved after several months of unauthorized excavations\(^8^1\).

The full-scale Russian invasion that began in 2022 was followed by the destruction and robbery of collections (both chaotic and organized) by the occupying military and representatives of occupational administrations, missiles, bombs, and artillery, and the violation of international law by the aggressor\(^8^2\) (Askania-Nova, Oleksii Shovkunenko Kherson Art Museum, History and Local History Museum in Ivankiv, Museum of Ukrainian Antiquities, Mariupol State Art Museum, National Museum of Hryhorii Skovoroda, and others)\(^8^3\). In particular, Trostianets, Mariupol, and Popasna institutions are destroyed. Institutions of Kherson are damaged, including the Kherson Regional Scientific Library. The historical center of Chernihiv has suffered. The historical center of Odesa was hit by a couple of missiles, which damaged the Odesa National Art Museum. The institutions of Kherson underwent organized robbery before the departure of the Russian military. In particular, the collections of the Kherson Local History Museum, Oleksii Shovkunenko Kherson Art Museum, Mariupol Local History Museum, Kuindzhi Art Museum, and others were illegally transferred. The National Historical and Archaeological Reserve “Kamyana Mohyla” was mined\(^8^4\), and the items from its collections were removed. New instances of destruction and robbery of the collections by the Russian military and administration continue along with the combat\(^8^5\).

Since 2014, there have been isolated instances of chaotic robberies of museum collections\(^8^6\). The robbers were Russian military or members of paramilitary units related to them. In 2022, the collections of institutions of the Luhansk and Kherson regions suffered this way. In Kherson, illegal transfer was accompanied by robberies by some Russian combatants\(^8^7\), which makes the return of the whole collection impossible. It’s peculiar that, unlike several previous wars in other countries, in Ukraine, currently, there are no documented robberies of collections by the local civilians.

Employees and managers of the institutions, curators of collections, and their family members suffer from chaotic and organized violence from Russian military and occupational administrations. There are known instances of deaths of people from bombardments at their workplaces and kidnappings\(^8^8\).

A separate problem is the systemic policy of the occupants to selectively destroy and appropriate the objects of heritage and their metadata and transfer specific collections that contain ideological or status significance for the occupying country. The destruction and falsification of the metadata supported by publications with the formal scientific status leads to the destruction of the informational

\(^8^0\) Interview of the collaborator Iryna Kliuchnieva, a “deputy director” of the Luhansk Local History Museum to the “Luhansk Information Center” on 05/15/2021 [in Ukrainian]

\(^8^1\) URL: https://dan-news.info/culture-ru/arxeologi-dnr-perepitali-republikanskomu-kraevedcheskomu-muzeyu-najdenyi-x-xvekov.html [in Russian]


\(^8^3\) URL: https://apnews.com/article/russia-ukraine-kyiv-travel-museums-7431f23190d917f44f76df39b4d5df54.

\(^8^4\) URL: https://www.radiosvoboda.org/a/news-rosiiski-viiska-kamyana-mohyla-minuvannia/31822308.html [in Ukrainian]

\(^8^5\) URL: https://www.istpravda.com.ua/short/2023/05/29/162741/ [in Ukrainian]

\(^8^6\) URL: https://www.istpravda.com.ua/short/2014/05/11/142864/ [in Ukrainian]

\(^8^7\) URL: https://life.pravda.com.ua/culture/2022/11/142156/ [in Ukrainian]

\(^8^8\) URL: https://www.061.ua/news/3374627/okupanti-vikrali-direktora-kraeznavego-muzeu-v-berdianskomu-rajon [in Ukrainian]
context around the object and often makes its scientific circulation impossible. This way, the appropriation of heritage (like the appropriation of science and culture in general) is a widespread colonizing practice in Russia. Numerous measures of occupying administrations to appropriate heritage and destroy competitive national identities (in particular, Ukrainian and Crimean Tatar) were described in several analytical documents. At the same time, this selective destruction (including the destruction of metadata) and transfer ruins the completeness of primal scientific data and, in the end, leads to the loss of materials, data, and a source database for science.

In general, such actions of destruction and destructive reconstruction, that is, of distortion of national memory, are not unique and remind us of the actions of modern quasi-states, including the Taliban and ISIS. At the same time, the cultural dimension of the war, which has the modification of historical memory as one of its goals, is a declared part of Russia’s military and political doctrine.

Among the institutions that manage collections of live animals and have scientific significance, we would specifically highlight the Askania-Nova Biosphere Reserve, Kyiv, and Kharkiv Zoos. Askania-Nova has suffered the most, as it’s been under occupation since the first days of the full-scale invasion. From indirect sources, we know about the death of a bison and probable transfers of live animals and sperm material. There are documented instances of the impacts of missile shards on the territory of the Kharkiv Zoo (spring 2022), Kyiv Zoo (spring 2023), eight missile impacts in the Mykolaiv Zoo (during the spring of 2022), numerous shellings of the Zoo “Feldman Ecopark” (during the spring of 2022; an employee and nearly 300 animals died), and the purposeful shooting of saigas in the Regional Landscape Park “Vilkhova Balka”. On December 31, 2022, the Study and Research Center Institute of Biology and Medicine of the Taras Shevchenko Kyiv National University was hit by a missile: the vivarium of the institute was damaged, and some of the animals died from cold. Besides that, some losses will manifest in the future. As the lead methodologist of the Kharkiv Zoo, Yevhen Kiosia has noted in an interview, with the full-scale invasion, the possibility for reproduction of some animals was lost. Ukrainian zoos didn’t gain membership in the European Association of Zoos and Aquaria before the full-scale invasion and cannot do it now, as the membership isn’t granted to institutions from countries in a state of war. Using animals from the Eurasian Regional Association of Zoos and Aquaria is also impossible, as its main office is in Moscow. Without reproduction, the collections of live animals diminish, and the animals move to the post-reproductive age. This way, we get a situation where there is still the object of collection management, but we know it will disappear in the future.

At the same time, there is ongoing documentation of facts of destruction, damages, and robberies of the objects of cultural and natural heritage by international and national organizations (“The destroyed cultural heritage of Ukraine” (MCIP), “The map of cultural losses” (UCF), Damaged cultural sites in Ukraine verified by UNESCO). The red list for the cultural heritage of Ukraine was created (ICOM) — a manual containing types of endangered objects: compact items that can be smuggled are included there in the first place.

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92 The employees of the reserve have received wages from the budget of Ukraine and from charities until March 2023, which allowed them to survive without collaborating with the occupants.
93 URL: https://culturecrimes.mkip.gov.ua/ [in Ukrainian]
94 URL: https://uaculture.org/culture-loss/ [in Ukrainian]
Section 4. Experience in preserving Ukrainian collections during the war

Main actors in preserving Ukrainian collections are international and national institutions and civil society97.

The Ministry of Culture and Informational Policy is the governmental agency “responsible for shaping and implementing state policies in the areas of restoring and preserving national memory, arts, cultural heritage protection, museum affairs, export, import, and return of cultural values.”98

Since the beginning of the full-scale invasion, MCIP has been funding and publishing reports about the damages to the monuments of cultural heritage caused by the full-scale invasion and defining the procedure of evacuation of collections according to the current law.

The project “Evidence of the Russian Aggression99” contains data on destruction before July 24, 2023, with descriptions in English, video reports from the locations, and photos.

As of 2014, the beginning of the Russian invasion of Crimea, Donetsk, and Luhansk regions, no practice of collection management existed for an armed conflict. Respectively, there were no evacuations and no transfers to safe places. Probably the only collection of objects from the museum fund in Crimea that turned out to be outside of occupation were items from the exhibition in the Allard Pierson Museum in Amsterdam; it took a trial to prove that they belonged to the Museum Fund of Ukraine and repatriate them100. It also turned out that the level of digitization of collections was so low that we have no information about their number and content. It later turned out that part of Crimea’s archive was digitized in 1994-2011 by a private genealogical company, and this way, they were partially saved101.

