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Bridging the present to the past: developing a virtual archaeological park of the Garmian region

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Article Info		Abstract:
Received	April 2025	<p>The Garmian region represents a territory of extraordinary historical and archaeological significance. As a millennia-old crossroads between Mesopotamia, the Iranian plateau, and the northern mountains, it has long been a focal point of cultural exchange and settlement activity. Yet, many aspects of its historical and archaeological landscape remain understudied. This paper presents a new project developed within the activities of the Italian Historical-Archaeological Mission in Kurdistan (MiSAK), aimed at creating a virtual archaeological park for the Garmian region. In its early development phase, the project seeks to integrate archaeological data, digital tools, and oral testimonies from local communities to create an interactive platform that will enable users to virtually explore the region's historical and archaeological landscape, covering a timespan from the Achaemenid period (550–330 BCE) to the present day.</p> <p>By georeferencing key archaeological sites and collecting data from archaeological excavations and surveys, the virtual park is envisioned as a multi-layered digital archive. This archive will include archaeological data, interviews and oral testimonies, historical photographs, and educational resources, providing a comprehensive and dynamic repository of knowledge. The project aims to develop new tools for archaeological research and to strengthen the connection between local communities, collective memory, and cultural heritage. Developed in collaboration with the Directorate of Antiquities and Heritage of Garmian, the initiative aims to go beyond a mere database, serving as a living, interactive space where archaeology, technology and storytelling converge to create a new model to engage with the past while fostering active participation in the preservation and enhancement of cultural heritage.</p>
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Introduction:

The Garmian region, located in the south-east of Iraqi Kurdistan, is an area of exceptional historical and archaeological significance. Owing to its wealth of natural resources and strategic location, it has, over the centuries, served as a crossroads for the passage, encounter, and settlement of numerous civilisations. The archaeological evidence unearthed in the region, ranging from the Pre-Pottery Neolithic to the Ottoman period, offers a remarkable overview of the complexity and continuity of the ancient cultures that have inhabited the area over time.

Although the region has been the subject of occasional surveys and excavations since the 1960s, archaeological research in Garmian has only seen significant development in recent decades. In particular, the work of the Directorate of Antiquities and Heritage of Garmian has been further enriched by the collaboration with international archaeological missions, which have played a supportive role in enhancing the understanding of the region's archaeological heritage. Nevertheless, the protection of this heritage continues to face numerous challenges, including limited financial and human resources, geopolitical tensions affecting the region in recent decades, and anthropogenic damage resulting from intensive agriculture, uncontrolled urban expansion, and unregulated construction. These issues are compounded by gaps in previous archaeological research and the lack of systematic documentation, both of which have hindered the construction of a comprehensive historical narrative of the area.

Considering these challenges, an integrated approach is required to effectively safeguard archaeological sites and promote their sustainable management. This approach must involve not only local institutions but, crucially, the communities who live in daily interaction with these places. Within this framework, public archaeology emerges as both a discipline and a practice that encourages active community participation in the management and protection of cultural heritage, recognising its value and fostering a more direct connection between the past and contemporary society. The adoption of new digital technologies, alongside a participatory approach, provides effective tools to innovatively address issues relating to the conservation, accessibility, and enhancement of archaeological sites.

The project presented in this article aims to provide a concrete response to these needs through the development of an integrated model for the documentation, conservation, and enhancement of Garmian's archaeological heritage. Conceived within the activities of the Italian Historical and Archaeological Mission in Kurdistan (MiSAK), which has been active in the region since 2021, the project seeks to create a virtual archaeological park accessible via an interactive digital platform. This tool will allow users to explore Garmian's historical and archaeological landscape from a diachronic perspective, spanning a timeframe from the Achaemenid period (550–330 BCE) to the present day.

The project's multidisciplinary approach combines archaeological research, digital technologies, and the active involvement of local communities, promoting sustainable heritage management and strengthening the bond between archaeological sites and the people who inhabit them. The following sections will offer a more detailed analysis of the historical and archaeological context of the Garmian region, the project's specific objectives, and the methodology that will be adopted, with particular attention to the dimensions of collective participation and technological innovation, both fundamental to ensuring the long-term preservation and enhancement of the area's cultural and archaeological heritage.

Garmian: a historical and geographical context

The Garmian region, known in Kurdish as Germyan (گەرمیان), literally meaning “Warm Land” in reference to the particularly hot and dry climate that characterises the area during the summer months, constitutes one of the oldest and most historically significant territories of Iraqi Kurdistan. Located in the south-east of the autonomous Kurdistan Region, bordering Iran’s Kermanshah Province, the Garmian area lies approximately 62 km south of the city of Sulaymaniyah and 104 km south-east of Kirkuk. The region includes important urban centres such as the city of Kalar, the district’s administrative hub, as well as Kifri, Darbandikhan and Chamchamal. These centres have served—and continue to serve—not only as administrative anchors but also as cultural and economic reference points for the wider area (Kozad A., Rebwar H., 2022).

Geographically, Garmian is characterised by a highly varied topography of alternating hills and plains, traversed by the Sirwan river (also known by its Arabic name, Diyala), a tributary of the Tigris. The presence of this river, along with other waterways, has played a vital role since antiquity, ensuring the fertility of the land, an essential factor for the development of agriculture and the emergence of early sedentary communities (Casana J., Glatz C., 2016).

