

## The Importance of Museums as Scientific Institutions in Documenting and Valorizing Cultural Heritage – Practical Challenges

**Dr. DJAZIA ELFILALI**

[djazia.elfilali@univ-bechar.dz](mailto:djazia.elfilali@univ-bechar.dz)

University of Bechar, Algeria

**Dr. Nadia Belguendouz**

[nadia.belguendouz@univ-mascara.dz](mailto:nadia.belguendouz@univ-mascara.dz)

University of Mostefa Stambouli, Mascara

**Dr. Kadi Mohamed**

University of Bechar

[mohamed.kadi@univ-bechar.dz](mailto:mohamed.kadi@univ-bechar.dz)

Submission: 20.08.2025. Acceptance: 12.12.2025. Publication: 14.03.2026

### **Abstract:**

Museums play a pivotal role as scientific institutions in documenting, preserving, and valorizing cultural heritage. They not only safeguard historical, artistic, and scientific artifacts but also facilitate public engagement, cultural exchange, and education. This paper examines the multifaceted functions of museums, including documentation, management, and interpretation of collections, highlighting the practical challenges they face such as digital transformation, limited resources, and the need to align with sustainable development goals. Emphasis is placed on the integration of modern technologies, digitization, and innovative approaches to enhance accessibility, conservation, and social relevance. By exploring museums' contributions to cultural sustainability, social cohesion, and economic development, this study underscores their essential role in preserving human history, reinforcing cultural identity, and promoting sustainable practices for future generations.

**Keywords** : Museums, Cultural Heritage, Documentation, Sustainability, Cultural Valorization, Social Development, Digital Transformation

### **Introduction:**

Museums are witnessing rapid development in line with current conditions, represented by technological advancement and economic and social progress, which contribute to the promotion of museum protection of cultural heritage and its marketing and promotion to the public. Museums are, in turn, important scientific and economic institutions concerned with preserving, managing, and disseminating cultural heritage, reorganizing the collective memory of this heritage, and playing a vital role in safeguarding human history, its cultural industries, and its creative achievements over time. Their importance goes beyond being mere institutions concerned with collecting, inventorying, and displaying their collections; they also represent platforms for cultural exchange, community participation, and educational and cultural purposes. Museums are also defined as buildings tasked with preserving and storing artifacts of historical, scientific, artistic, or cultural significance.

The importance of museums has become more pronounced as they face major challenges, opening broad horizons in determining mechanisms for developing preservation and valorization of museum collections of all kinds. This is achieved through applying modern technologies, introducing digitization in display, museum guidance, and even communication processes to reach and interact with the external world, highlighting the importance of these artifacts and their role in consolidating the identity of human communities. It also requires directing various institutions to dedicate their material, financial, scientific, and human resources toward developing the future vision of museums by emphasizing their importance within other cultural institutions tasked with preserving and valorizing cultural heritage. Hence, the problem of the study centers on the role of museum institutions in the scientific process of preserving and valorizing cultural heritage, and the latest developments in applying sustainable development goals and their dimensions, which obliges them to update their priorities and importance in preserving and sustaining cultural heritage.

### **1. Definition of Museums:**

According to the International Council of Museums (ICOM), a museum is defined as: "A permanent non-profit institution in the service of society and its development, open to the public, whose mission is to collect, preserve, research, and display artifacts and their environment for study, analysis, education, and entertainment." Douglas A. pointed out that a museum has two missions: the first is to collect, identify, register, preserve, and display, while the second mission is to provide precise information about each specimen, which reflects the competence of museum staff.

Following rapid global developments in economic, social, and cultural fields, ICOM members decided to revise the concept and function of museums after the Advisory Committee discussed potential amendments in a meeting in Paris. Many countries submitted proposals to the Secretariat, approximately 250 proposals. After studying and discussing the issue, the ICOM General Conference in Kyoto in 2019 defined museums as: "Inclusive, democratic, and multifunctional institutions that allow critical discussions about the past and future, acknowledge conflicts and challenges of the present, and aim to address them. Museums preserve artifacts and artistic models as a trust for society, safeguard the past and the diverse memory for future generations, ensure equal rights and equal opportunities for access to heritage for all people. Museums are non-profit, participatory, and transparent institutions working effectively in partnership with different communities for their benefit. Museums aim to collect, preserve, research, interpret, and display artistic artifacts, enhance understanding of the world, contribute to human dignity, apply social justice, achieve equality, and promote well-being."