97 URL: https://engage.org.ua/eng/ukrainian-cultural-heritage-sectoral-analysis/
98 URL: https://mcip.gov.ua/pro-ministerstvo/ [in Ukrainian]
99 URL: https://culturecrimes.mkip.gov.ua/.
100 URL: https://www.istpravda.com.ua/short/2023/06/9/162785/ [in Ukrainian]
101 URL: https://www.istpravda.com.ua/short/2021/05/19/159525/ [in Ukrainian]
On February 24, 2014, to protect cultural treasures, the employees of the Ukrainian museums and civil activists created a national section of the international organization Blue Shield.

Ukrainian experts and NGOs started analyzing wartime actions in 2014. In 2016, an analytic document was published under the auspices of the Ukrainian Helsinki Human Rights Union that recommended, in particular, to create “plans of action (schemes of notification, instructions, evacuation plans, etc.) for civil defense and defense in an emergency caused by technological and terroristic manifestations and other types of terrorism during anti-terrorist operations”, and also to develop and pass the law “to establish the list of objects of cultural treasure or conservation of the cultural property that should be under special protection; a special distinctive mark; ... to make a commitment to ... prepare special plans of protection of cultural property during armed conflicts”.

The training in preserving collections was initiated by NGOs in 2017-2021 and contained lectures and practice. The biggest demand was on the de-occupied territories impacted by combat in 2014-2015. However, there was generally little practical training in preserving collections, both formal and informal.

Yearly reports on the work of the State Emergency Service of Ukraine from 2018 to 2022 are available for public access. Interactions with research institutions are barely mentioned there. The majority of interactions are learning and training in research and educational institutions under the jurisdiction of SES. Outside of SES, interactions are rare and are mentioned only in the 2021 report: a course of training in counteracting the proliferation of weapons of mass destruction based in the NASU Institute for Nuclear Research and a learning course in emergency actions for university students.

In most institutions, SES didn’t have any permanent mutual contact with the employees, was unaware of the importance and priority of rescuing collections during an emergency, and didn’t have any feedback from the institutions. The relationships between institutions and SES representatives were usually limited to giving instructions on general safety measures; there were no questions about the mechanism, methodology, or protocol of their assistance in an emergency.

In international practice, training is carried out not only to improve the skills of scientific institution employees but also to work on interactions between rescuers and scientists. Katherine Hawk (Smithsonian National Museum of Natural History in Washington) said that, in the USA, the employees of the rescue services have regular training on the rules of emergency liquidation in museums.

On 02/24/2022, it turned out that many institutions were not ready for the war — for the full-scale invasion. The obvious exceptions were the institutions of the Luhansk and Donetsk regions, where they were preparing for combat, had seminars and planned practical training in rescuing collections, moved the collections to storage rooms, performed a secret evacuation within the country, and planned actions (the transfer of the administration with stamps and legal documents) in case of the occupation.
Viktoria Tochena, director of the Department of Culture and Tourism of the Donetsk Regional State Administration, says: “We evacuated 60-70% of the collections from Bakhmut. We tried our best to evacuate the archive that was kept in the Local History Museum so that the historians could study the history of the land, the Donetsk region in general, and Bakhmut in the future.”

She reminded that overall, in the Donetsk region, people were able to evacuate exponents from 17 museums (of those 36 museums that were functioning in the region before the full-scale invasion of Russia in Ukraine — editor).106

In the rest of the regions, with some institutional exceptions, they prepared for war very little. Inner instructions were mostly outdated. Some evacuation plans were developed based on the basic scenario of a threat from the NATO countries. The first days of war were characteristic in that the institutions simultaneously requested local and central authorities but usually didn’t receive working instructions. After the beginning of the full-scale invasion, for many institutions, it was news that the local administrations should organize the rescue of institutions under the jurisdiction of the regional or local authorities, but the evacuation permits (if they are needed) often had to be given by both central governmental agency and the respective department of the local administration simultaneously. However, representatives of local authorities in the first days of the invasion mostly distanced themselves from any actions to rescue collections, and in some cases, there was no connection. No funds and means (including specialized transport and security) for evacuation and other measures to rescue collections were provided from local budgets. During the war, many spheres that were not appropriately appreciated by the state before became “irrelevant”. State institutions’ budgets were cut: for example, funding for the Chernivtsi Regional Local History Museum is not enough to pay wages; aside from the downsizing, some employees were forced to take vacations at their own expense. According to the unofficial information, all the custodians and people of retirement age had to take one month of such vacation each during 2023.

Instead of supporting museums, the local authorities (Chernivtsi region) closed the museums for two months and then opened them for two more months for free visits. The problems with payments for communal services started, and then the institution’s administration asked the local authorities to allow them to return paid tickets for the museum.

Therefore, in many regions, collections curators have faced unresolvable contradictions.107 To evacuate the collection in advance meant to create panic, face damnation, and endanger the collection. Evacuating it during a rapid offense by the Russians meant exposing it to the risk of loss during the transfer. To evacuate it inappropriately or without permits (often unavailable) was a direct violation of the law and a criminal offense. To hide it under the threat of occupation in a secret place outside the institution in an inappropriate way was both a violation of law and a risk of loss. To give it to the occupants for preservation was collaborationism with the enemy and a heavy criminal offense. To hide it inside the institution was to expose it to the risk of loss because of the destruction of the building or robbery by occupants. However, in summary, in such situations, a large part of the curators chose the latter as the only available and legal way, which generally corresponds to the ICCROM principles as well. However, such storage places, in practice, turned out to be unreliable, as the old unspecialized buildings that usually host Ukrainian institutions are not adapted to protect from artillery and tank shelling,
fires, and flooding. Besides that, obviously, no plan considered the possibility of a long-term occupation by the enemy who would make the destruction, robbery, or use of the collection for their benefit their goal.

Tetiana Pylypchuk, Kharkiv Literature Museum, direct speech

Before February 24, we received letters from the Ministry of Culture with the order to notify them of the museum’s needs in case of evacuation. We could identify the volume and decide what we needed to evacuate the collection. We didn’t have specialized containers. Maybe it’s our fault, as the museums received enough leverage to be able to spend money on them. But we spent money on storage rooms and a video camera for a streaming platform as we had to work online. The acquisition of the special containers was planned for this year; we were to receive them in spring.

On the 24th, we started to urgently take off the exposition, as, like all the museums, we kept it till the finish: the museum was functioning, and without the exposition, there would be no visitors. We moved it to the basement and packed in what we had at hand. We didn’t wait for the order of the Ministry of Culture, as there was enough training, and we understood what to do during the hostilities. I think, in this question, the Ministry shouldn’t give any instructions, as it can’t give separate orders to every museum. All the more so, as the Ministry would do it through the local Culture Department anyway, but our city administration, for example, was shelled immediately.

Then, the director started hesitating about whether to transfer the collection. The decision was his own, as the responsibility for it is also his. There was no connection with our Department, though we had to make a transfer request, and they had to give a permit in return. I spoke to the Ministry directly, got an online order from them and the permit for the transfer, and based on it, wrote to the Department about the transfer of the collection. I couldn’t receive anything from them at the moment, so we will solve this somehow later.

Prioritization of items. Tkachenko (2016) offers this procedure:

The museum property is divided into three groups. According to this division, safety measures are also differentiated.

Protection of property of the first and second groups:

The first group consists of paintings, sculptures, graphic art, and applied art that are masterpieces of national and world significance and also unique historical and cultural monuments and exponents of scientific value.

The first and second group property has to be protected from destruction and damage by a blast wave, fire, pollution with radioactive and poisonous substances and bacterial preparations, and also from ruining and destruction during an emergency (armed conflict, terrorist act, etc.) or in consequence of the hostilities.

Protection from destruction is secured by timely evacuating the first group property from the museum to a special underground storage room (if there is one) or to a special storage room outside the museum territory. The second group property is evacuated after the first group property.