Archaeological investigations, initiated in the 1960s, have led to the identification and mapping of around 600 archaeological sites distributed across the entire Garmian territory. These range from the Pre-Pottery Neolithic (10000–6500 BCE) to the Ottoman period, providing evidence of a long and continuous occupation of the land (Casana J., Glatz C., 2017). Among the most significant sites identified are those dating to the Parthian (247 BCE – 224 CE) and Sasanian (224–651 CE) periods, during which the area experienced a notable expansion of settlements and agricultural activity. This development was further supported by water management and sophisticated irrigation systems, which transformed the Sirwan River, flowing across the region, into a strategic asset for infrastructure and agricultural economies.

During the Parthian and Sasanian periods, Garmian was marked by the construction of palatial complexes and urban centres, which reflect the region’s social and economic advancement. In particular, during the Sasanian era, the area gained prominence thanks to its unique topography, strategic position along trade and communication routes linking western Iran to the capital Ctesiphon, southern Turkey, and eastern Syria, and the abundance of natural and water resources that fostered the foundation or expansion of settlements, palatial buildings, military forts, and irrigation systems throughout the region. On the eastern bank of the Sirwan River, there is a notable concentration of archaeological sites, among which two palatial structures stand out: the site of Gawr Tepe and, slightly further east, the site of Hawsh Kurw (Sesenna M., 2025).

In the Islamic period and under Ottoman rule, the region continued to play a key role, although much of the architectural and urban evidence from these periods has been largely erased by modernisation and contemporary urban development. Nevertheless, some Ottoman architectural remains are still visible, such as mausoleums and watchtowers built along the Sirwan River. The Sherwana Castle, located in Kalar, is one of the most prominent examples of Ottoman architecture in the region and the most famous tourist attraction in the area.

The picture that emerges from the history of Garmian is that of a territory densely populated over millennia, with prominent palatial structures and urban centres surrounded by an extensive system of villages, military outposts, and production hubs. The area has hosted a wide range of activities, from raw material extraction to the processing of goods, confirming its importance as a crossroads of cultures, exchanges, and conflicts between various civilisations (Casana J., Glatz C., 2017).



Figure 1: Sherwana Castle in Kalar.

Archaeological Research and Cultural Heritage Management in Garmian

Until the last few decades, unlike other areas of Iraq, the Garmian region had not been subject of systematic archaeological investigations. The first interventions date back to the 1960s, when several sites were mapped and only partially excavated by the General Directorate of Antiquities in Iraq. In the 1970s, the construction of a dam on the Sirwan river prompted a series of surveys and rescue excavations, which represent the main contribution to the archaeological knowledge of the region during the 20th century (Glatz C. et al., 2024a). Following the political changes after 2003 and the end of the area's international isolation, archaeological research in Garmian has experienced rapid development. During Saddam Hussein's regime and the preceding decades, foreign archaeologists were largely denied access to the region. Only in recent years, thanks to increased stability and growing interest in the cultural heritage of Iraqi Kurdistan, has it been possible to launch new research projects.

Today, the archaeological heritage of the area is overseen by the Directorate of Antiquities and Heritage of Garmian, operating under the General Directorate of Antiquities in Erbil and the Ministry of Culture of the Kurdistan Regional Government (KRG). Its main responsibilities include supporting and supervising research projects, monitoring archaeological sites, responding to reports of damage or looting, and carrying out emergency excavations where necessary. The Directorate also manages the Garmian Civilisation Museum in Kalar, founded in 2014, which is tasked with preserving and displaying artefacts recovered through excavations or acquired within the region (Glatz C. et al., 2024a). With over 400 artefacts on display, ranging from the Neolithic period to the 18th century CE, the museum serves as a key cultural reference point for the local community.

At present, three international archaeological missions are active in Garmian: the Italian Archaeological Mission in Iraqi Kurdistan (MAIKI, Sapienza University of Rome), the Sirwan Regional Project (University of Glasgow), and the Italian Historical-Archaeological Mission in Kurdistan (MiSAK, ISMEO and the International Institute of Kurdish Culture in Rome).

For decades, the cultural heritage of Iraqi Kurdistan has suffered severe damage as a result of the geopolitical disorder that has affected the region. Events such as the Iran–Iraq War, the Anfal campaigns, the Gulf Wars,

repeated uprisings, the occupation by the Islamic State and its subsequent expulsion, as well as the recent economic crisis, have all had a profound and lasting impact on the current state of the region's cultural heritage (Matthew R., 2020).

Despite the growing interest in the cultural heritage of Iraqi Kurdistan, many challenges continue to hinder its protection and promotion. The most critical issues relate to institutional sustainability: local museums and antiquities departments face persistent underfunding, leading to salary delays, a lack of resources for research and restoration, and the inability to implement systematic strategies for cultural heritage enhancement. The Directorate of Antiquities and Heritage of Garmian, while being a key institution for protection, is forced to operate with a limited number of staff and extremely limited resources across a vast area that encompasses more than 600 documented archaeological sites. As a result, priorities tend to focus on emergency interventions, with little opportunity to pursue structured, long-term planning. This situation is further aggravated by the pressures of intensive agriculture and rapid industrial development, which pose direct threats to the integrity of archaeological sites.

