



Toward the Establishment of an Agricultural Museum in Jericho, Palestine

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Abstract: This study, **Objective**, proposes a structured framework for the establishment of an Agricultural Museum in Jericho, Palestine, envisioned as an institution that integrates cultural preservation with environmental education and sustainable development, emphasizing Jericho's role as one of the earliest centers of agriculture in human history. **Methodology**, the study adopts a descriptive, analytical, and comparative approach based on recent literature in museology and heritage studies, institutional reports issued by FAO, UNESCO, and PCBS, and expert interviews conducted in Palestine between October 2024 and January 2025. **Results**, the findings suggest that the future establishment of an agricultural museum in Jericho would address a significant institutional and cultural gap by preserving agrarian memory, supporting interactive and digital learning, and enhancing environmental awareness. **Conclusion**, the study concludes that integrating historical agricultural knowledge with contemporary innovation could reposition agriculture from a purely economic activity to a marker of identity, continuity, and cultural sovereignty in the Palestinian context. Recommendations, accordingly, the study recommends advancing legal, institutional, and educational measures to support the future establishment of the museum, including the protection of traditional agricultural knowledge and the integration of museum-based environmental education into Palestinian curricula.

Keywords: Jericho; early agriculture; agricultural museum; Palestinian cultural identity; museum education; environmental sustainability.

المتحف الوطني للزراعة في فلسطين: من العصر الحجري إلى الحاضر نموذج لإحياء الهوية البيئية والحضارية الفلسطينية في مدينة أريحا

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المخلص: الهدف: يهدف هذا البحث إلى اقتراح إطار منهجي لتأسيس متحف للزراعة في مدينة أريحا-فلسطين، بوصفه مشروعًا تصوريًا يدمج بين الحفاظ على التراث الثقافي، والتعليم البيئي، والتنمية المستدامة، مع إبراز مكانة أريحا باعتبارها من أقدم مراكز الزراعة في التاريخ الإنساني. **المنهجية:** تعتمد الدراسة المنهج الوصفي التحليلي المقارن، بالاستناد إلى الأدبيات الحديثة في علم المتاحف ودراسات التراث، وتقارير مؤسساتية صادرة عن منظمة الأغذية والزراعة (الفاو)، ومنظمة الأمم المتحدة للتربية والعلم والثقافة (اليونسكو)، والجهاز المركزي للإحصاء الفلسطيني، إضافة إلى مقابلات مع خبراء أجريت في فلسطين خلال الفترة من تشرين الأول/أكتوبر 2024 إلى كانون الثاني/يناير 2025. **النتائج:** تشير النتائج إلى أن التأسيس المستقبلي لمتحف زراعي في أريحا من شأنه أن يسد فجوة مؤسسية وثقافية في المشهد المتحفي الفلسطيني، من خلال حفظ الذاكرة الزراعية، وتعزيز التعلم التفاعلي والرقمي، ورفع مستوى الوعي البيئي. **الاستنتاجات:** تخلص الدراسة إلى أن ربط المعارف الزراعية التاريخية بالابتكار المعاصر يمكن أن يعيد تموضع الزراعة من نشاط اقتصادي صرف إلى ركيزة للهوية والاستمرارية والسيادة الثقافية في السياق الفلسطيني. التوصيات: توصي الدراسة بضرورة اتخاذ إجراءات مؤسسية وتشريعية وتعليمية لدعم التأسيس المستقبلي للمتحف، بما يشمل حماية المعارف الزراعية التقليدية ودمج التعليم البيئي القائم على المتاحف في المناهج التعليمية الفلسطينية.

الكلمات المفتاحية: أريحا، المتحف الزراعي، الهوية الثقافية، التعليم المتحفي، الاستدامة البيئية، التراث الفلسطيني

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Introduction

Recent archaeological and archaeobotanical studies have confirmed that the Jericho region represents one of the earliest global centers of agricultural development. Excavations at Tell es-Sultan show evidence of early plant cultivation and animal domestication dating back to nearly 9,650 BCE, reflecting the gradual shift from foraging groups to settled farming communities (Bar-Yosef, 1998, pp. 159–160; Kenyon, 1979, p. 44). Within this historical context, this study proposes the establishment of an Agricultural Museum in Jericho, Palestine, as a conceptual and institutional framework intended to document, interpret, and present the long agricultural history of Palestine. Rather than describing an existing institution, the study envisions a future museum that would address the current absence of a national body dedicated specifically to agrarian heritage, positioning agriculture as a foundation of cultural memory, environmental awareness, and social resilience (Falk & Dierking, 2013, p. 22). Agriculture in Palestine has traditionally represented more than an economic activity; it has functioned as a central pillar of social cohesion, collective memory, and cultural continuity (UNESCO, 2003).

Agricultural practices have also influenced communal rhythms and seasonal rituals for generations. Harvest gatherings, olive picking, and date and grape festivals remain deeply rooted traditions that reflect resilience and connection to the land. Agriculture in Palestine extends beyond its productive function, carrying profound cultural and symbolic meanings associated with land, belonging, and Palestinian identity (Abufarha, 2008, pp. 343–368). Jericho, in particular, offers a compelling location for the proposed museum due to its exceptional geographical and historical characteristics. In contemporary times, Jericho and Al-Aghwar continue to constitute an important agricultural area, with substantial plant, animal, and mixed agricultural holdings that demonstrate the continuing significance of agriculture in the region (Palestinian Central Bureau of Statistics & Ministry of Agriculture, 2022).

Academically, the museum is envisioned as an open educational environment that integrates heritage, environmental knowledge, and scientific research. Worldwide, agricultural museums increasingly function as research hubs and participatory learning spaces supported by digital interaction and constructivist approaches to education (Hein, 1998, p. 30; Parry, 2010, p. 44). The proposed museum follows this direction by combining preservation with environmental awareness, sustainability, and technological innovation. Furthermore, the project aligns with global development frameworks, including the United Nations Sustainable Development Goals, particularly Goal 2 (Zero Hunger) and Goal 11 (Sustainable Cities and Communities). It also corresponds with the Palestinian Ministry of Agriculture's National Agricultural Sector Strategy (2017–2022), which emphasizes the sustainable management and protection of natural resources and the development and adoption of appropriate agricultural technologies (State of Palestine, 2016).