... The third group property has to be protected from destruction, damage, or pollution without evacuation — at the location.

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108 URL: https://lb.ua/culture/2022/06/19/520455_muzeyna_evakuatsiya_shcho_pishlo_tak.html [in Ukrainian]
In practice, this document, as well as other modern recommendations on rescuing collections, was little known to the broad public and was used in few cases.

In the end, in practice, in the zone of the armed conflict, the institutions were guided by considerations of saving people’s lives, including employees, rather than collections. The rescue of collections, in most cases, became a personal endeavor of managers, administrators, curators, scientists, volunteers, and locals who cared. In some institutions, the collections were saved because the curators were living on the premises with the collections for weeks and months.

Ivankiv, Kyiv region, Museum of Maria Prymachenko

- The museum watcher was the first to see the fire — his fence is next to the museum fence. The shell hit the museum; nothing happened on the premises at first. In general, in the village, the shells were flying and exploding; it was terrifying. The smoke started to rise. The watcher called the fire department, but they didn’t arrive. Someone had to do something. When the museum roof caught fire, he climbed out of the basement, ran to the museum, broke the window and the grate, and carried out of the flames everything he could — 14 original Maria Prymachenko paintings and everything that hadn’t caught fire yet.

- The rescued exponent were taken to the Cultural Center, then hidden, described, and transferred to a secure storage room outside the Ivankiv community.

- The first art pieces of the artist — 4 plates — were lost, and also lost were the carpets from before the First World War, home-crafted carpets, 200-year-old objects of the interior, embroideries of Hanna Veres, and other exponents that documented the history of the land.

Kateryna Chuieva (the deputy of the Minister of Culture and Informational Politics)\(^\text{110}\): “When we talk about the stage that has begun in this war on February 24, 2022, at that moment, as now, the same normative acts were functioning that regulate this question. We talk, first of all, about the Code of Civil Defense and the Resolution of the Cabinet of Ministers No. 841, which describes the procedure of evacuation — that on the level of institution, the decision is made by the director, on the level of the area (in this case, the level of the region) by the regional authorities, and on the level of the whole state — has to be approved by the government. We had several questions about it — it’s one thing when there’s some local situation (for example, a natural disaster that touches one of the regions). But on 02/24/2022, we faced a completely different situation — a situation to which our laws were probably not ready in full. Currently, we are working on improving the tools that are necessary for us to organize evacuations. We saw all types of challenges, and these are very complicated processes. Unfortunately, nobody announced to us that something will begin on the 24th. When martial law is proclaimed, the plans of civil defense that have to exist for every region, every populated city, etc., have to be enacted. And here we also, unfortunately, saw what works and what doesn’t in practice — when someone from the organization or regional authorities is more prepared to enact some measures, and someone is less prepared. The communication of every Ministry with regional authorities, especially, in our case, with Departments of Culture, is regular. It’s a separate interesting story with Ivankiv: it’s an NGO museum — it wasn’t in the network as such. It’s not a museum with which the Ministry of Culture is directly in contact. Again, the question arises about communication and expectations from certain governmental agencies — who can do what in this situation and who should do what. After what happened, we were unsure whether these pieces were indeed rescued; the representatives of the community didn’t give us access. It was very hard to establish communication. This, it

\(^{110}\) URL: https://youtu.be/tuoEeVzLsBo?si=JFYDRi06kJPsreBoda [in Ukrainian]
seems to me, is a separate reservation on the side of the people who care a lot about the fate of the local monuments and museums — it turned out that, — and it’s a very widespread stereotype among museum employees as well, — that if the collections are evacuated, this means that they are taken away and will never return”.

**Chuhuiev, Kharkiv region, Museum of Illia Riepin:**

- Starting from 2014, the Kharkiv Regional State Administration periodically organized seminars and discussions for the museum on the topic of the evacuation of collections during the war, as with many other museums in the Kharkiv region. But nobody believed in the possibility of a full-scale invasion.
- At the beginning of 2022, when Ukraine was preparing for war, still, nobody believed in the possibility of a full-scale invasion — neither the Regional State Administration, the local authorities of the city of Chuhuiev, nor the inhabitants of the areas near the Russian border, or the management of museums of the Kharkiv region. Even at the beginning of the invasion on February 24-28, 2022, rumors were spreading about the rapid end of the war due to some agreements.
- With the beginning of the invasion on February 24, 2022, all the management that was supposed to make decisions was cut off from any military information about the enemy’s whereabouts, what was really happening, and whether there were possibilities of transport corridors to evacuate collections.

**The director of the Tarnovskiy Chernihiv Historical Museum** has spent all the time (the nights, too) on the museum premises from the moment of the city’s occupation to the lifting of the siege (04/09/2022). Around 50 citizens have found refuge there as well.

**Serhii Laiovskyi (the museum’s director):** “We were preparing, but it turned out we didn’t know what we were preparing for. We received various tasks and instructions to “be ready”, but ready for what? For evacuation — we will give you instructions later. This was the communication with the agencies of museum management on all levels, including the Ministry of Culture. The only thing we did, even in 2014, 2015, and 2018 - was that we made lists for evacuation - the first order and the second order. We asked the question — where to? We understood that we had to count on our own efforts. I’m surprised but grateful to the museum’s collective that came to work on 02/24/2022 almost in full.

For an evacuation — there’s no transport. We found a place in the museum that we considered the safest.

The problems: it was cold; the heating disappeared first. Periodically, and for long periods, water and light disappeared. People were hiding in the museum — over 50 people; the youngest girl was a couple of days old, and the oldest woman was 85. Therefore, we tried to create conditions, but also do the main thing - preserve the museum collections”.

**From an interview with Veronika Seleha — the founder of the NGO “Library of the Future”:**

“Before the beginning of the full-scale invasion, the plan of action in libraries mainly depended on the local management. There was an initiative to reinforce the buildings and save the valuable items from the funds — so, they were reinforced and conserved. However, to prepare in full for the scale of destruction done by Russia is impossible.”

All our respondents point to the institution administrations’ determinative role in effectively preserving the collections. All the successful measures of rescuing and preserving institutions and collections

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111 URL: [https://youtu.be/IanP63HYf1q?si=9qqihtv0CJtJSHZ](https://youtu.be/IanP63HYf1q?si=9qqihtv0CJtJSHZ) [in Ukrainian]

112 URL: [https://www.goethe.de/prj/lek/uk/dos/wlbs.html#i9071990](https://www.goethe.de/prj/lek/uk/dos/wlbs.html#i9071990) [in Ukrainian]
happened thanks to the actions of the institutions’ management. The movements of funds on the institutions’ accounts in the first weeks after the full-scale invasion were rather limited. Successful actions could be performed by the institutions that received financial or material aid (which was important in some places because of the deficit of goods) from donors — NGOs, entrepreneurs, foreign institutions, and colleagues. In particular, humanitarian aid in materials for rescuing collections came from private individuals.

The evacuation of valuable objects from some institutions by permit of the Ministry of Culture started a couple of weeks in advance\(^\text{113}\), it was secret and was done by secret routes to secret places with appropriate conditions defined in advance, in safer territories within the Ukrainian borders, and fully complied with the law, including the law about safety measures. However, the institutions themselves secured their material provision, again thanks to charity donations. The evacuation of valuable objects from museums of the later de-occupied territories was carried out on the same principles.

The rescue of compact items that have solely scientific significance and are assigned to the auxiliary scientific fund by the normative framework was the easiest. Often, these same items (like specimens of insects, herbaria and geological specimens, fragments of ceramics or bones) have the highest scientific value and serve as material for advanced scientific research. Rescue, preservation, and evacuation of such items were done by the efforts of individual scientists, and thanks to them, we have some materials saved from the zone of hostilities and temporarily occupied territories.