Local museums also face difficulties in fulfilling their educational and cultural roles: they lack the tools to engage with a diverse audience and to harness the potential of cultural heritage as a driver of social and economic development, in line with regional government strategies (Glatz et al., 2024b). To effectively address these challenges, there is an urgent need for an integrated approach to cultural heritage management. Only through long-term strategic planning can the sustainable and ethical safeguarding of Garmian's cultural heritage be ensured.

In this context, reflection on the role of tourism becomes particularly relevant. Cultural heritage enhancement cannot be separated from a sustainable and integrated vision that takes into account the growing interest in Iraqi Kurdistan as a tourist destination. Tourism, in fact, has the potential to strengthen protection and promotion policies while contributing to local economic development and raising community awareness of cultural heritage.

Over the past two decades, the tourism sector in Iraqi Kurdistan has undergone significant fluctuations, reflecting both the political and economic conditions of the region and the increasing interest in its historical and natural heritage. According to data from the General Directorate of Tourism, tourist flows grew steadily until 2014, when the number of visitors exceeded 2.9 million. However, regional instability and subsequent economic crises led to a sharp decline in 2015 (–48%), followed by a gradual recovery, with tourism reaching 4 million visitors in 2021 and over 7 million in 2023. Similarly, the Garmian region experienced a notable increase in visitors between 2011 and 2014, a dramatic drop in 2015 (–50%), and a subsequent recovery. After a severe fall in 2020 due to the effects of the COVID-19 pandemic (–45%), the number of tourists grew again in 2021 (+54%) and continued to rise through 2023, before falling by 15.7% in 2024 (Directorate of Tourism of Garmian, 2025)¹. These fluctuations highlight the vulnerability of the tourism sector but also demonstrate its strategic potential for the future of the region.

At a time marked by relative political stability and greater internal security, the Kurdistan Regional Government has expressed its intention to invest in tourism (Kurdistan Regional Government, 2024). In this scenario, it becomes essential to promote heritage enhancement projects based on sustainability, local community involvement, heritage education, and the active protection of cultural sites. Moving beyond a purely emergency-oriented logic and adopting an integrated approach could transform cultural tourism into a tool for the region's social, cultural, and economic growth.

Nevertheless, for cultural tourism to truly become a strategic asset for the region's future, it is vital to ensure the preservation and integrity of archaeological sites. Sustainable enhancement projects must be grounded

¹Thanks are due to Salar Fage, Director of the Directorate of Tourism of Garmian, for providing data on tourism in the Garmian area and in the Kurdistan Region of Iraq.

in a thorough understanding of the current state of the heritage, the risks it faces, and the dynamics driving its transformation.

Damage assessment and community-based conservation of archaeological sites

Between August 2018 and February 2020, researchers from the *Sirwan Regional Project*² conducted a survey of the damage sustained by 376 archaeological sites in the region. The primary aim was to create a comprehensive database of information on both known and presumed sites, documenting their state of preservation and assessing current and future risks. The project also seeks to develop a sustainable management programme for these sites, in collaboration with the relevant regional and local institutions. Starting in August 2018, some archaeologists from the Directorate of Antiquities and Heritage of Garmian and the Garmian Civilization Museum in Kalar were trained and supported by the project team to monitor damage, using satellite imagery, field surveys, drone photogrammetry, and ground-based photographic documentation. This approach allowed for the creation of detailed digital records for each site, with a diachronic analysis tracing changes from 1960 to the present day.



Figure 2: The site of Hawsh Kurw.

The data collected reveals that 326 sites (87%) have suffered varying degrees of damage, while only 50 (13.3%) remain intact. In most cases, the damaged sites exhibit multiple forms of deterioration. The primary cause of damage is agricultural activity, which has affected 280 sites (75%). Agricultural activities include not only ploughing and mechanised cultivation, but also the expansion of irrigation systems through the construction of canals, which in some cases have erased significant portions or entire sites.

² The Sirwan Regional Project (SRP) is an international collaboration between Dartmouth College, the University of Glasgow, and the Directorate of Antiquities of the Kurdistan Regional Government, in partnership with the Department of Antiquities of Garmian, based in Kalar. Launched in 2013, the project aims to investigate the archaeological landscapes of the Upper Diyala region, known in Kurdish as Sirwan, through a combination of multiscale archaeological approaches and surveys. The SRP has documented hundreds of archaeological sites through systematic field surveys and excavations, contributing significantly to the reconstruction of the area's long history of human occupation.

The second most common source of damage is construction activity, which has impacted 173 sites (46%), primarily due to urban expansion, infrastructure development, and vehicular traffic, especially along dirt roads during the rainy season. While the local population is aware of the impact of construction and traffic, the cumulative extent of the damage over time is often underestimated or overlooked.

Other degradation factors include damage caused by armed conflicts, recorded at 38 sites (10%), and looting, which has affected 56 sites (15%). In general, most looted sites show limited signs of illegal excavations, while only five sites have been severely damaged. Analysis of satellite images suggests that most of the looting occurred before 2011, though there has been a possible resurgence of this phenomenon in the last four to five years, particularly in areas with higher population density (Casana J., Glatz C., 2016).