Ultimately, the National Museum of Agriculture in Palestine seeks to connect past and future, integrating heritage and innovation and positioning Jericho as a national and international center for agricultural education and cultural diplomacy.

Theoretical Framework

The theoretical framework of this study rests on three interrelated epistemological axes:

1. The evolution of the agricultural museum concept in global museology.
2. The relationship between agricultural heritage and Palestinian cultural identity.
3. Museum education and its role in promoting environmental awareness and sustainability.

The Evolution of the Agricultural Museum Concept in Global Museology

In the past three decades, museum studies have undergone a profound transformation,

shifting from a collection-centered model toward a visitor-centered and educational paradigm. This evolution has redefined museums as dynamic social institutions rather than repositories of artifacts (Falk & Dierking, 2013, p. 22; Hooper-Greenhill, 2007, p. 16). Within this framework, the concept of the agricultural museum has evolved from a simple display of farming tools to a knowledge-based and interactive learning space that connects people with the ecological and social dimensions of food production.

According to Hein (1998, p. 25) and Lord et al. (2012, p. 55) modern agricultural museums embody the principles of constructivist education, emphasizing experiential learning in which visitors actively construct meaning through interaction. This transition from static exhibition to participatory engagement allows agricultural museums to become laboratories of cultural ecology, spaces where visitors understand the interdependence between humans, nature, and society.

Agricultural Heritage and Palestinian Cultural Identity

Agricultural heritage forms a key component of intangible cultural heritage, encompassing the practices, knowledge systems, and traditional skills associated with cultivation, irrigation, and seasonal rhythms. Agricultural heritage forms an important dimension of intangible cultural heritage, encompassing knowledge, practices, and skills transmitted across generations and shaped by communities' interactions with their natural environment (UNESCO, 2003). In the Palestinian context, agriculture is more than an economic activity; it is a repository of national memory and collective identity. The preservation of Palestinian agrarian traditions contributes to maintaining cultural identity and attachment to the land in the context of displacement and political conflict. Agricultural practices, particularly those associated with the olive tree and cultivation of the land, have acquired meanings of rootedness, continuity, and resistance within Palestinian society (Abufarha, 2008, pp. 348–368).

The symbolic dimension of agriculture also appears in Palestinian oral culture, songs, and proverbs, which portray the land as a moral and emotional anchor: “The land is honor,” “He who tills his soil deserves its bounty.” The proposed museum thus becomes a symbolic space for reclaiming agricultural memory, reinforcing social cohesion, and asserting the historical right to the land.

Museum Education and Environmental Sustainability

Educational museology emphasizes that museums are powerful instruments for behavioral and environmental change. As Falk and Dierking (2013, p. 32) argue, museums can serve as platforms for environmental education that cultivate responsible citizenship. The experiential learning theory developed by Kolb (2015, p. 45) further supports this perspective by linking sensory interaction and reflective observation to cognitive understanding. In this light, the proposed National Museum of Agriculture in Palestine is envisioned as an experiential learning environment—one that combines sensory engagement, scientific experimentation, and emotional connection to promote environmental awareness.

International organizations have emphasized the educational and social role of museums in promoting sustainable development and strengthening the relationship between cultural heritage, communities, and their environment (UNESCO, 2015). Moreover, digital innovations such as virtual reality (VR) and augmented reality (AR) have redefined agricultural interpretation, making it possible for visitors to experience ancient farming scenes interactively (Champion, 2016; Parry, 2010, p. 44).

Modern agricultural museums increasingly adopt a hybrid model integrating physical exhibitions with virtual interfaces to ensure broader accessibility and inclusivity (Simon, 2010, p. 19). The proposed Palestinian museum aspires to pioneer this model locally, combining material heritage, digital technologies, and participatory education to articulate a distinctly Palestinian narrative of agriculture.

The Critical Museology Perspective

The theoretical underpinnings of this study also draw on the principles of critical museology, which conceptualizes the museum as a space for social negotiation, dialogue, and empowerment rather than a neutral repository of objects (Message, 2018, p. 22). This perspective is also consistent with the ICOM definition of the museum, which emphasizes accessibility, inclusivity, sustainability, and the participation of communities (International Council of Museums, 2022).

Within this framework, the proposed National Museum of Agriculture in Palestine is envisioned not merely as a preservation-oriented institution but as an active participant in confronting and challenging exclusionary colonial narratives that have historically dominated archaeological interpretation in the region. By offering a platform through which Palestinians can articulate their own heritage, the museum reinforces cultural agency and narrative sovereignty.

The notion of a sustainable agricultural identity further supports this approach, emphasizing that agricultural heritage must be understood simultaneously as an environmental, cultural, and developmental asset (Food and Agriculture Organization of the United Nations, 2024). This concept aligns the museum's mission with contemporary global frameworks in sustainable development, linking traditional agricultural knowledge with ecological responsibility, community resilience, and long-term environmental stewardship.

Within this combined theoretical outlook, the proposed museum functions both as a memory institution and as a catalyst for cultural and socio-environmental development. It bridges historical continuity with future innovation, intertwining heritage, education, and environmental consciousness. In doing so, it redefines Palestinian agriculture not merely as an economic practice but as a long-standing civilizational legacy expressed through creativity, resilience, and the intimate relationship between people and land.

Historical Development of Palestinian Agriculture

The historical development of Palestinian agriculture reflects a long, uninterrupted human engagement with the land, shaped by evolving ecological, social, and technological contexts. Jericho is often described as the world's earliest agricultural settlement stands as the most vivid example of this continuity. Archaeological and archaeobotanical research shows that the eastern Mediterranean region of Palestine played a central role in the shift from foraging societies to communities practicing organized cultivation and early domestication (Bar-Yosef, 1998, pp. 159–160).