Even the theoretical perspective of evacuating professionals and collections to safe places abroad was a controversial issue. Creating “safe havens” abroad may seem a natural or even priority measure for some outside actors\(^\text{114}\). At the same time, in Ukraine, such a possibility is subject to discussion, and the relocation of many collections outside of the country, though declared as temporary, is considered unacceptable, especially in circumstances where the government controls the majority of the territories of the large country. The experience with the trial on the collections from Crimean museums, when for nine years the courts considered the possibility of transferring these collections to the occupational government of Russia, also doesn’t inspire confidence in “safe havens”. On the contrary, preserving collections in place is considered a necessary condition for their preservation. The decolonization of collections through the mechanisms of studying provenance, overcoming the consequences of war, and restitution should be conservation principles\(^\text{115}\).

We have seen the impetus for the development of digitization. The initiatives of 3D scanning of cultural heritage objects are developing very rapidly\(^\text{116}\). Pan-European projects have joined the digitization initiatives\(^\text{117}\).

Repatriation of isolated items taken away by Russians that became objects of international smuggling is beginning\(^\text{118}\).

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\(^\text{113}\) From March 1, according to Natalia Panchenko (the affiliate of the National Museum of Ukrainian History “Skarbnys’tia”: https://texty.org.ua/articles/111010/hsinosti-zahortaly-navit-u-shtrory-jak-pratsjuve-v-umovach-v-ijny-pecerskoj-lavra [in Ukrainian]

\(^\text{114}\) URL: https://gjia.georgetown.edu/2022/05/09/protecting-cultural-heritage-during-conflict/ Research for CULT Committee - Protecting cultural heritage from armed conflicts in Ukraine and beyond.

\(^\text{115}\) URL: https://www.museumsassociation.org/campaigns/decolonising-museums/supporting-decolonisation-in-museums/

\(^\text{116}\) URL: https://skeiron.com.ua/ [in Ukrainian]

\(^\text{117}\) URL: https://www.4ch-project.eu/.

Conclusions

1. Ukraine has many various museum, library, archival, and scientific collections of diverse contents and a complex, inconsistent system of their organization. During the Russian invasion in 2014, collections in different regions suffered serious losses because of the impact of the hostilities and actions of the Russian occupying authorities directed at the destruction and appropriation of the heritage of the attacked country. It is an act of “hybrid war” and “cultural genocide”. New instances of destruction and robbery of collections by the Russian military and administration have been happening all the time during the hostilities. The overall scale of losses for world science and cultural heritage is unvalued: it is undefinedly large and continues to grow.

2. Ukraine has a highly developed system of support and preservation of collections that formally includes the legal system, management, civic sector, higher education, science, and practice. However, the “paper state” effect is obvious when many elements remain on paper as intentions and are not implemented in practice.

3. The Russian invasion in 2014 gave an impetus to the modernization of the system of support and preservation of collections, particularly in the development of the civic sector that became a powerful (the most powerful) actor in the field and also to the processes of accounting, inventory, and cataloging of collections, and digitization.

4. Inner contradictions in the system of collections management, unfinished modernization of practices, insufficient awareness of the actors, lack of coordination of actions, and insufficient practical training became the reason for the lack of preparedness of many institutions and whole regions for the Russian invasion in 2022. Proactive actions of the civic sector compensated for the shock of the state and society at the moment of 02/24/2022.

5. The development of conserving collections will occur in the context of the European and Euro-Atlantic integration, society’s modernization, compensation for the losses, decolonization, and restitution of the dislocated property. It will include developing research and educational measures and creating digital images and archives. This national level experience can be spread to all European countries, countries of the Black-Caspian Sea region, and other comparable countries.
Recommendations

Our recommendations consider the resolution summarizing the results of the International Forum on Cultural Heritage Security «WAR IN UKRAINE: THE BATTLE FOR CULTURE» from February 8-9, 2023\textsuperscript{119}, and previous analytic notes\textsuperscript{120}.

For professionals in the field of collecting and preserving collections (scientists, curators, conservationists, bibliographers, specialists in cataloging and digitization, other professionals — institutional employees):

1. Cooperate with the Armed Forces of Ukraine, the National Police, the State Emergency Service of Ukraine, and the government investigative agencies when they invite you to identify and rescue objects of heritage, including collections and other cultural (scientific) property on the battlefield, identify their provenance and restitution, and describe and register the finds correctly.

2. Outline the priority criteria for the preservation of every element of every collection, considering their scientific value independent of the main purpose of the collection and separately from their material evaluation. Sometimes, fragmentary objects of low material value that don’t belong to the main funds are the most valuable — and vice versa.

3. Identify the elements of collections with the highest priority in preservation. Separately identify the elements vulnerable during

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\textsuperscript{119} URL: https://www.iispravda.com.ua/columns/2023/04/19/162597/ [in Ukrainian]

\textsuperscript{120} The Role of Museums in the Cultural and Socio-Economic Development of the Country: Foreign Experience. Analytical Note. URL: https://niss.gov.ua/doslidzhennya/jumanitarniy-rozvitok/rol-muzeiv-u-kulturnomu-ta-socialno-ekonomichnomu-rozvitku


Emergency Response Instruction for Museums. URL: https://www.maidanmuseum.org/uk/node/2132

Cultural Heritage at Risk. Emergency Evacuation of Cultural Values. URL: https://www.maidanmuseum.org/uk/node/2132


Research on the Ecosystem of Art Circulation in Ukraine (UALR): Comprehensive Analysis, Development of Proposals, and Legislative Changes. URL: https://moca.org.ua/ualr/

Research for CULT Committee - Protecting cultural heritage from armed conflicts in Ukraine and beyond (2023).


URL: https://engage.org.ua/eng/ukrainian-cultural-heritage-sectoral-analysis/
armed conflict that can be destroyed or appropriated by the enemy.

4. Catalog collections, starting with priority elements, with metadata (including temporary documentation, old inventory numbers, old labels, notes in the accounting books, notes of the custodians, forms and notes about their use, accompanying documents and publications, etc.). A full catalog is an inseparable part of a collection; it has its own value as an object of immaterial heritage and creates a significant added value for the collection as a part of the heritage. Besides the task of provenance, metadata, even insignificant ones, always carry scientific value.

5. Introduce practices of digitization of catalogs and collections, starting with priority elements. The recommended base for organizing digital space is a conceptual, basic model of CIDOC (standard ISO 21127:2014). It’s recommended to put the digital space and catalogs in cloud storage with the ability of permanent access for authorized individuals, as well as to create a copy on hard drives.

6. Store materials and data in open access as much as possible, considering researchers’ copyright and scientific interests, and open the data fully after publication. Publicity of storage is a guarantee of preservation, and it also makes it easier to search and identify objects in case of theft.

7. Grow professionally — learn practical skills in safety measures, preserving collections, cataloging, and digitization of collections.

8. Develop connections in the local, national, and world professional community — keep contact and operational communications with colleagues, including researchers, and develop professional organizations for collaboration, mutual help, and informational exchange.

9. Advocate collections: increasing awareness about the collections and their introduction into scientific and public circulation strengthens possibilities for conservation. Contribute to research based on the collections and publish research results in international professional high-tier publications. Develop public activities in the local community, possibly with an introduction to a foreign audience — read public lectures and presentations on the significance of collections on the premises of institutions and online.

For managers, administrators, and main custodians of the institutions that contain collections:

1. Cooperate with the Armed Forces of Ukraine, the National Police, the State Emergency Service of Ukraine, and the government investigative agencies when they invite you to identify and rescue objects of heritage, including collections and other cultural (scientific) property on the battlefield, identify their provenance and restitution, and describe and register the finds correctly.

2. Document the losses caused by the hostilities and distant consequences of the war.

3. Outline the priority criteria for the preservation of every element of every collection, considering their scientific value independent of the main purpose of the collection and separately from their material evaluation. Identify the elements of collections with the highest priority in preservation. Separately identify the elements vulnerable during armed conflict that can be destroyed or appropriated by the enemy. Catalog collections with metadata, starting with priority elements.