A scientific museum is defined as a type of museum reflecting the historical development of scientific fields, industries, and discoveries, including computers. Its halls include all scientific branches such as industry, agriculture, medicine, earth sciences, transportation, and electronic communications. Examples include natural history museums, science and technology museums, and museums preserving inventions and devices since the European Renaissance,

such as the German Museum in Munich, the Science Museum in London, the Air and Space Museum in Washington, and the Transport Museum in Switzerland. These museums preserve scientific experiments and inventions, reflecting society's appreciation for contributors to science and technology.

## **2. Documenting Cultural Heritage as a Museum Task (Administrative and Organizational Procedures):**

The process of documenting and recording cultural heritage in museums is a main function that supports preserving and valorizing this heritage through registration, analysis, and proper interpretation of essential information about artifacts to remain available for utilization and service to society through exhibitions, educational programs, and other knowledge dissemination tools. This information includes core data, materials, design, dimensions, origin or creator, acquisition date and purpose, relation to other collections, and all archival images. Study and research on artifacts can be performed by curators and specialized museum researchers or external academics, depending on expertise. The goal is to utilize the results as a basis for heritage research, enrich museum exhibitions with knowledge, and offer updated educational programs to the public.

In this context, ICOM's Documentation Committee issued a statement to serve as a guide for documentation in museum institutions regarding policies for managing and administering collections. This aligns with the ICOM Code of Ethics (2006). Documentation relies on registering artifact information in writing and digitally within a unified museum documentation system. Key points include:

1. Providing qualified, experienced personnel by hiring curators in small museums, employing one or more documentation specialists to work with curators, restorers, and information system specialists.
2. Implementing a documentation system preserving collection information and supporting collection management, including registration, loan management, artifact location tracking, with both paper and digital records for artifact identity.
3. Ensuring documentation systems and information comply with international and national standards while considering local needs.
4. Assessing user needs and providing tailored services for students, researchers, teachers, and the general public, including research areas with access to paper or digital records and search tools.
5. Enabling researchers and users to access relevant information about artifacts, including name, title, type, classification, materials, and location.
6. Restricting access to sensitive information or copyright-protected details, while complying with freedom of information laws. Restricted information may include distinguishing marks, origin evaluations, storage locations, and precise discovery sites.
7. Including documentation to verify acquisition method, date, source, and ownership validity, whether artifacts are permanently acquired or temporarily held.

8. Recording the provenance of artifacts from creation or discovery to the present, including ownership history, production, and usage details, managed according to archival standards.
9. Assigning a unique identification number to each artifact, recorded in the documentation system whether on-site or relocated.

Additional principles involve providing information about topics related to collections, sharing with other organizations, integrating collections into educational curricula, virtual exhibitions, and teaching resources. Security, sustainability, preventive measures against natural or human risks, environmental monitoring, digital backups, and migration from traditional to modern systems are emphasized.

Two digital system types are noted: collection management systems (for registration, organization, control, preservation, retrieval, and accessibility of artifact information) and museum content management systems (for managing all acquired artifacts' information, enhancing internal communication among curators, and making data accessible to external researchers). These systems help museums fulfill their roles as information institutions in society.

### **3. Scientific Museums, Cultural Sustainability, and Community Identity:**

Culture is a key pillar in sustainable development, requiring promotion, enhancement, and preservation. Narrowing culture to include cultural artifacts, tangible and intangible heritage, skills, and social communities, international agreements integrate culture into sustainable development. Cultural sustainability involves heritage, cultural activity, economic sustainability, diversity, locality, environmental and cultural resilience, and cultural civilization, closely linked to economic, social, and environmental sustainability. Heritage and cultural activity are core to museums, reinforcing preservation, knowledge transfer, and sustainability for future generations. Museums help develop cultural policies ensuring heritage sustainability.