Within this historical framework, the geographical setting of Jericho provides crucial material evidence for understanding the origins of agriculture. The proposed location of the Agricultural Museum, situated in the Palm Garden area surrounding the Ministry of Agriculture in the city center of Jericho, lies at the heart of a dense archaeological landscape associated with early farming communities. As illustrated in the accompanying archaeological map (Figure 1), this area is closely connected to Tell es-Sultan (ancient Jericho), as well as to a cluster of significant Neolithic and Chalcolithic sites distributed around natural water sources and fertile soils of the Jordan Valley. The spatial relationship between these sites highlights the environmental conditions that supported early cultivation, settlement permanence, and the gradual development of irrigation systems. By situating the proposed museum within this landscape, the project emphasizes that Jericho's agricultural history is not an abstract narrative, but a geographically grounded process rooted in a continuous interaction between humans and their environment.

Across millennia, this transformation was not merely a technical change in food production but a cultural process that fostered stable settlement patterns, social cooperation, and the emergence of symbolic and ritual practices associated with agriculture. Excavations at Tell es-Sultan reveal storage systems, domesticated grains, and early irrigation practices, demonstrating that

agricultural knowledge in Palestine developed through cumulative experimentation and adaptation. These discoveries confirm that the origins of farming in Jericho were deeply intertwined with broader regional

developments, while at the same time forming a distinct local identity rooted in the land.



Figure 1. Archaeological map of the Jericho region shows Neolithic and Chalcolithic sites and the proposed location of the Agricultural Museum in the Palm Garden area near the Ministry of Agriculture in the city center of Jericho2.

Archaeological excavations at Tell es-Sultan have revealed extensive Neolithic remains, including early plant cultivation, storage facilities, and one of the earliest known systems of architectural fortification, most notably the massive stone wall and the circular stone tower (Kenyon, 1979, pp. 44–52). These features are commonly interpreted as evidence of advanced social organization, communal labor, and early defensive or observational strategies, reflecting a major transformation in human settlement patterns during the Pre-Pottery Neolithic period (Bar-Yosef, 1998, pp. 159–160; Kuijt & Goring-Morris, 2002, p. 389).

The map further highlights the proximity of Tell al-Mafjar, located a short distance northeast of Tell es-Sultan, emphasizing the

existence of a broader agricultural and settlement network within the Jericho region. Archaeological evidence from the Lower Jordan Valley indicates long-term prehistoric occupation and the development of increasingly settled communities associated with early cultivation and resource management (Al-Houdalieh, 2010, pp. 45–50; Bar-Yosef et al., 1991, pp. 405–424). The close spatial relationship between Tell es-Sultan and Tell al-Mafjar, as represented on the map, suggests interconnected settlement patterns rather than isolated sites, reinforcing interpretations that view Jericho and the Lower Jordan Valley as a core zone in the early development of agriculture and settled life (Levy, 1995, p. 134).

2 The archaeological map was provided by the Department of Maps and Geographic Information Systems (GIS) at the Ministry and was prepared and shared by Mr. Mohammad Jaradat. The proposed museum location in central Jericho was suggested by the former Palestinian Minister of Agriculture, Mr. Riyad Al-Attari, during an official meeting in the summer of 2021.

1. The Natufian and Pre-Neolithic Periods (12,000–9,650 BCE): Early Agricultural Consciousness

Archaeological findings from sites such as Ain Mallaha, Wadi al-Falah, and Tell es-Sultan indicate that Natufian communities experimented with semi-sedentary settlement patterns, cultivating wild cereals and storing harvested grains in underground pits (Kenyon, 1979, p. 38). This era represents the earliest cognitive shift toward agriculture, when humans began observing seasonal rhythms, tracking rainfall, and engaging in initial forms of animal domestication. Archaeobotanical evidence from Tell es-Sultan indicates an increasingly complex relationship between human communities and plant cultivation during the Pre-Pottery Neolithic period (Nigro, 2023b, p. 69). Within this setting, communal labor, ownership, and ritual began to merge, giving rise to an emerging agrarian consciousness.

2. The Neolithic Era (9,600–5,500 BCE): Organized Agriculture and Sedentism

During the Neolithic period, Jericho emerged as one of the earliest fortified agricultural centers in human history. Excavations by Kenyon (1979, p. 72) uncovered city walls, a circular stone tower, and grain storage facilities evidence of structured social organization supported by agricultural surplus. Early Neolithic farmers domesticated wheat, barley, and legumes, utilizing the region's abundant springs for controlled irrigation.

Watkins (2010, p. 624) argues that the agricultural revolution in Jericho marked a transition from an "economy of nature" to an "economy of production." Ritual and spiritual practices were closely tied to agricultural cycles, reflected in clay figurines of fertility symbols. These discoveries position Jericho as

a foundational center effectively the first human laboratory of agriculture.

3. The Bronze and Iron Ages (3,000–500 BCE): Crop Diversity and Social Organization

With the rise of Canaanite urban societies, agriculture became increasingly intensive and closely associated with the development of terraced settlement patterns and more complex forms of social and economic organization (Nigro, 2023a, p. 401). Women played essential roles in domestic agricultural production, including milling, fermentation, and the manufacture of olive oil and wine, maintaining the backbone of rural household economies. Lord et al. (2012, p. 63) describe this period as the origin of a symbolic agricultural economy in which farming was intimately tied to social meaning, ritual practice, and moral responsibility.

4. Classical and Islamic Periods (Hellenistic to Abbasid Eras): Institutional and Irrigation Innovations

During the Islamic and Ottoman periods, agricultural development in Palestine and the broader Levant was shaped by systems for managing land and water resources. Islamic legal institutions, particularly the waqf (endowment), played an important role in organizing land and water use and supporting the long-term management of agricultural resources (Joseph, 2015, pp. 227–256).