4. Considering the existing knowledge and the ICCROM recommendations, where Ukraine is a member, create an action plan to rescue collections in an emergency. In it, anticipate a possibility of large-scale and long-term hostilities, occupation by the enemy that aims to destroy or appropriate the collections, factors of threats and types of possible losses, and plan for timely measures to save collections in the case of such risks. Acquaint the employees, representatives of SES, National Police, communal services, local authorities, and
war administration with this plan and verify its final content with everybody.

5. Provide and equip safe storage rooms of different levels of safety with safes and metallic cases in and outside the institution for an emergency and obtain legal permits to use them. Provide shared-use storage rooms.

6. Attract funds and other resources for joint practical and psychological training. Organize and regularly conduct mandatory training in rescuing collections and other cultural (scientific) property in the institution in cooperation with representatives of all the responsible services. Audit the institution’s resilience and its interactions with the responsible services in crisis conditions. The human factor of stress in crises should be taken into account.

7. Create short, clear, and effective action protocols for crises based on the action plan, implemented measures, and training experience, and acquaint all the participants with them.

8. Attract funds (including grants and charity donations) to provide competitive wages for professionals, create proper conditions for preserving collections (windows, climate control, heating) and their rescue (storage rooms with safes and metal cases, transport), means of cataloging and digitization, and educational events.

9. Attract funds and other resources for informal education and advanced professional training of the professionals, particularly in preserving collections, cataloging and making digital copies, and research. Contribute to the access of researchers from outside institutions to collections and to conducting research based on them.

10. Develop connections in the local, national, and world professional community — keep contact and operational communications with colleagues, including researchers, and develop professional organizations for collaboration, mutual help, and informational exchange.

11. Organize and conduct educational events for various stakeholders and regularly make public appearances and speeches to explain the importance of the role of the institutions and collections in social life and their decisive role in the well-being of the community. The community has to understand the importance of collections!

For representatives of non-governmental organizations and charities that act in the field of heritage conservation, professional communities, and volunteers:

1. Unite and collaborate with colleagues for joint actions.
2. Organize and conduct educational events for stakeholders and regularly make public appearances and speeches to explain the importance of the role of the institutions and collections in social life and their decisive role in the community’s well-being.
3. Elucidate the importance of the role of the civic sector in managing collections.

For experts of the National Academy of Sciences of Ukraine, professional academies, universities (faculty, heads of educational, scientific educational programs), and organizers of informal education and education for adults:

1. Create dedicated centers for heritage science that would monitor and conduct research in conserving collections, give scientific and methodological assistance to institutions of all forms of property, and coordinate educational and scientific programs.
2. Create educational and scientific-educational programs at all levels in heritage science as a separate educational area.
3. Include courses and course modules on data management and collection digitization in educational and scientific-educational programs. Study and evaluate the strong and weak sides of NFT as a technology for conserving digital copies and documents.
4. Broaden practical exercises in collection management, including their preservation and rescue.
5. Give methodological provisions and scientific support for training in rescuing collections and other cultural (scientific) property in coordination with representatives of all responsible services.

For representatives of local communities and local authorities:

1. Establish heritage conservation, including collections and other cultural (scientific) property, as a priority direction for funding and a resource for the development of the community.
2. On the territories near the frontline — keep contact with the Armed Forces of Ukraine, the National Police, and the State Emergency Service of Ukraine in identification and rescuing objects of heritage, including collections and other cultural (scientific) property on the battlefield and the liberated territories.
3. Annually and timely provide budgets sufficient for maintaining the institutions and funds for emergencies. Make expenditures to ensure competitive wages for professionals and to create appropriate conditions to preserve collections (windows, heating, climate control) and rescue them (safes, storage rooms, transport). Provide means of cataloging and digitization and organize educational events.
4. Contribute to winning grants from third parties for institutions for conserving heritage, including collections and other cultural (scientific) property, co-finance them if needed from local budgets, and plan for these expenditures in local budgets.
5. Organize desk and field training on rescuing heritage, including collections and other cultural (scientific) property, with the engagement of all the functioning institutions. Contribute to the harmonization of the work of all services that would be involved in the rescue.
6. Plan for modernization of the infrastructure of institutions as a long-term priority.

For representatives of services of emergency situations, law enforcement, and the Armed Forces of Ukraine:

1. Rescue heritage objects, including collections and other cultural (scientific) property, on the battlefield and the liberated territories, enlist civil experts for assistance and consulting and keep contact with research institutions and local authorities.
2. Keep contact with the institutions that contain collections — institutes, universities, museums, libraries, and archives. Get acquainted with their emergency plans for rescuing collections, visit the sites places and assessasses their adequacy/realism, and verify their final contents. Include their plans in your own action plans. Show initiative in assisting the institutions and their equipment with appropriate means of protection.
3. Identify responsible individuals who will maintain permanent contact with the institutions and will help set up the means of response.
4. Participate in organizing and regularly conducting training on rescuing collections and other cultural (scientific) property in the institutions.
5. Plan and prepare in advance the means to react in an emergency, considering the needs of the institutions, the collections’ specifics, the location of the storage rooms, and the evacuation routes.

For representatives of the local, national, and international agencies for funding and development, consultants, and fundraisers:

1. Diversify forms and recipients of support. Offer financial and non-financial support to a broad circle of recipients — individually, directly to institutions and organizations, civic associations, professional societies with individual and institutional membership, charities, specialized state agencies, and the government in general, according to the jointly defined directions and needs of every sector and group of recipients. Avoid narrowing the circle of recipients.
2. Avoid monopolization in assistance distribution on all levels.
3. Establish the conservation of collections and other cultural (scientific) property within the country as a priority for support, and don’t demand moving them abroad as a condition for giving aid.
4. Establish support for informal education — tactical training, psychological training, training in harmonizing services involved in the rescue, and educational events for community awareness — as a priority.
5. Support long-term the permanently active scientific and methodological groups and centers of excellence with high-level professionals and equipment that can implement measures for conservation on their own on the scale of the large country — in particular, centers for conservation and restoration, mobile digitization laboratories, digital archives, genetic banks, and specimen banks. Support world-level research.
6. Plan long-term sustainable measures for support, including permanent unobstructed access to cloud storage for digital representations of collections.
7. Plan the modernization of the infrastructure of institutions as a long-term priority.
8. Plan the modernization of the normative framework, harmonization with the EU laws, and their practical implementation as long-term priorities.

For officials of governmental agencies and legislators:
1. For the President of Ukraine and NSDC. Establish the conservation of cultural and natural heritage, including collections and other cultural (scientific) property constituent in the Ukrainian national identity, as an integral part of national defense.
2. For the President of Ukraine, NSDC, and the General Staff of the Armed Forces of Ukraine. Create specialized military formations at the level of the General Staff of the Armed Forces of Ukraine and operational commands of UAF to conserve and rescue cultural and natural heritage and cultural and natural property during combat.
3. For the Ministry of Defense, MCIP, and Ministry of Environment. Develop provisions, the statute, and the structure for specialized military formations for preserving and rescuing cultural and natural heritage.
4. For the Verkhovna Rada of Ukraine and the President of Ukraine. Ratify the UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects and the Nicosia Convention on Offences Relating to Cultural Property.
5. For the Office of Prosecutor General, the Ministry of Justice, and the Verkhovna Rada of Ukraine. Criminalize war crimes against cultural property, including scientific collections.
6. For the Verkhovna Rada of Ukraine, the Cabinet of Ministers, NSDC, and the President of Ukraine. Establish the development of the conservation of heritage, including collections and other cultural (scientific) property, as a priority direction in the European and Euro-Atlantic integration processes and provide for its constant support. Plan the modernization of the infrastructure of institutions as a long-term priority. Plan the modernization of the normative framework, harmonization with the EU laws, and their practical implementation as long-term priorities.
7. For the Cabinet of Ministers, the Ministry of Defense, and MCIP. Amend the Resolution of CMU “On Adoption of the Procedure of Evacuations in Case of a Threat of an Emergency or an Emergency” from 10/30/2013 No. 841 to make it possible to implement in practice. Develop simple, consistent instructions for evacuation and inform local authorities about it.
8. For the Cabinet of Ministers and MCIP. Adopt a simple and consistent instruction of a typical emergency action plan for institutions, including in case of war, based on the existing knowledge and the ICCROM recommendations, of which Ukraine is a member. In it, the mechanisms of
conserving the collection and the procedure of the selective timely evacuation in case of necessity should be provided. Inform local authorities about it.