The most significant finding of the study is that, except for natural erosion, all the damage detected is anthropogenic in origin. This highlights important issues concerning cultural heritage management and underscores the urgent need for targeted interventions for its protection. However, as the researchers from the Sirwan Regional Project have emphasised, the preservation of individual sites is insufficient without initiatives aimed at actively involving local communities and raising public awareness. In fact, the protection of archaeological heritage is inextricably linked to the relationship communities develop with their environment. Understanding this relationship and promoting education and awareness tools can foster a sense of collective responsibility. In the absence of this involvement, even the best technical measures are likely to be ineffective in the long term.

The destruction of sites caused by agricultural practices, urbanisation, or looting leads to the inevitable and irreversible loss of the stratigraphic context, a fundamental element for the historical and interpretative understanding of artefacts and sites. Therefore, the participation of local communities, who are the first to experience or observe the consequences of these threats, becomes essential not only for protection but also for effective damage documentation and the gathering of historical information that might be difficult to obtain through traditional methods. Integrating local knowledge, oral testimonies, and field experiences becomes a powerful tool to develop more comprehensive conservation strategies and to ensure that archaeological sites are not only protected but also valorised.



Figure 3: Aerial view of Gawr Tepe. Until recent years, the site has been affected by looting activities. (Photo © N. A. Abdul Karim 2023)

Public archaeology and the role of local communities

Public archaeology is grounded in the principle that cultural heritage should not be regarded as the exclusive domain of academic institutions. Rather, it should be recognised as a shared asset that belongs to, and should especially involve, local communities—those who possess unique knowledge, experiences, and perspectives. In this context, “local communities” is understood broadly to include anyone residing near or regularly interacting with an archaeological site, and who is therefore entitled to actively participate in processes of protection, management, and enhancement of heritage.

Public archaeology thus emerges as an interdisciplinary field of research, founded on continuous dialogue between scholars and communities, and promoting participatory forms of knowledge production (Glatz C., 2024a). Within this framework, community archaeology has developed as a discipline aimed at diversifying the voices involved in interpreting the past. This approach encourages a process of mutual education between archaeologists and communities, based on the belief that including a plurality of perspectives enhances the quality of research. This does not entail compromising the scientific nature of archaeology, but rather recognising that research is embedded in the social fabric and can become a meaningful tool for all stakeholders.

Access to cultural heritage has been acknowledged as a fundamental human right (UNHRC 2016), and the engagement of local communities is considered essential for the formation of collective identities and for the sustainable management of archaeological heritage. However, for a long time, especially in regions such as the Middle East, archaeological practice was almost exclusively dominated by foreign missions, which often relegated local communities to a marginal role, typically as manual labour. Such an approach disregarded both the cultural meanings attributed to sites by local populations and the potential contributions these communities could make to archaeological research.

Only in recent decades has this trend begun to shift. An increasing number of archaeological missions have started to actively involve local communities in the excavation, conservation, and promotion of heritage (Bonnie R., Lorenzon M., Thomas S., 2023). This evolution marks a move away from a purely conservation-driven perspective, primarily focused on the physical safeguarding of sites, towards a more inclusive vision in which local voices are recognised as key actors in decision-making and interpretive processes (Matthews C., 2011). The approaches of public and community archaeology therefore represent a broader paradigm shift: they aim to foster active community participation in all phases of archaeological work, from project design and research to the dissemination of results and heritage promotion. In doing so, they transcend hierarchical, top-down models in favour of collaborative and inclusive practices (Thomas S., 2017).

In this regard, it becomes increasingly evident that the benefits are not confined to local communities but also enhance the discipline of archaeology itself, through a process of reciprocal learning between researchers and local stakeholders. This contributes to the development of more nuanced and layered bodies of knowledge (Tully, 2007). The active engagement of local communities not only strengthens their cultural identity and connection to the territory and to the past, but also enriches archaeological practice, making it more inclusive and socially relevant.

In light of growing interest in outreach and active participation, public archaeology has, in recent years, experienced significant theoretical and methodological development, establishing itself as a distinct sub-discipline in its own right. This shift necessitates a reconsideration of the very role of archaeology, which can no longer be limited to the physical preservation of sites. Rather, it must promote an ongoing dialogue with communities, acknowledging their centrality in the shared construction of knowledge about the past.

A new project: a multidisciplinary approach for the protection and enhancement of Garmian's archaeological heritage

Despite the extraordinary archaeological richness of the Garmian area, the region's cultural and archaeological heritage remains exposed to numerous threats. Among these, as previously mentioned, are the growing urban and agricultural expansion, the looting of sites, and the chronic lack of resources allocated to their protection. Added to this are the scarcity and fragmented nature of past archaeological investigations and the absence of systematic documentation, all of which have contributed to a still partial understanding of the area's historical development. This lack of data has hindered the development of effective strategies for the conservation, management, and enhancement of the heritage.

However, the current context offers new and significant opportunities to address these challenges through an innovative, multidisciplinary, and inclusive approach. In this framework, the direct involvement of local communities emerges as a fundamental component: the implementation of participatory safeguarding practices not only ensures more effective protection of the heritage but also contributes to fostering and strengthening a sense of belonging and collective responsibility towards archaeological sites, recognised as an integral part of the region's cultural identity and memory.