The Umayyad era witnessed a flourishing of agricultural engineering, exemplified by the sophisticated irrigation gardens of Hisham's Palace in Jericho, which relied on carefully calibrated gravity-fed water channels. Later Islamic dynasties introduced crops such as cotton, sugarcane, and citrus, expanding agricultural diversity and export potential. Medieval Arab geographers like al-Muqaddasi³ and Yaqut al-Hamawi⁴

3 Al-Muqaddasī (Shams al-Dīn Abū 'Abd Allāh Muḥammad ibn Aḥmad, ca. 946–991 CE) was a Palestinian geographer from Jerusalem and author of *Aḥsan al-Taqāsīm fī Ma'rifat al-Aqālīm* (985 CE), one of the earliest Arabic works detailing Palestine's agriculture and economy in the Abbasid era.

4 Yāqūt al-Ḥamawī (Shihāb al-Dīn Abū 'Abd Allāh Yāqūt ibn 'Abd Allāh al-Rūmī al-Ḥamawī, 1179–1229 CE) was a renowned Arab geographer and biographer, author of *Muḥjam al-Buldān* (*Dictionary of Countries*), which provides valuable descriptions of Palestinian

documented the fame of Jericho’s dates, Nablus’ olive oil, and Hebron’s grapes as hallmarks of Palestinian fertility.

1. **Ottoman and Modern Eras (1516–1948): From Traditional to Commercial Agriculture**

Under Ottoman administration, Palestine became a significant regional supplier of grains, olives, and citrus fruits. Local agricultural cooperatives and the iqtā‘ (tax-farming) system helped connect rural production with markets in major urban centers. By the nineteenth century, European missionaries and travelers described Palestinian farming as a communal and sustainable practice, emphasizing its cooperative character and close relationship with the landscape (Gilbar, 1990).

In the early twentieth century, mechanization began to influence Palestinian agriculture, particularly in the coastal plains and valley regions. Nevertheless, traditional rain-fed cultivation continued in the mountain villages, helping preserve social continuity, cultural identity, and seasonal agricultural customs (Nadan, 2006).

6. **Post-1948 Palestinian Agriculture: Between Resistance and Renewal**

Following the 1948 Nakba, agriculture emerged not only as a means of livelihood but also as a political act and an expression of

cultural resistance. Displaced Palestinian farmers reconstructed agricultural life on fragmented lands, relying on cooperatives, communal labor, and inherited knowledge. According to the Palestinian Central Bureau of Statistics (Palestinian Central Bureau of Statistics, 2025), approximately 6.8% of employed individuals in the West Bank worked in agriculture, hunting, and fishing activities in 2024, despite the severe economic and political constraints affecting the sector.

In recent decades, the adoption of innovative technologies such as drip irrigation, hydroponics, and solar-powered pumping has helped increase productivity under conditions of resource scarcity (Food and Agriculture Organization of the United Nations, 2024). Grassroots initiatives including *Green Palestine* and *Tale of a Farm* have also reconnected younger generations with agricultural identity, blending environmental ethics with digital and community-based innovation.

7. **Toward the Future: From Heritage to Sustainability**

Today, Palestinian agriculture stands at the crossroads of tradition and technology. Experimental projects in Jericho, Gaza, and the northern West Bank demonstrate the potential for sustainable agriculture rooted in local knowledge yet enhanced by digital systems (Food and Agriculture Organization of the United Nations, 2024).

Table 1. Chronological Development of Palestinian Agriculture⁵.

Period	Key Features	Sites	References
Natufian (12,000–9,650 BCE)	Early cereal gathering, semi-sedentary life, animal domestication	Ain Mallaha, Wadi al-Falah	Kenyon 1979; Bar-Yosef 1988
Neolithic (after 9,650BCE)	Early agricultural villages, organized cultivation, storage systems, irrigation	Tell es-Sultan (Jericho)	Nigro 2023a; Watkins 2010
Bronze & Iron Ages (3,000–500 BCE)	Terrace farming, crop diversification, symbolic economy	Hebron, Nablus, Jericho	Lord, Lord, & Martin 2012
Islamic Periods (7th–13th C.)	Waqf system, irrigation innovations, new crops (cotton, citrus)	Jericho, Gaza, Nablus	Joseph 2015
Modern–Digital Era (1516–2025)	Smart farming, solar irrigation, hydroponics, digital heritage	West Bank, Jericho Valley	FAO 2024; FAO 2025

cities, agriculture, and landscapes during the Ayyubid period.

⁵ Author’s synthesis based on Kenyon 1979; Bar-Yosef 1998; Nigro 2023a; FAO 2024; FAO 2025.

The proposed National Museum of Agriculture thus represents the culmination of this historical continuum a space in which the agricultural heritage of survival becomes a foundation for imagining sustainable futures. As Taha (2010) notes, “Palestinian agriculture is not written only in soil layers; it is inscribed in the collective consciousness of a people.”

Comparative Case Studies: Global and Arab Agricultural Museums as Models for the Palestinian National Museum

International and regional experiences demonstrate that agricultural museums play a vital role in preserving environmental heritage and reconnecting communities with their land. The following comparative analysis examines four key models French, Egyptian, Saudi, and Palestinian Jordanian to extract principles applicable to the design and mission of the proposed National Museum of Agriculture in Palestine.

1. The French Model – Musée du Compa (Chartres)

Established in Chartres in 1990, the Musée du Compa is among Europe’s most advanced agricultural museums. Initially designed to document four centuries of technological change in French agriculture, it later evolved into a national center for agricultural education and environmental awareness (Parry, 2010, p. 44).

The museum employs a chronological and interactive display system, allowing visitors to trace the development of agricultural tools, irrigation systems, and harvesting techniques through digital installations. Its educational philosophy is built on the notion of the farmer as an innovator and educator a concept highly relevant to the Palestinian context, where the farmer is historically regarded as the custodian of memory and resilience. This model underscores the importance of interpretive storytelling and interactive design elements, both of which should form central components of the narrative structure of the proposed Palestinian museum.