9. For MCIP and MES, with the involvement of scientific institutions. Review the definition of the term “main funds” for museums and libraries, leaving only materially valuable specimens of significant value in main funds, and make a distinction between “scientific funds” and “auxiliary scientific funds”, as scientifically valuable funds are not auxiliary, and at the same time, their value is high but immaterial. Define special science-based rules for conserving, rescuing, and relocating materially valuable and scientifically valuable objects. In the midterm, inventory all the funds with appropriate category changes for accounting and create a unified registry.

10. For MCIP and the Ministry of Digital Transformation. Create a unified and consistent midterm national policy on accounting, cataloging, keeping a unified register, and digital representation of collections, taking into account the information security requirements and a reasonable balance between security considerations and the need for sustainable conservation, use, and representation of collections in the public space. The recommended base for the organization of the digital space is the conceptual base model CIDOC (standard ISO 21127:2014).

11. For the Office of Prosecutor General, the Ministry of Justice, and MFA. Prepare a justification for requests to the International Criminal Court and the UN with the proposal to appoint a Commissioner-General and prepare an international tribunal on responsibility for the destruction of heritage, restitution, and returning to Ukraine the heritage objects that can’t be alienated.

For the international community and national organizations for preserving collections:

1. Conduct (as often as necessary) training on the preparedness of employees of different organizations to act in coordination and according to the developed algorithms during crises, considering that preparedness for a crisis is tested not only by the existence of protocols and action algorithms but also with the trained skills for actions during crises.

2. Include psychological training in educational programs on preparedness to act in crisis conditions, enlisting psychology experts in developing such training, considering that during crises, the psychological factor has a lot of weight, especially for employees of the cultural sphere who are not prepared specifically.

3. During the development and planning of protocols and algorithms of response to a crisis, take into account the level of awareness of cultural management, managers, and directors of organizations that provide management of collections about the situation.
Appendix 1. The questionnaire: the list of interview questions

Goal 1: To evaluate types of losses, threats, and risk factors (sources of threats)

1. What, in your opinion, is the significance of collections? What does your organization preserve for society? What criteria can you use to evaluate this significance?
2. In your opinion, what threats to collections should we expect in a crisis? How are you prepared for these challenges and the minimization of threats?
3. What measures should be taken first to overcome the war’s consequences and rescue the objects/heritage?
4. What other organizations, including international ones, can, in your opinion, aid with conserving collections and overcoming the consequences of the war?
5. How would you evaluate the level of digitization of your collections? Are there risks and threats to cataloging and creating digital catalogs?
6. How much does conserving your institution’s collections depend on outer factors, including problems with electricity, internet and telecommunications, water, sewage system, etc.? Do you have autonomous systems that support conservation?
7. How easy/hard is it to attract/maintain/rent other services from organizations for evacuating collection? Have you had such practices?
8. How do you restore objects in collections in case of their damage? Are there any full or partial copies of the objects? How necessary are they? Are there risks and threats to copying objects in collections?
9. Which of these risks for collections do you consider real and justified? Have you faced any of them? (actions of the occupying country; missile, artillery shelling, aerial bombardment, damage by missiles; mining, including remote; movement of military vehicles; damage of elements of critical infrastructure (electric grids, water pipes, sewage system, access roads); catastrophic damage to the environment, including ruining dams; emissions of chemical, biological, radioactive substances; blockage and destruction of logistical chains; pause in financial transfers; personnel problems).
10. Which of these threats do you consider
real and justified, and which not? Which of them is a priority, in your opinion? Has your museum/library/archive faced any of them? (murder, torture, kidnapping, forcible detention and displacement, forcing to relocate, forcing to work/cooperate, and other violent actions against the researchers, curators, custodians, and other employees of the institutions, their families, and witnesses of crimes; forcible relocation of the employees of the institutions; loss of health, homes, work conditions by the employees; organized and chaotic robbery, theft of the objects, appropriation by the occupants; relocation of collections to the occupying country and its institutions; destruction of buildings, roofs, and windows; fires; flooding; chemical, biological, and radioactive pollution of the territory; violations of the regime of conservation that lead to the ruin of buildings or collections (depressurization, violations of climate control and other temperature regimes (thermostat, refrigeration, freezing, conditioning, etc.), and water supply; violation of the conditions of keeping animals, lack of fodder, water, and the absence of supply; lack of reagents, bacterial media, medicine, and other specific substances and preparations; loss and ruining of collections during the transfer and evacuation without return; loss of paper and digital documents that describe the collection, catalogs, archives, and other scientific data; loss of funds for the maintenance of institutions, collections, and employees).

11. Is there a system of priorities for rescuing the specimens in your museum — those that should be rescued first and those that next?

12. Has your museum (or other institutions where the specimens are kept) organized briefings for the rescuers from the State Emergency Service to train specific skills in liquidating an emergency in the museum?

13. Does your museum have a contract with other institutions where the collections would be moved in case of evacuation?

**Goal 2: To evaluate preconditions of losses — the state of the legal, normative, methodological, and technical framework, and the state of their implementation — and identify gaps, contradictions, and inconsistencies.**

1. What do the employees know about their individual roles and obligations in the museum/library/archive during the war or a natural disaster?

2. Does your institution have employees responsible for conserving collections during the war or natural disasters (whose responsibility will it be)? What training do these people undergo, and how are the results of their training implemented?

3. In your opinion, do the employees share the goals and tasks established by the institution and the management’s opinion about them?

4. How flexibly can the employees and managers responsible for conserving collections act in their roles and obligations in the organization during the war and natural disasters? What is needed to improve the level of flexibility (changes in the normative framework (what exactly), changes in managing the organization (what), personnel changes (indicate why these changes are necessary))?

5. How well, in your opinion, is your organization prepared to respond to secure conserving collections during crises? What instruments do you use?

6. What is the level of connection of your museum/library/archive with the broader community of organizations and institutions involved in conserving collections?

7. Does your museum/archive/library participate in joint risk management planning and crisis response testing with other organizations and institutions?

8. Were the collections of your organization evacuated? How would you rate the
efficiency of the evacuation? If the answer is no, how can you explain the reason?

9. Does your museum/library/archive have an equipped storage room (on your territory, in another place (on the territory of the city, region, outside Ukraine)) where you could evacuate the collections? Has your museum/library/archive used such a possibility (if the answer is no, then why exactly)? Are there plans for alternative storage rooms if your organization doesn’t have them or they are insufficient?

10. Evaluate the level of the available storage rooms where the collections can be evacuated in case of danger (their safety, sufficiency, arrangement, provision of security, etc.).

11. How well are the available instructions, strategies for crisis response, and actions under martial law integrated into your museum/library/archive? (In your opinion, what is the reason for this situation?)

12. What does your institution’s methodological recommendation (instruction or plan) of emergency management look or should look like? In your opinion, what is lacking? Were there changes in the normative framework of your museum/library/archive on this issue after February 2022?

13. At which level of training in conserving collections during crises does your museum/library/archive participate? How often? How can you rate the efficiency of such training? In your opinion, what are the main hurdles to participation in crisis response training?

14. Have, in your opinion, the employees managed to conserve collections well during crises?

15. What is your organization’s overall financial situation? Evaluate how much this situation influences the conservation of collections. What ways to solve this situation do you see?