In its early development phase, the present project aligns with this perspective, aiming to develop an integrated model for the documentation, conservation, and enhancement of Garmian's archaeological heritage. Initiated within the framework of the activities of the Italian Historical Archaeological Mission in Kurdistan (MiSAK)³, the project seeks to create a virtual archaeological park dedicated to the Garmian area, by means of an interactive digital platform. This platform will enable users to explore and understand the region's historical and archaeological landscape from a diachronic perspective, focusing on a chronological span that extends from the Achaemenid period (550–330 BCE) to the contemporary era.

The project will focus on the territories within the districts of Kifri, Kalar, and Khanaqin, drawing on the body of data already available concerning the area and its archaeological sites. The platform will integrate archaeological sources, satellite imagery, historical photographs, and oral testimonies collected from local communities, in order to construct a multi-layered digital archive accessible via a georeferenced map. The aim is to provide a stratified and dynamic representation of the region's heritage.

In addition to contributing to the expansion of historical knowledge of the area, the project also seeks to promote a sustainable and participatory model for cultural heritage management, grounded in ongoing dialogue between academic research, the territory, and local communities. The platform will be designed to allow future expansion, both geographically—by including other areas of the region—and chronologically, through the integration of additional historical periods not initially covered.

³ The *Italian Historical-Archaeological Mission in Kurdistan* (MiSAK) is a research project launched in 2021 through the shared initiative and commitment of ISMEO – the International Association for Mediterranean and Oriental Studies – and the International Institute of Kurdish Culture in Rome. The mission's primary aim is to contribute directly to the study, protection, and enhancement of the historical, archaeological, and cultural heritage of the Kurdish region in Iraq, with a particular focus on the diachronic study of the archaeological landscape of the Garmian area, from the Achaemenid period (550 BCE – 330 BCE) to the Islamic period. Since 2021, MiSAK has been engaged in the study of the site of Sarqala, a vast and complex multi-period archaeological landscape located approximately 26 km from the city of Kalar, in the Sulaymaniyah Governorate. The site includes a Parthian-era necropolis (247 BCE – 224 CE) and an extensive multi-period settlement (Colliva L. et al., 2022).

In 2023, a second project was launched at the site of Gawr Tepe, a large settlement featuring the remains of a palace inhabited from at least the Sasanian period (224 CE – 650 CE).

Alongside excavation activities, the mission also conducts a wide range of complementary operations, including the systematic collection and study of surface materials, geophysical surveys, training programmes for Kurdish colleagues from the Directorate of Antiquities and Heritage of Garmian, as well as initiatives for the restoration and enhancement of the investigated sites and the broader cultural heritage of the region.

In light of the challenges identified and the potential offered by the current context, the project therefore sets out to address, in an integrated manner, the issues related to the protection, documentation, and enhancement of Garmian's archaeological heritage. Ensuring more effective safeguarding and inclusive valorisation requires the adoption of a multidisciplinary approach that combines scientific rigour with the active involvement of local communities and the application of sustainable management strategies.

In this regard, the preliminary analysis carried out through interviews with local residents has proved to be a fundamental step. It allowed for the collection of valuable data on perceptions, needs, and difficulties related to heritage management. These findings have helped to define the project's objectives in a more focused and informed way. They represent a first step towards the construction of a shared path of protection and enhancement, based on the integration of scientific knowledge, collective memory, and technological innovation.

Objectives and methods

The project aims to achieve several key objectives designed to enhance the understanding of the archaeological heritage of the Garmian region and to support its protection and valorisation through innovative methods and the active participation of local communities.

The first objective involves the research and documentation of the region's archaeological heritage through an in-depth diachronic study covering a broad chronological range, from the Achaemenid period to the present day. Documentation will focus on the identification and analysis of the region's principal archaeological sites, integrating data from excavations and surveys with historical photographs, satellite imagery, and oral testimonies. The goal is to reconstruct the history of the archaeological landscape from a comprehensive and multidimensional perspective.

The second objective concerns the creation of a digital archive and an interactive platform. The intention is to develop a multilayered digital archive incorporating documentary resources related to the archaeological heritage of the Garmian area. A central component will be the creation of a virtual platform enabling users to explore archaeological sites via a georeferenced map, providing access to detailed information, historical records, images, and other interactive resources. The platform will be designed to be accessible to a broad audience, from local communities and scholars to the general public, with particular attention to usability and inclusiveness.

Another fundamental objective is the active involvement of local communities in the valorisation and protection of archaeological heritage. The project will encourage community participation in the documentation and conservation of heritage assets, including the collection and digitisation of historical photographs, which will further enrich the historical understanding of the region. Through the online portal, local communities will be able to submit reports and information, becoming actively engaged in safeguarding and enhancing archaeological sites. In doing so, the project seeks to strengthen the bond between local populations and their heritage, fostering a sense of shared responsibility in its protection.

To promote effective awareness-raising, one of the objectives is to increase public knowledge of Garmian's archaeological heritage by producing digital educational materials to be distributed to schools and local institutions, thereby educating the wider public about the historical and cultural importance of the area's sites.

Furthermore, the project seeks to explore the role of archaeological heritage in the cultural identity and collective memory of local communities, with the aim of understanding how archaeological sites influence perceptions of the past.

In the field of digital conservation, the project aims to develop an innovative model for interacting with heritage by employing new technologies that combine archaeology with storytelling, making the past more accessible and engaging. Digital conservation will not only protect the data collected but also ensure its long-term accessibility for the benefit of future generations.