### **4. Scientific Museums and Social Sustainability in Valorizing Cultural Heritage:**

Museums have long contributed to society by fostering a sense of place and shared humanity. They engage local communities, establish new relationships with the public, and promote sustainable social communication. Museums diversify and deepen community relationships, rebuild social and human capital through interactive, community-led activities, and contribute to sustainable communities aligned with sustainable development strategies. Key social sustainability aspects include promoting social connectivity, sense of belonging, inclusion, creativity, and participatory democracy.

### **5. Scientific Museums and Economic Valorization of Cultural Heritage:**

Scientific museums are economic institutions contributing to national development. Integrating museums into sustainable development promotes both heritage preservation and economic development through cultural industries. Museums balance cultural preservation with economic

growth, providing value through exhibitions, workshops, and digital marketing. Examples include the Louvre (France) and Kyoto Museum (Japan), both achieving a balance between heritage conservation and cultural industry development. Digital tools expand access, enhance collection management, and reinforce heritage preservation and valorization.

Preserving natural capital is essential for sustainable development, ensuring quality of life, environmental protection, and stable economic growth. Museums contribute to cultural sustainability by reflecting diverse civilizations in collections, advancing education, and applying sustainable development principles, including cultural dimensions, as recognized by the UN post-2015 agenda. Museums act as scientific institutions preserving cultural identity and heritage as tourism products.

Sustainable museum operation requires balancing economic, social, and environmental dimensions, including protecting cultural environments, fostering long-term audience relationships, presenting heritage with modern techniques, managing collections for future generations, rationalizing resource use, promoting local development, developing human resources, adapting to political, social, environmental, and economic changes, forming partnerships, and using collections for climate and environmental studies.

Sustainability is critical, requiring museums to demonstrate leadership through exhibitions and programs, raising awareness and public engagement with sustainable development. Community and heritage education museums are key tools for teaching people their responsibility in preserving their environment and natural resources while using them responsibly.

## **6. Practical Challenges Faced by Museums in Achieving Cultural Heritage Preservation and Sustainability:**

Museums face significant challenges in carrying out their tasks, including the complexities involved in cultural representation, pressures of digitization, and limited resources. Nevertheless, museums remain active institutions in the process of preserving cultural heritage by supporting innovation in finding preservation mechanisms, and promoting dialogue between cultures. One of the challenges museums face in protecting cultural heritage is striving to achieve the objectives set by the Sustainable Development Goals (SDGs). Their importance can be summarized as follows:

1. Museums preserve cultural and natural heritage through their collections and related knowledge. This serves as a foundation for a wide range of learning and study programs that support the SDGs and the preservation of cultural and natural heritage beyond the museum setting.
2. Museums reach large numbers of people for learning, offering numerous programs aligned with the SDGs. They enhance public interest in the SDGs, raise awareness, and build capacity to address them. Museums can play a crucial role in promoting public education and engagement in achieving the SDGs.
3. Museums can support cultural participation, ensuring that all visitors, regardless of their abilities or backgrounds, have the opportunity to fully engage with society. By providing services to the public, museums contribute to many SDGs by ensuring that their services

are accessible and inclusive for all community segments. Museums can bring together people with similar backgrounds and interests, fostering fair, tolerant, and equitable communities.

4. Museums enjoy the trust of large segments of the population, which can help advance the SDG agenda. They can support people in exploring challenges related to the SDGs, promoting the building of just, tolerant, and equitable communities. Trust allows the transition from the known to the unknown.
5. Museums can make a substantial contribution to local economies, especially in areas experiencing poverty or where specific groups are marginalized, helping to address social and economic disparities.
6. Museums have a significant impact through their operations and resource use. They can directly contribute to achieving the SDGs through activities related to staff, finances, and operations, steadily enhancing positive impacts and reducing negative ones.
7. Museums can participate in and facilitate cross-sector partnerships, playing a leadership role in pursuing the SDGs. They enjoy considerable freedom, which can be leveraged to support positive interactions among different stakeholders and to address real-world challenges (local and global). In many communities, it can be said that no sector is better positioned or capable of doing so, helping to bridge the gap between policies/strategies and lived experiences, and providing opportunities for individuals to contribute to developing policies and strategies that affect their own lives and the lives of others.