16. How would you characterize the involvement of the relevant external organizations, including the asset holders, authorities of the appropriate level, service providers, organizations for emergency management, international organizations, etc., in addressing the issue of conserving collections during crises?

17. What exact preparatory measures were taken to support and develop joint actions with the important stakeholders for conserving collections during crises?

18. How efficient were the communications and relationships between the museum/library/archive and MCIP, relevant departments of the regional/local level, founders/asset holders, and outer stakeholders?

19. How well are you acquainted with the available mechanisms of restitution and repatriation? What do you lack?

20. Can your museum/library/archive participate in restitution and repatriation procedures?

Goal 3: To highlight actors working on conserving collections in Ukraine during the war

1. Do you know any civil society organizations or international foundations that assist in conserving collections during the war? In your opinion, is their support sufficient for conserving collections during the war?

2. Some international foundations would like to get information about existing collections and the level of their uniqueness. Is your museum/library/archive ready to share such information freely? Rate the level of trust in civil society organizations and international foundations. What do you think is the role of digitization in this process?

3. What kind of support from interested parties from the nongovernmental sector and international organizations, in your opinion, would be necessary in the short and long term?

4. How would you evaluate the efficiency level of the organizations that work on conserving collections in Ukraine during the war? Is their assistance relevant to the challenges that conserving collections has faced?
5. Does your museum/library/archive collaborate with civil society organizations and international foundations that assist in conserving collections during the war?

6. Has your organization received assistance from civil society organizations or international foundations that assist in conserving collections during the war? Has this assistance been relevant to the needs of your institution? How did you reach out to these foundations? How long-term is the prospect of working with international partners on the conservation problem?
Appendix 2. International and national law on the protection of cultural heritage and conservation of collections

The NGO “Crimean Institute for Strategic Studies” has made a detailed overview of the list of normative acts on the issue of the protection of cultural heritage\(^{121}\). Here, we highlight and discuss the most important acts for conserving collections.

**International Law**

**Convention for the Protection of Cultural Property in the Event of Armed Conflict (the Hague Convention, 1954)**\(^{122}\) is historically the first and universal international document on protecting cultural heritage on a world scale. It contains a broad definition of cultural property encompassing “manuscripts, books and other objects of artistic, historical or archaeological interest; as well as scientific collections and important collections of books or archives or reproductions of the property defined above” (the emphasis is ours — authors). Therefore, the Convention openly protects all scientific collections independent of their nature as a part of cultural heritage. Indirectly, science, as such, is acknowledged to be an integral part of culture that has universal value and should be protected during the war. The Convention also directly points to such institutions as museums, libraries, and archives as the ones that contain unique cultural heritage and, therefore, are a part of world treasure. There are two protocols added to the Convention\(^{123}\): The first\(^{124}\) prohibits the export of cultural property by the occupant and obligates returning them, and the second\(^{125}\)

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\(^{121}\) URL: [https://ciss.org.ua/ua/zakonodavstvo.html](https://ciss.org.ua/ua/zakonodavstvo.html) [in Ukrainian]


gives more detail on the prohibitions and establishes criminal liability for their violation. It’s peculiar that Russia didn’t ratify the second protocol, unlike the Convention and the first protocol.

**Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property (1970)** establishes a broad list of objects that belong to cultural property (from anatomical and mineralogical specimens to audio records), prohibits their illicit transfer, defines the necessity of their restitution (return to legal proprietors of the illicitly transferred property) and establishes the right of the countries to consider the objects of their heritage unalienable.

**UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects (1995)** establishes the procedure and mechanisms of the restitution and, in particular, notes that it will not be subject to time limitations or have a time limitation of 75 years. Ukraine has not ratified the Convention, though its text is among the current legislative acts.

It’s important that there are isolated precedents of restitution of objects exported during the 20th century from the territory of Russia to Ukraine.

**European Convention on the Protection of the Archaeological Heritage (Revised) (1992)** specifically prohibits the illicit circulation of heritage objects.

**Council of Europe Convention on Offences relating to Cultural Property (Nicosia Convention)** establishes measures of criminal liability for illicit circulation and destruction of heritage objects. Ukraine is preparing to ratify this Convention, and it is acknowledged as important to Ukraine in the context of events of the Russian invasion.


The document of the International Committee of the Red Cross, “Customary International Humanitarian Law: Rules”, contains a number of general provisions about respect to cultural property, scientific institutions, historical and natural objects, prohibition of their destruction, robbery, theft, and export.

**National Law of Ukraine**

The basic norms on the issue of heritage protection are laid out in articles 54 and 66 of the Constitution of Ukraine:


127 This act is key in introducing the term of restitution of cultural property (that is, the return of illicitly (against the current law) exported and stolen property to legal proprietors) into modern law: Kot S. Return and Restitution of Cultural Values in the Political and Cultural Life of Ukraine (XX — Early XXI Century): Monograph. Kyiv: Institute of History of Ukraine, National Academy of Sciences of Ukraine, 2020. — 1020 p.

128 URL: https://www.unidroit.org/instruments/cultural-property/1995-convention/status/

129 URL: https://www.unidroit.org/instruments/cultural-property/1995-convention/status/ [in Ukrainian]


131 URL: https://ukrainer.net/zabraty-vkradene/ [in Ukrainian]


133 01/04/2022 (5 Ratifications including at least 3 member States of the Council of Europe). URL: https://rm.coe.int/1680ab1c4b.


140 URL: https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text [in Ukrainian]
Article 54. (...) The State promotes the development of science and the establishment of scientific relations of Ukraine with the world community. Cultural heritage is protected by law. The State ensures the preservation of historical monuments and other objects of cultural value, and takes measures to return to Ukraine the cultural treasures of the nation, that are located beyond its borders.

Article 66. Everyone is obliged not to harm nature, cultural heritage and to compensate for any damage he or she inflicted.

The Law of Ukraine “On the National Archival Fund and Archival Institutions” (1993) proclaims the National Archival Fund of Ukraine to be a constituent of the national and world cultural heritage and informational resources of society protected by the state. It establishes the principles of the formation of the National Archival Fund and the property rights for the documents of the National Archival Fund and regulates the transfer of the property rights. It regulates the procedure of using the documents of the National Archival Fund and prohibits taking them abroad except for instances of their temporary exhibition, scientific expertise, or restoration.

The Law of Ukraine “On Museums and Museum Matters” (1995) establishes work directions for museums, types of museums, creation, reorganization, and liquidation of museums. It proclaims the Museum Fund of Ukraine as a national treasure and an integral constituent of Ukraine’s cultural heritage protected by law. It establishes the formation procedure of the state part of the Museum Fund of Ukraine. It obligates the proprietors or agencies authorized by them to create appropriate conditions for conserving collections. It defines the limits of museums’ autonomy.

The Law of Ukraine “On Libraries and Library Activities” (1995) establishes the structure for interactions of libraries between themselves and with other institutions. It points to the necessity of the conservation of precious and rare documents. It regulates the process of liquidation of libraries.

The Law of Ukraine “On Export, Import, and Return of Cultural Values” (1999) proclaims the necessity to return cultural property illicitly exported abroad or evacuated from the territory of Ukraine during wars and armed conflicts to Ukraine. It defines which cultural property is prohibited for export abroad.

The Law of Ukraine “On Protection of Cultural Heritage” (2000) with amendments made, in particular, by the Law of Ukraine “On Amending the Law of Ukraine “On Protection of Cultural Heritage” Considering Conservation of Monuments of Cultural Heritage Included into the UNESCO World Heritage Sites” (2018) defines and categorizes cultural heritage objects. It establishes the powers of governmental agencies at different levels, considering the conservation of cultural heritage items (including giving permits for transfer). It outlines the rules of conserving and protecting heritage and the rules of its exploitation. It regulates the access to cultural heritage objects. It limits the registration of cultural heritage objects and notes the exclusion of monuments that are symbols of the Communist, National-Socialist regime, or Russian imperialism from the register. It coordinates the state policy in protecting world cultural heritage objects according to the rules of international law.