2. The Egyptian Model – The Egyptian Agricultural Museum (Cairo)

Established in 1930 and officially opened to the public in 1938, the Egyptian Agricultural Museum was created in the former palace of Princess Fatima Ismail in Dokki. Originally named the Fouad I Agricultural Museum, it was established to document the history and development of Egyptian agriculture and today preserves collections illustrating agricultural practices, tools, plants, animals, and rural life from ancient Egypt to the modern period (State Information Service, 2022).

Comprising nine specialized buildings, including museums dedicated to botany, ancient agriculture, rural economy, and animal husbandry, the institution blends scientific heritage with popular culture. This integration between identity and pedagogy closely aligns with the Palestinian vision of linking agriculture to sovereignty, belonging, and sustainability.

3. The Saudi Model – Palm Heritage in Al-Ahsa Oasis

Al-Ahsa Oasis represents a distinctive Saudi model for interpreting palm heritage within its agricultural and cultural landscape. Its museums and heritage initiatives highlight the historical, economic, and cultural significance of date-palm cultivation and connect agricultural heritage with local identity, traditional crafts, and cultural tourism (Saudipedia, 2020).

This model demonstrates how agricultural heritage can serve as a catalyst for the creative economy and eco-tourism. Its integration of local production, tourism, and digital storytelling offers an instructive model for Jericho, where date palms and oasis-based agriculture shape both livelihood and identity. Moreover, the museum highlights how agricultural knowledge can be framed as a national brand, combining cultural pride with sustainable development.

4. The Palestinian–Jordanian Framework: The Role of Arab Archaeologists in Agrarian Heritage

Palestine and Jordan share one of the world's richest archaeological landscapes related to early agriculture, and Arab archaeologists from both countries have made pioneering contributions to documenting and interpreting the agricultural origins of human civilization in the Levant. In Palestine, Hamdan Taha led excavations at Tell es-Sultan, emphasizing the economic and social components of Neolithic life and identifying agriculture as the material foundation of Palestinian identity (Taha, 2010, p. 24).

Nazmi al-Jubeh examined Lifta as a significant example of Palestinian cultural heritage, emphasizing how the surviving village landscape, architecture, and collective memory bear witness to displacement while sustaining Palestinian historical and cultural identity (Al-Jubeh et al., 2020).

Lorenzo Nigro explored the intersection between archaeobotany and environmental anthropology, arguing that Palestine functioned as a bio-cultural interface between humans and plants since the tenth millennium BCE (Nigro, 2023a, pp. 69–71).

Agriculture in Palestine constitutes a living cultural heritage in which agricultural knowledge and practices have been transmitted across generations. The museum must therefore provide multisensory experiences: the soundscapes of harvesting, the scent of soil and olive oil, and tactile exploration of tools, turning intangible heritage into an educational experience of identity (Palestine Institute for Biodiversity and Sustainability).

Archaeological research at 'Ain Ghazal in Jordan demonstrates the development of large, permanent Neolithic farming communities and a major transition toward reliance on domesticated plants and animals, reflecting broader transformations in settlement and subsistence across the southern Levant (Simmons et al., 1988, pp. 35–39).

Archaeological research on ancient irrigation systems in the Jordan Valley demonstrates the close relationship between water management, settlement patterns, and forms of socio-economic organization (Kaptijn, 2008, pp. 275–283).

Collectively, these Arab scholars form the intellectual backbone of an indigenous archaeological narrative that situates the origins of agriculture as a regional cultural continuum rather than a Western discovery. Their work affirms that the agrarian heritage of the Levant is a joint Arab legacy extending from Jericho to Ain Ghazal, transcending contemporary political borders.

5. Lessons for the Palestinian National Museum

The comparative analysis highlights several design and conceptual insights that can guide the development of the proposed National Museum of Agriculture in Palestine:

1. **From France:** the emphasis on the farmer as an innovator and the integration of educational programming with scientific research.
2. **From Egypt:** the fusion of agricultural heritage with national identity through narrative-based museology and culturally grounded interpretation.
3. **From Saudi Arabia:** the effective use of digital interactivity, immersive technologies, and the connection between agricultural heritage, eco-tourism, and the creative economy.
4. **From Palestine and Jordan:** the strong scholarly foundation provided by indigenous archaeological research, reaffirming agriculture as a story of memory, continuity, and cultural resistance.

Table 2. Comparative Features of Global and Arab Agricultural Museums⁶.

Museum	Country	Year of Establishment	Primary Focus	Educational Approach
Egyptian Agricultural Museum	Egypt	1930	Historical continuity from Pharaonic to modern agriculture	National identity and scientific education
Musée du Compa	France	1990	Technological heritage & interactive innovation	Experiential and digital learning
Palm Museum	Saudi Arabia	2016	Palm culture and eco-tourism	Digital interactivity and community engagement
Proposed National Agricultural Museum	Palestine	—	Heritage + Sustainability + Identity	Participatory learning and critical museology

Building on the lessons drawn from the French, Egyptian, Saudi, and Palestinian–Jordanian models, the proposed National Museum of Agriculture in Palestine should adopt an integrative framework grounded in history, community, and innovation. The museum’s conceptual structure ought to combine the following elements:

1. A chronological narrative extending from the earliest agricultural practices of the Stone Age to contemporary smart farming techniques demonstrating continuity, adaptation, and resilience across millennia.
2. Interactive and experiential education, incorporating VR/AR technologies, hands-on demonstrations, and participatory learning environments that enable visitors to engage directly with agricultural processes.
3. Community-centered content creation, ensuring that farmers, students, educators, and local residents contribute actively to the development and interpretation of the museum’s exhibitions.
4. A comprehensive digital archive, documenting traditional tools, practices, oral histories, and regional agricultural knowledge, curated collaboratively by Palestinian and

Jordanian specialists to preserve an indigenous narrative of agrarian heritage.