To achieve its stated objectives, the project will adopt an interdisciplinary and integrated approach to the diachronic study of the archaeological landscape in the Garmian area. This approach will combine the analysis of archaeological data, satellite imagery, historical photographs, and oral testimonies. Archaeological research will rely on data obtained through excavations and field surveys, which will be georeferenced and organised within a digital Geographic Information System (GIS), allowing for the mapping and analysis of landscape transformations over time. The integration of historical, geographical, and cultural data will enable the development of a comprehensive and multidimensional understanding of the region.

In parallel, a multi-layered digital archive will be created, developed using open-source technologies for data management and accessibility. This archive will include detailed records on archaeological sites, with information on location, historical period, and conservation status, as well as multimedia materials such as images, videos, and 3D reconstructions. The associated interactive platform, based on a georeferenced map, will allow users to virtually explore archaeological sites, accessing in-depth content and digital reconstructions. It will be designed with a user-friendly interface to ensure accessibility for users with varying levels of technological expertise.

A central element of the methodology is the active involvement of local communities, through interviews and workshops aimed at collecting oral testimonies related to archaeological sites in the area. Oral history is a method widely employed in the humanities, social sciences, and cultural studies to document and transmit individual and collective narratives. In these fields, interviews focus on participants' perspectives and have been used to gather information on historically significant events. Although not yet widely applied in archaeology, this method can make a meaningful contribution by involving local communities in the interpretation, management, and enhancement of heritage.

In this project, interviews serve a dual purpose: on the one hand, they enable the collection of valuable qualitative data on the perception, value, and local narratives related to archaeological sites; on the other, they foster active community engagement, helping to establish a reciprocal relationship between researchers and communities (Van den Dries M., 2012). These interviews will be conducted during the active phases of the project, and the testimonies will be recorded in both audio and video formats. The content will be digitised and integrated into the multi-layered digital archive, where it will be made accessible via the online platform. Access to the recordings will be organised using thematic and spatial filters, allowing users to explore different aspects. The digitisation process will follow archival standards, including metadata to facilitate long-term access and preservation.

This component of the project builds on the preliminary research phase described below, which tested the method's effectiveness and assessed its potential for the full development of the initiative.

In addition, historical photographs provided by the local population will be collected and catalogued. These materials will serve as a source for reconstructing the historical landscape and documenting changes over time. The images, when possible, accompanied by descriptions, will be digitised and archived within the digital platform using standard metadata to indicate their (approximate or exact) date, location, and contextual references. This section of the archive will be accessible via the interactive map, allowing users to consult georeferenced photographs. By comparing historical photographs with current imagery from archaeological surveys, it will be possible to highlight changes that have occurred over time.

In addition to being an important source for historical and archaeological research, the collection of these images promotes active participation by the local community in the documentation and enhancement of heritage, encouraging recognition of their contribution to collective memory.

Finally, the project envisages the creation of educational materials for schools and local institutions, with the aim of raising awareness among the local population about the importance of archaeological heritage and the need for its protection and promotion. These materials will include digital resources, educational materials, and printed materials, developed in collaboration with local educators to ensure pedagogical effectiveness.

The adoption of these innovative methodologies will not only allow for the documentation and preservation of the archaeological heritage of the Garmian area, but also support its promotion and dissemination, making it accessible to a wider audience and contributing to its long-term safeguarding.

Regarding the project timeline, the initiative will be divided into several phases, which may partially overlap. The first phase will focus on data collection and digitisation: all available archaeological information on sites in the area will be gathered, beginning with existing bibliographic and documentary sources, as well as data from excavations and surveys conducted by the Directorate of Antiquities and Heritage of Garmian and foreign archaeological missions operating in the area. The data will then be processed and organised within a GIS database, supporting the geolocation of archaeological sites and the creation of a digital map useful for integrated spatial understanding.

In parallel, or in the immediately following phase, interviews will be conducted, and oral testimonies collected, with the aim of complementing academic knowledge with local memories and knowledge. Additionally, historical photographs and other visual materials that can enrich the documentation and narrative of archaeological sites will be collected.

A third phase will concern the development of the digital platform. The integration of the collected data and testimonies will enable the design and realisation of an accessible tool that allows users to explore archaeological sites digitally. The platform will integrate maps, photographs, texts, and other multimedia resources, making content easily accessible and usable for the local community, visitors, and researchers alike.

Finally, the project's impact will be analysed and evaluated in terms of accessibility, participation, and dissemination.

Preliminary Analysis

Before developing any enhancement initiatives, it is essential to acquire an in-depth understanding of the local context. Knowing the context and listening to the voices of the communities involved is a fundamental prerequisite for designing and implementing heritage enhancement activities that are genuinely aligned with local needs, expectations, and dynamics.

In this perspective, as a preliminary phase of the project, an exploratory study was conducted through a series of interviews with the local population, with the primary aim of analysing the socio-cultural context and gaining a deeper understanding of the perceptions, meanings, and narratives associated with the archaeological heritage.