The work of museums with the principles of sustainable development is never about continuing business as usual within a fixed framework. Rather, it concerns recognizing the importance of genuinely addressing the challenges they face and using a goal-oriented approach to move toward different future projects instead of advancing slowly. This is aimed at achieving satisfactory outcomes within the framework of preserving cultural heritage in a more sustainable manner than before.

The benefits of sustainable development for museums can be realized by integrating supportive activities and interconnected markets through the marketing of their museum exhibits, which in essence are cultural heritage. These benefits arise from the integrative interaction between the three pillars of sustainability: economic and social development, and environmental protection. Museums face the challenge of sustaining their field by raising public awareness about human life needs and their impacts, which requires achieving a globally sustainable future and strengthening local communities in ways that encourage reflection, dialogue, and action. This is a role that museums can undertake, even if it is not part of their traditional functions.

Currently, what is required is the provision of financial resources to museums that allow them to develop and improve the application of sustainable development principles. This includes taking strict measures regarding institutional reform within the museum sector, which is also fundamental to improving the status of financial funding from non-governmental resources.

**References :**

- Rifaat, Moussa Mohamed, *Introduction to Museum Art*, 1st edition, Dar Al-Masriya Al-Lubnaniya, Cairo, 2002.
- Fawzia Ezzat Abu Ammeh, *Museums and Their Effective Role in the Study of History Curricula*, 1st edition, Dar Al-Fajr Publishing, Abu Dhabi, 2007.
- Al-Arabi Laqrez, *The Role of Museums in Protecting Cultural Heritage*, *Alf Journal: Language, Media, and Society*, Vol. 10, No. 2, March 2023.
- Mohamed Gamal Rashid, *Museum Science: Its Origin, Branches, and Impact*, Dar Al-Arabi Publishing, Egypt, 2020.
- Somaya Said, *Museum Content Management Systems (Principles, Types, and Functions)*, *International Arab Journal of Knowledge Management*, Vol. 1, No. 1, Cairo, January 2022.
- Iman Salah Omar, *The Role of Museums in Promoting Sustainability*, *Heritage of Egypt Journal*, Issue 2, Part 1, 2023.
- N. J. Merriman, *The Role of Museums*, *Archaeology – Vol. II*, Encyclopedia of Life Support Systems (EOLSS), p. 2.
- George Iheanyi Eleazu, *The Role of Museums in Preserving Cultural Heritage*, *Journal of Department of Fine and Applied Arts*, Vol. 2, No. 1, November 2024.
- ICOM, *224 Years of Defining the Museum: The New Design of the Definition of the Museum Will Be Discussed at the ICOM General Conference in Prague in 2022*, p. 3.
- ICOM CIDOC, *Statement of Principles of Museum Documentation*, CIDOC Documentation Standards Working Group, 6 June 2012, Version 6.2; [cidoc.mini.icom.museum](http://cidoc.mini.icom.museum)
- Theopisti Stylianou, et al., *Museums and Cultural Sustainability: Stakeholders, Forces, and Cultural Policies*, *International Journal of Cultural Policy*, 2014, Vol. 20, No. 5.
- Christer Gustafsson & Akram Ijla, *Museums: An Incubator for Sustainable Social Development and Environmental Protection*, *International Journal of Development and Sustainability*, Vol. 5, No. 9, 2016.
- Fanzhen Qi, *Balancing Cultural Heritage Preservation and Cultural Industry Development: The Role and Challenges of Museums*, *Highlights in Business, Economics and Management*, Vol. 21, 2023.
- Karen Brown, *Museums and Local Development: An Introduction – Museums, Sustainability, and Well-being*, *Museums International*, 2019, p. 4.
- Museums Association, *Sustainability and Museums: Your Chance to Make a Difference*, London, 2008.
- Museums and the Sustainable Development Goals 02: A How-To Guide for Museums, Galleries, the Cultural Sector and Their Partners*, [museums-and-the-sustainable-development-goals-2019.pdf](#)
- Amirah Athirah Yaacob & Nor Zalina Harun, *The Role of Museums in Advancing the Preservation of Historical Sites as Cultural Heritage*, *Jurnal Kejuruteraan*, 37(2), 2025: 657–665, [https://doi.org/10.17576/jkukm-2025-37\(2\)-09](https://doi.org/10.17576/jkukm-2025-37(2)-09)