As Taha (2010, pp. 20–24) profoundly notes:

“Palestinian agriculture is not an artifact buried in soil; it is a living discourse on identity and freedom.”

This insight captures the intellectual and ethical core of the proposed museum: a cultural institution that narrates continuity, affirms existence, and reclaims the right to memory.

1.5 Architectural and Educational Design of the National Museum of Agriculture in Palestine

The architectural and educational design of the proposed National Museum of Agriculture in Palestine is not merely a construction plan it is a cultural act of resistance, a spatial manifestation of memory and identity. In this context, architecture becomes both a physical and symbolic structure: one that rebuilds the connection between human and land, material and memory, nature and knowledge. The proposed museum in Jericho thus embodies the fusion of sustainable architecture, experiential

⁶ Author’s comparative analysis based on Parry 2010; State Information Service 2022; Saudipedia 2020; Taha 2010.

education, and cultural identity (Falk & Dierking, 2013, p. 35).

1. Conceptual Vision: Architecture as Memory

The design concept is rooted in the idea of merging temporal and spatial dimensions into a single architectural language one that reflects both the long history of agriculture since the Stone Ages and its physical expression in the landscape of Jericho. The museum is envisioned as rising *from* the land rather than sitting *on* it, using natural materials such as local limestone and compressed clay that echo the traditional architectural character of the Jericho region.

Palestinian vernacular architecture demonstrates a close adaptation to local environmental conditions, particularly through the use of courtyards that contribute to natural ventilation and lighting (Abuarkub, 2019, pp. 88–99). Building on this principle, the museum will incorporate bio-architectural strategies including passive ventilation, shaded open-air courtyards, and east-oriented skylights that trace the movement of sunlight across agricultural fields.

Solar energy will supply the building's lighting and climate-control systems, following Cole et al. (2020) recommendations for low-emission design in arid environments.

Building on this approach, the museum will blend organically with Jericho's terrain, appearing as a natural extension of the land. Its architectural form will emphasize harmony with the local environment while symbolically expressing continuity, rootedness, and cultural endurance.

2. Spatial Layout: Architectural Narrative of Agriculture

The museum, as envisioned, will occupy close to eight thousand square meters. Within this space, the design brings together both permanent and rotating galleries, a modest research library, rooms for learning and experimentation, and a center prepared to welcome visitors beside an open garden for

environmental education. Rather than a rigid plan, the interior path unfolds like a narrative in motion, leading guests through the long continuity of Palestinian agriculture from its earliest cultivation on the plains of Jericho to the present-day experiments in smart, sustainable farming.

The museum will include several distinctive exhibition areas, each designed to convey a different stage in the agricultural story of Palestine. The Hall of Early Agriculture, covering the Natufian and Neolithic eras, will display stone tools, charred grains, and the earliest storage pits uncovered in Jericho (Kenyon, 1979; Nigro, 2023a, pp. 69–72). Nearby, the Classical and Islamic Agriculture Halls will illustrate the development of irrigation and plowing systems, along with historical documents related to agricultural endowments and land use.

The Women and Agriculture Gallery will highlight the historically underrepresented contributions of Palestinian rural women to agricultural production and the intergenerational transmission of agricultural knowledge and skills (Morkus-Makhoul, 2024).

An open-air section, the Living Garden, will allow visitors to walk among native crops of wheat, barley, olives, figs, and dates and learn about their symbolic and economic significance.

Finally, the Smart Agriculture Laboratory will encourage hands-on experimentation through digital media, allowing visitors to simulate irrigation control and crop monitoring using augmented and virtual reality technologies (Champion, 2016, pp. 61–74).

3. Technological and Digital Components

Technology in the museum acts less as spectacle than as a medium linking memory with innovation. Through carefully designed augmented-reality (AR) and virtual-reality (VR) scenes, visitors step into the agricultural world of ancient Palestine: they might harvest crops in early Jericho, stroll through the Umayyad gardens of Hisham's Palace, or

follow the historical spread of farming on interactive digital maps. In this way, digital tools translate inherited knowledge into contemporary experience (Parry, 2010).

A digital agricultural archive will also be established, containing audiovisual materials photos, videos, oral histories, and interviews with Palestinian farmers. This digital infrastructure supports academic research and public access, forming part of the National Digital Heritage Project.

4. Environmental and Social Dimensions

The museum will operate as a living model of environmental sustainability. It will reuse greywater for irrigation, employ solar power for most of its energy needs, and use green roofing for natural insulation. A rooftop herb and medicinal plant garden will serve both educational and ecological functions. Sustainable museum architecture can extend beyond operational efficiency by integrating environmental responsibility into the design and educational functioning of the institution. Within this framework, the Jericho Museum will transform its physical structure into an ecological and educational statement through environmentally responsive design and sustainable resource use (Cole et al., 2020).

The museum will also engage the local community through employment opportunities, capacity-building programs, and women's cooperatives, making it a hub of socio-economic empowerment.

5. Integration of Architecture, Education, and Identity

Ultimately, the museum's architectural and educational vision fuses space, knowledge, and resistance. The building itself becomes a text of identity one that can be read through senses, memories, and collective experience. Palestinian folk heritage demonstrates the profound relationship between place, material culture, collective memory, and identity (Kanaana, 2013). Within this framework, every stone, tree, and agricultural tool can contribute to narrating stories of belonging and perseverance (Taha, 2010).

The National Museum of Agriculture in Jericho is therefore more than a monument it is an open-air classroom, a national statement, and a dialogue between the human spirit and the earth. Through this integration of architecture and learning, it revives the ancient Palestinian message that to cultivate is to exist.