The interviews were made possible thanks to the collaboration of an interpreter who translated from English to Kurdish. While this enabled dialogue, it also highlighted how language barriers may present challenges in certain phases of the project. For this reason, future oral history collection will require careful planning, relying on effective mediation tools and local collaborations. In this regard, the support of the Directorate of

Antiquities and Heritage of Garmian, already a key partner in this preliminary phase, will continue to represent a strategic resource for the advancement of this work⁴.

The interviews were conducted over three excavation seasons of the Italian Historical Archaeological Mission in Kurdistan (MiSAK), between 2022 and 2024. The interviews involved 15 workers directly engaged in the excavation activities, many of whom reside near the sites or in the nearby city of Kalar. This selection was due to the fact that the interviews took place directly on site, in parallel with archaeological fieldwork. The interviews were mainly carried out in sites of Sarqala and in the site of Gawr Tepe, located near the village of Sherawan. The aim was not solely to collect information, but to initiate an active dialogue with the local population, listening to their stories, recognising their knowledge, and at the same time informing and engaging participants in a process of mutual exchange, where everyone could ask questions, express concerns, or offer suggestions (Van den Dries 2012).



Figure 4: The Garmian region with the location of Sarqala and Gawr Tepe, the two sites investigated by MiSAK. (Photo © Google Earth, graphic processing by MiSAK 2023 - G. Giubergia)

A brief overview of the sites investigated is provided to contextualize the data collection framework.

The site of Sarqala, located approximately 26 km north-west of the city of Kalar, gained archaeological significance following the fortuitous discovery in 2013 of an unviolated chamber tomb dating to the Parthian period (247 BCE – 224 CE), during the construction of a new water cistern. In addition to the Parthian necropolis and the nearby *tell* of Qalla Kon, a multi-phase site known since the last century but never excavated before the start of MiSAK's activities, research has led to the identification of other areas of archaeological interest. These include an underground baked brick channel located in the centre of the modern village; a second *tell*, known as Kharaba, likely part of a broader settlement encompassing both *tell*; and a third archaeological complex in the area locally referred to as the "Jewish Cemetery" (Colliva L. et al., 2022).

Gawr Tepe, located in the Khani Masi plain, approximately 8 km south of Kalar, is an archaeological site of primary importance, identified as a large settlement inhabited from at least the Sasanian period to the Islamic period. MiSAK's investigation activities at the site began in 2023, with topographic mapping and

⁴ Sincere thanks are extended to Nawzad Abdullatif Abdul Karim of the Directorate of Antiquities and Heritage of Garmian for his work on the translation.

surface collection (Colliva L., Mancini S., Sameen S. M., 2023). In 2024, stratigraphic excavations were launched, which confirmed the significance of Gawr Tepe within the regional context and its role as a key site for understanding the historical transformations that have shaped the area over time.

Through the use of qualitative ethnographic methods (Low S. M., 2002), the interviews helped explore how local communities experience and interact with archaeological sites, what values—historical, social, identity-based or economic—they associate with them, and which narratives, oral histories, myths or anecdotes linked to the recent past, contribute to shaping their significance.

The importance of orality as a medium for transmitting collective memory emerged clearly. In many cases, knowledge relating to archaeological sites is not conveyed through formal education, but rather through storytelling. Elderly members of the community play a central role in this process: nearly all interviewees stated they had learned stories, information, or legends about the sites from relatives or older community members. This oral tradition not only represents a valuable source of historical knowledge but also constitutes a strong element of social and identity cohesion, reinforcing the connection between territory, memory, and community.



Figure 5: Aerial view of the Qalla Kon tell (Photo © N.A. Abdul Karim, 2023).

The investigation also sought to detect the presence of a sense of collective responsibility towards cultural heritage, as well as to assess the level of awareness and knowledge of archaeological sites among the local population. One of the main objectives was to determine whether, and in what ways, these sites are perceived as integral parts of the community's historical narratives, both past and present, and whether they are seen as potential resources for the future.

The study also explored the perception of archaeology itself and how the work of foreign archaeologists is understood by local communities. In this regard, archaeological sites emerge as complex spaces of interaction, where multiple subjectivities converge, and diverse perspectives and interpretations of heritage coexist (Baltalı Tirpan 2022). The perception of foreign archaeological missions in the region was also a key subject of the interviews. Overall, the local community holds a positive view of the work carried out by foreign missions, recognising the value they bring to the preservation and study of their cultural heritage. The missions are seen not only as contributors to the academic understanding of the past but also as active

agents in the promotion and dissemination of this heritage, both locally and internationally. There is significant curiosity about why foreign archaeologists choose to work in a region that is, for many outside it, relatively unknown. Questions often arise regarding where the excavated artefacts are sent, leading to an important dialogue about the role and transparency of these missions.

This curiosity highlights the necessity of clearly communicating the purpose and processes behind archaeological work. Many locals expressed a desire for more information about how the missions operate, emphasising the importance of making it clear that nothing is taken away from the region. Instead, the focus is on how the mission's work aims to return knowledge and findings to the local communities, empowering them with a deeper understanding of their own heritage. In this sense, foreign missions are viewed not as extractive, but as partners who help to preserve, study, and share the heritage in a way that benefits the community and ensures the legacy of these archaeological sites, safeguarding them for future generations. In the case of Gawr Tepe, interviews were initiated in autumn 2024 and, for the time being, involved two local workers participating in the excavation. Despite the small number of participants, the information gathered proved particularly valuable. For instance, while archaeological evidence had already indicated the presence of illicit excavations, conversations with locals helped to clarify the chronology of these events, placing them more recently than previously assumed. Here too, knowledge of the site's past was transmitted through oral accounts passed down by family members and elders of the village, further confirming the centrality of oral transmission in shaping historical memory.