In July 2022, the Law of Ukraine “On the Legal Regime of Martial Law” was supplemented with article 19-1: the military command, together

141 URL: https://zakon.rada.gov.ua/laws/show/3814-12 [in Ukrainian]
142 URL: https://zakon.rada.gov.ua/laws/show/249/95-%D0%98%2B%D1%80#Text [in Ukrainian]
143 URL: https://zakon.rada.gov.ua/laws/show/32/95-%D0%98%2B%D1%80#Text [in Ukrainian]
144 URL: https://zakon.rada.gov.ua/laws/show/1068-14#Text [in Ukrainian]
145 URL: https://zakon.rada.gov.ua/laws/show/1805-14#Text [in Ukrainian]
146 URL: https://zakon.rada.gov.ua/laws/show/2457-19#Text [in Ukrainian]
147 URL: https://zakon.rada.gov.ua/laws/show/389-19#Text [in Ukrainian]
with military administrations, are granted the right to “evacuate material and cultural values that are state property in case of a threat of their damage or destruction, according to the list adopted by the Cabinet of Ministers of Ukraine.”


The Criminal Code of Ukraine defines contraband of values (art. 201), crimes against archaeological heritage (art. 298), and archives (art. 298-1) as types of violations 151.

Resolutions of the Cabinet of Ministers adopted the provision about the National Archival Fund 152, the State Archival Service of Ukraine 153, and the Museum Fund of Ukraine 154. The latter regulates, in particular, the procedure of transporting objects from museum collections that can be used for their evacuation.

The issues of organization and enacting the evacuation of people and property are regulated by the Resolution of the Cabinet of Ministers of Ukraine from 10/30/2013 No. 841 “On the Adoption of the Procedure of Evacuation in Case of a Threat of an Emergency or an Emergency” 155.

There is a framework of methodological instructions that are mandatory and regulate daily management of collections. Among them are: “On Adoption of Instruction on Organization of Accounting for Museum Objects” 156, “Procedure of Entry of Unique Monuments from the Museum Fund of Ukraine to the State Register of the National Cultural Treasure” 157, “Provision on the Stock and Purchase Commission” 158, “Instruction on Procedure of Defining Evaluative and Insurance Value of the Monuments from the Museum Fund of Ukraine” 159, and other acts 160. There are official recommendations on management in some emergencies 161, and also the “Instruction on Protection of Museum and Artistic Property from Means of Mass Destruction” passed in 1970 162.

The requirements for conserving collections are regulated by statute documents, inner documents of every institution (that comply with the laws of Ukraine), and Qualification Requirements for Employees. Statute documents of institutions comply with the laws of Ukraine in the sphere of conservation, as well as the statute documents of the asset holder.

Qualification requirements for employees of museums and libraries are defined by the Handbook of Qualification Characteristics for Employees’ Professions, issue 81 “Culture and Art” (2000) 163, which reproduces earlier documents and the organization’s staff list.
Unofficial Documents
There are unofficial instructions on rescuing collections that consider world experience and are based on recommendations of ICCROM\textsuperscript{164}, that were published in 2022 in Ukrainian translation\textsuperscript{165}. They are not included in Ukraine’s legal field for unknown reasons, although there is an initiative to grant them official status.

\textsuperscript{164} URL: \url{https://www.iccrom.org/publication/first-aid-cultural-heritage-times-crisis-handbook}.
\textsuperscript{165} Heritage in Danger. Emergency Evacuation of Cultural Property \url{https://www.maidanmuseum.org/uk/node/2132}; Instruction on Rapid Response for Museums \url{https://www.maidanmuseum.org/uk/node/2132} [in Ukrainian]
Appendix 3. International experience in conserving collections

An analysis of foreign experience shows that in many countries, there are research institutions that work on a broad spectrum of issues that ensure the conservation of collections, with the mandatory implementation of scientific achievements in practice.

In particular, the Norwegian Institute for Cultural Heritage Research (NIKU)\textsuperscript{166} is doing research in such spheres as archaeological excavations, digitization, conservation, buildings, heritage and society, and heritage of the Far North.

In France, the Foundation for Cultural Heritage Sciences\textsuperscript{167} structures research on material cultural heritage. The foundation generates new research topics and creates new practices in heritage, uniting specialists in different fields (physics, chemistry, biology, computer sciences, humanities, and social sciences) to unite their experience and knowledge.

In Asian countries, university research centers have higher activity compared to national-level institutions.

The Nordic Center for Cultural Heritage & Armed Conflict (CHAC), founded in Denmark in 2017 in the framework of the NATO project, is an international research organization that helps international organizations, governments, military organizations, and museums understand and develop more efficient approaches to evaluation of the significance of cultural heritage in military conflicts of the 21st century. CHAC is a leading

\textsuperscript{166} URL: \url{https://www.niku.no/en/}.
\textsuperscript{167} URL: \url{https://www.heritageresearch-hub.eu/member/fondation-des-sciences-du-patrimoine/}.
organization on this topic that significantly influences the development of policies in states and international organizations.

The Narodowy Instytut Muzealnictwa i Ochrony Zbiórów NIMOZ (National Institute for Museums) in Poland is responsible for the formation and implementation of museum policies and museum assistance.

The Totalförsvarets forskningsinstitut (Swedish Defence Research Agency) researches defense on all levels of society — national, regional, and local.

The report “Civilt försvar mot 2030” of the Totalförsvarets forskningsinstitut identifies the gap in planning on how to protect cultural heritage and how to do cultural work and support it during the high alert and war. That’s why the government commissioned the Riksantikvarieämbetet (Swedish National Heritage Board) to study the possibility of creating a national board for the protection of culture that would guarantee that the cultural sector is equipped for the protection of cultural heritage, both physically and digitally, and that the cultural sector has to be well-prepared to keep functioning in an emergency or war. The National Heritage Board has presented the report on the task performance to the government for consideration.

Also, the National Heritage Board has prepared documents, practical advice, and processes for ensuring the preparedness of museums, archives, and libraries to function in crises. The researchers developed several methodological materials: “Prioritisation of collections and objects of heritage: preparedness for war and catastrophes” to support the work of museums in assessment, selection, and defining priorities among heritage objects that should be evacuated during wars or catastrophes; instruments for risk management; action algorithms during natural disasters; and a manual for an emergency evacuation.

In October 2023, in Sweden, training was held to increase preparedness of the conservation system for emergencies. Around 130 people from Swedish museums participated in the training during one week. During the training, museums tested their action plans in case of natural disasters and assessed what could be improved.

International experience in digitizing collections

The availability of cultural heritage in digital form has great significance, not the least, as a measure of preparedness for crises.

Open access to digital representations has become the norm for many European collections.168

There is a standardized approach to the representations of information about heritage and museum documentation (including its digital representations) — the CIDOC conceptual base model that is the recognized international standard ISO 21127:2014.169 This is a multi-parameter and multitiered hierarchical model that allows making descriptions and allows for multifaceted (for example, scientific) use of various objects.

Swedish government plans to invest 20 million Swedish kroner yearly in 2024-2026 in cultural heritage protection by digitizing archives and object collections in state museums, other state operations, and operations supported by the state.170 In the opinion of Swedish officials, cultural heritage in digital form has great significance as a measure of preparedness for crises.

169 URL: https://www.cidoc-crm.org/.
International experience in sharing professional knowledge in conserving collections

The educational training of ICCROM “First Aid and Resilience of Cultural Heritage During Crises” (FAR) is a flagship program of ICCROM from 2020. The program teaches, collects knowledge, creates networks, increases awareness, and informs policies with one goal — lowering the risk of natural disasters for material and immaterial cultural heritage and communities connected to it.

In 2016, ICCROM developed a handbook on emergency evacuation of heritage collections. Based on many years of experience and real situations, this publication offers a simple tested-in-practice work process of emergency evacuation of valuable objects, easily replicable in any context.