Comparative and Theoretical Analysis: The Meaning of the Agricultural Museum in Palestine

The proposed National Museum of Agriculture in Jericho is not merely a display space; it is an intellectual and spatial system that redefines the Palestinian narrative through the language of the land. While most global agricultural museums focus on technological progress, the Palestinian museum embodies a human-centered philosophy, portraying agriculture as identity, resistance, and memory.

1. The Museum as a Narrative of Identity

Global agricultural museums often present linear histories of innovation; in contrast, the Palestinian museum repositions the human being at the center of the agricultural story. The objective is not to display plows and grains as relics, but to interpret them as living symbols of cultural continuity. The relationship between Palestinians, place, and inherited cultural traditions reflects a broader sense of belonging in which land forms an integral part of collective identity and cultural memory (Kanaana, 2013). Hence, the museum transforms from a static archive into a living narrative that reclaims historical authorship from colonial archaeology.

It tells the Palestinian story through local voices, indigenous knowledge, and sensory experience, countering centuries of external interpretation (Taha, 2010, pp. 16–25).

2. The Museum as an Act of Narrative Resistance

According to Hamdan Taha, the Palestinian museum must liberate itself from the colonial model of display, which objectifies heritage behind glass and detaches it from its social meanings. He calls instead for a dialogical

museum, where “soil, grain, and human labor speak together”(Taha, 2010, p. 20). The agricultural museum in Jericho embodies this approach: each artifact each plow, seed, or irrigation channel becomes a political document asserting the right to land, water, and heritage. The visitor’s interaction becomes an act of re-experiencing continuity, turning the museum into a site of living sovereignty.

As Falk and Dierking (2013, p. 27) explain, “The visitor is no longer a spectator but a co-author of meaning.” In Jericho, visitors learn how the Neolithic act of sowing and today’s act of cultivation both symbolize survival and dignity.

3. Comparative Perspective: Arab and Western Museum Models

While Western museums such as Musée du Compa emphasize technical evolution, Arab models especially the Egyptian and Saudi examples integrate heritage, identity, and education. The Palestinian model, however, goes further: it reframes agriculture as an ontological right rooted in justice and continuity.

This approach belongs to what many scholars now describe as a decolonial way of thinking about museums. It seeks to give back a voice to the people whose histories were often told by outsiders, allowing them to speak for themselves(Message, 2018, p. 23; UNESCO, 2024). Viewed in this light, the Palestinian Agricultural Museum joins a worldwide effort known as “resistant memory,” where communities use museum spaces to recover their past and interpret it through their own knowledge systems.

4. The Museum as a Temporal Space

From a reflective point of view, the museum is not only a building but a form of time made visible. The walls and paths seem to hold traces of earth and memory; when visitors walk inside, they move through the story of the land itself. As Lord et al. (2012, p. 57) write, agricultural museums create “circles of time,” joining what is old with what is new. In Palestine, this circle begins in the terraces of

Jericho and continues toward today’s digital farms.

5. Educational Implications: The Museum as an Alternative School

The proposed museum represents a new model of environmental education based on experiential learning, experimentation, and community engagement. As Hooper-Greenhill (2007, p. 19) argues, museums “teach critical thinking, not repetition.” Visitors learn through sensory immersion and reflection touching soil, planting seeds, and interpreting agricultural rituals as moral and ecological lessons. In this context, every child planting a seed within the museum reenacts the first act of cultivation in Jericho 9,000 years ago. Falk and Dierking (2013, p. 31) calls this the “experiential continuity of history,” where learning becomes embodied and transformative.

6. Political Significance: Agriculture as a Sovereign Discourse

The museum also serves as a political space that reclaims agricultural identity as an expression of sovereignty. By documenting the continuity of farming, it challenges narratives of dispossession. The interpretation of Palestinian agricultural heritage can transform objects such as the stone plow and olive press from utilitarian artifacts into material expressions of cultural memory, attachment to land, and collective identity. Within this framework, agricultural heritage becomes a means through which the museum reinforces Palestinian belonging and historical continuity (Abufarha, 2008).

7. Anthropological Dimensions: Agriculture as Sensory Heritage

Agriculture in Palestine constitutes a living cultural heritage expressed through inherited knowledge, practices, and relationships with the land. Within the museum, this heritage can be interpreted through multisensory experiences: the soundscapes of harvesting, the scent of soil and olive oil, and the tactile exploration of agricultural tools, transforming intangible agricultural heritage into an

educational experience of identity (Palestine Institute for Biodiversity and Sustainability).

8. The Museum as a Platform for Knowledge Co-creation

In line with global trends, the museum should evolve into a research and innovation hub. The proposed design includes collaborative programs with Palestinian universities An-Najah, Birzeit, Al-Quds, and Al-Istiqlal and institutions such as the Palestine Institute for Biodiversity and Sustainability (PIBS). These partnerships would support community-based research, oral heritage documentation, and digital archiving (Food and Agriculture Organization of the United Nations, 2024).

9. The Second Agricultural Revolution: From Seed to Symbol

The first agricultural revolution in Jericho marked the domestication of plants; the second symbolized by this museum marks the domestication of meaning. Through digital and participatory museology, agriculture becomes a conscious act of cultural liberation. As Champion (2016, p. 31) explains, “Digital museums are not spaces of display; they are tools for the emancipation of knowledge.” The Palestinian Agricultural Museum embodies this “second revolution,” transforming cultivation into a philosophy of continuity and self-determination.

1.7 Discussion and Practical Implications

The results of this study indicate that the National Museum of Agriculture in Palestine represents a paradigm shift in both museological and cultural thinking. It functions simultaneously as a knowledge space, a political discourse, and a sustainable development laboratory (Falk & Dierking, 2013) Agricultural Knowledge as Environmental and Cultural Awareness

Agricultural knowledge in Palestine has always carried political meaning; it represents a way of understanding nature as part of resistance and survival. Inside the museum,

this knowledge is reconstructed through interactive displays and hands-on experiences that connect learning with daily life. This approach aligns with Hein (1998, p. 32) constructivist learning model, in which visitors do not merely observe but actively participate in creating meaning. In this sense, the museum becomes an open classroom for developing environmental understanding and shared awareness (Hooper-Greenhill, 2007, p. 17).