During all the interviews, participants were also asked whether they possessed any historical photographs of the archaeological sites or the village, and if they would be willing to share them. Respondents expressed a collaborative attitude and showed enthusiasm in sharing both old and more recent photographs.

Overall, this research represented a systematic attempt to understand the relationship between the local population and their archaeological heritage before undertaking any planned interventions. The interviews confirmed their role as one of the most effective tools for collecting meaningful data and testimonies, providing a solid foundation for developing participatory and inclusive strategies aimed at the sustainable and shared protection and enhancement of cultural heritage (Zaina 2021).

In future phases of the project, it will be important to extend the survey to underrepresented social groups, including women, young people, and elderly individuals not directly involved in excavation activities, in order to provide a more comprehensive picture of the plurality of actors engaging with local archaeological heritage.

Each interview was fully recorded, and data were analysed using a qualitative approach, given that the number of respondents does not yet permit a quantitative treatment. Nevertheless, the richness and diversity of perspectives collected offers valuable insights into the complexity of the community-heritage relationship and help to shape the subsequent stages of the project.

In certain cases, the information gathered also contributed to the historical and archaeological interpretation of the sites. At Qalla Kon, for example, visible traces of fire on the surface were attributed, according to testimonies from the inhabitants of Sarqala, to the Newroz celebrations, the Kurdish New Year, which until recently took place atop the tell. This information allowed for a more accurate reconstruction of the site's recent history and its role in local community life.

In many instances, a widespread awareness was recorded of the cultural and educational value of heritage, viewed as both a link to one's origins and a potential resource for the community's future development.

In this light, the interviews represent not merely a tool for data collection, but a foundational step in the development of informed enhancement practices, grounded in local context and geared towards the active engagement of local communities.



Figure 6: Interviews conducted at the site of Qalla Kon during the autumn 2023 campaign (Photo ©D. Andreucci, 2023).

Conclusions

The project presented in this article is set within a complex and layered context, characterised by an extraordinarily rich archaeological heritage but also numerous challenges related to its conservation and enhancement. Located in an area that is still partially investigated, the reality of Garmian offers a significant opportunity to rethink the practices and tools of contemporary archaeology through a participatory, sustainable, and interdisciplinary approach.

The initiative is situated at the intersection of archaeological research, technological innovation, and participatory practices, proposing an integrated methodological model that combines the needs of heritage conservation and enhancement with those of scientific research. This approach represents a concrete response to the challenges facing the cultural heritage of Iraqi Kurdistan, but also an opportunity to reconsider the role of archaeological research in relation to the territory and contemporary society, laying the groundwork for a broader reflection on the social role of the discipline.

One of the central and most innovative aspects of the project lies in the decision to supplement traditional archaeological documentation, based on excavations and surveys, with ethnographic sources, oral testimonies, and collective memories. The inclusion of these sources will allow for the construction of a more nuanced narrative of the landscape, providing new interpretative keys to understand its complexities. In this sense, the combination of material and immaterial data will enable the creation of a diachronic narrative that integrates the historical, symbolic, and identity-related dimensions of the territory.

The creation of a multi-layered digital archive and an interactive platform, accessible to a broad and diverse audience, represents a fundamental tool to ensure the accessibility of the content, but also to strengthen collective awareness and promote a sense of shared responsibility towards the heritage. The preliminary analyses conducted in the field have highlighted a strong connection between the local communities and the archaeological sites, as well as a willingness to engage in dialogue and collaboration, which represent valuable resources for the future development of the project. These findings suggest that participatory strategies can provide an effective means of activating more sustainable and context-rooted heritage protection paths.

In a context marked by rapid transformations and threats of predominantly anthropogenic origin, the construction of a sense of collective responsibility and constant dialogue between institutions, researchers, and the local population is essential to ensure the effectiveness of safeguarding actions. In this perspective, public archaeology and community archaeology not only offer new methodological tools but also present practices capable of restoring centrality to communities and enhancing their role in the process of knowledge production. Archaeological sites thus become places of exchange, learning, and sharing, spaces in which the past interacts with the present and contributes to the construction of collective identities.

The project aims to demonstrate how it is possible to overcome the traditional dichotomy between research and dissemination, between conservation and participation, by promoting a vision of heritage as a common good, dynamic and accessible. The collaboration with the Directorate of Antiquities and Heritage of Garmian, the Garmian Civilization Museum, and other local and international institutions is an indispensable element to ensure the sustainability and long-term effectiveness of the initiative.

The interaction between digital tools, heterogeneous sources, and community participation can serve as a model for developing new heritage protection practices. These practices would not only focus on the material conservation of sites but also their integration into the daily lives of local communities, strengthening their symbolic, social, and educational value.

In conclusion, the historical-archaeological landscape of Garmian represents a privileged laboratory for testing sustainable heritage management models based on cooperation, inclusion, and innovation. Archaeology, in this context, renews its methods and objectives, transforming into a tool for the critical understanding of the past and the shared construction of the future.

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