1. The Museum as a Political Instrument

The museum challenges colonial heritage narratives by asserting sovereignty through memory. The soil and tools displayed within are not mere artifacts; they represent acts of testimony and identity (Kanaana, 2013; Taha, 2010, pp. 18–24).

3. The Museum as a Sustainable Laboratory

As a living ecological model, the museum demonstrates renewable energy systems, water recycling, and community-based sustainability practices (Cole et al., 2020). Visitors witness environmental ethics embodied in both the museum’s architecture and its daily operations.

1.8 Policy Recommendations and Strategic Framework

The results of this research suggest a broad policy direction for founding the National Agricultural Museum of Palestine in Jericho. At the institutional level, it is important to establish a National Agricultural Heritage Authority within the Ministry of Tourism and Antiquities, working closely with the Ministry of Agriculture and Palestinian universities to guide the project. Legal measures should also be developed to protect old farming tools, local techniques, and oral traditions as part of Palestine’s intangible heritage, officially documented through (UNESCO, 2003) .In addition, the museum should be integrated into future Palestinian cultural development strategies as a central national initiative, strengthening the relationship between agricultural heritage, cultural identity, education, and sustainable development. Such

institutional integration would position the museum as a long-term platform for heritage preservation, public engagement, and community development.

Educational and Research Policies

The educational and research dimensions of the National Agricultural Museum must work hand in hand with the Ministry of Education to incorporate agricultural heritage into school curricula. This would allow students to understand the relationship between farming, culture, and national identity from an early age.

A National Program for Agricultural Museum Education should also be launched, combining school visits, university internships, and joint research projects. Additionally, establishing a Research Laboratory for Traditional Agriculture and Environmental History, in collaboration with PIBS and other academic partners, would strengthen scientific study and field documentation. Finally, the museum should host a digital archive and a VR/AR learning center, designed to connect schools and universities with the museum's

collections through virtual participation and interactive learning.

Sustainability and Tourism Policies

- Construct the museum as a green building, powered primarily by solar energy and irrigated through recycled greywater.
- Develop an educational agricultural park featuring live crop cultivation, interpretive panels, and traditional plant species.
- Organize an annual “Palestinian Agriculture Festival” in Jericho, linking local production, art, and heritage tourism.
- Integrate women’s cooperatives into museum programs under the theme “Women and the Land,” highlighting women’s agricultural knowledge, food production, and their contribution to Palestinian rural livelihoods(Morkus-Makhoul, 2024).
- Create a “Path of Early Agriculture” connecting Tell es-Sultan, the museum, and Jericho’s palm farms as a heritage-tourism route .

Table 3. Strategic Policy Framework for the National Agricultural Museum of Palestine⁷.

Policy Axis	Recommended Actions	Key Partners	Expected Outcomes
Institutional	Establish National Agricultural Heritage Authority	Ministry of Tourism & Antiquities + Ministry of Agriculture	Governance and institutional legitimacy
Educational	Integrate museum education into school curricula	Ministry of Education + Universities	Experiential learning culture & academic integration
Sustainability	Apply green architecture and solar energy systems	(Cole et al., 2020; Food and Agriculture Organization of the United Nations, 2024)	Low-carbon infrastructure and environmental awareness
Community	Engage women’s cooperatives and local farmers	Rural associations + NGOs	Inclusive development and social empowerment

Partnership and Funding Policies:

1. Establish a National Agricultural Heritage Fund jointly financed by public and private sectors.
2. Collaborate with UNESCO, FAO, ICROM, and UNDP for technical and educational support.

3. Encourage sponsorship by local private institutions, banks, telecom companies, and food industries under corporate social responsibility frameworks.

⁷ Developed by the author based on: Cole, Lindsay, and Akturk 2020; Ministry of Agriculture 2016.

Conclusions

This study has examined the historical, cultural, and environmental foundations for establishing an Agricultural Museum in Jericho as a strategic cultural and educational initiative in Palestine. By tracing the long development of agriculture from the Neolithic period to the present, the research has demonstrated that agriculture in Palestine constitutes a continuous civilizational process rather than a purely economic activity. Jericho emerges as a central locus in this narrative, representing one of the earliest agricultural landscapes in human history and providing a unique spatial context for interpreting the relationship between humans, land, and cultivation.

The findings indicate that the proposed Agricultural Museum would address a significant institutional gap by offering an integrated platform for preserving agricultural heritage, promoting environmental awareness, and supporting museum-based education. Situating the museum within the archaeological landscape of Jericho reinforces its role as a space where historical knowledge, environmental practices, and cultural identity intersect. The integration of traditional agricultural knowledge with contemporary educational and digital approaches further enhances the museum's potential to function as a dynamic learning environment rather than a static display space.

Overall, the study concludes that the establishment of an Agricultural Museum in Jericho represents a viable and meaningful framework for safeguarding Palestinian agricultural heritage and rearticulating its relevance in the present. By linking past agricultural practices with future-oriented sustainability and education, the proposed museum offers a model through which agriculture can be understood as a source of identity, continuity, and cultural resilience within the Palestinian context.

Statement on Thesis/Dissertation Derivation

This research is not derived from a master's thesis or doctoral dissertation.

Declarations

Ethics Approval and Consent to Participate

Not applicable. This study did not involve human participants or formal research interviews requiring ethical approval or informed consent. Professional consultations were used solely to inform the conceptual development of the proposed museum.

Availability of Data and Materials

All data and materials supporting the findings of this study are derived from publicly available scholarly publications and institutional reports cited in the manuscript. No new datasets were generated or analyzed for this study.

Authors' Contributions

The author solely conceived and designed the study, conducted the analysis, developed the proposed museum framework, and prepared and revised the manuscript.

Conflict of Interest

The author declares no conflict of interest.

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