

# Thermal Culture as National Heritage Among the Algerian Population

## Case Study Hammam Debagh Guelma

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### Abstract

The thermal culture in Algeria dates back to antiquity, the Romans were among the first to know the therapeutic benefits of hot water springs in the region, Guelma is one of the Algerian cities which have natural hot springs, over for centuries the thermal tradition has been perpetuated and has been integrated into the local medical culture. The professional objective is to undertake an in-depth analysis of the thermal culture at Hammam Debagh, Guelma, capitalizing on its rich ancient heritage, and the attractiveness of the public in search of medical care, relaxation and leisure, thus highlighting the importance continues this age-old practice for health and well-being. A thorough understanding of this tradition will help strengthen its attractiveness and promote its potential as a therapeutic and tourism resource.

**Keywords:** thermal culture; heritage; tourism; attractiveness; therapeutic benefits.

### 1. Introduction

Hammams, thermal baths, hot springs and other thermal establishments are living remnants of an ancestral world tradition, constituting both tangible and intangible heritage. These sites, scattered across the globe, embody the cultural and social heritage of the civilizations that have shaped them over the centuries. Among these timeless witnesses, the hammams of Al-Andalus, the Turkish baths of Istanbul, the Japanese onsens and the Icelandic hot springs, to name but a few, illustrate the diversity and richness of the world's thermal culture (UNESCO, 2008; Kraljević, 2013; Yamamura et al., 2017). The importance of these places goes far beyond their utilitarian function. They are places of encounter, cultural exchange and care, where traditions, rituals and therapeutic practices have been perpetuated for generations. As we explore these iconic sites, we delve into the history of humanity, learning about the customs and beliefs that have shaped societies through the ages. At a time when spa tourism is experiencing a global revival, these sites are of particular importance as engines of local economic development and as guardians of the collective memory. Their preservation and enhancement thus become crucial issues, testifying to our commitment to preserving World Heritage for future generations.

Thermal waters in Algeria, representing symbols of natural and cultural wealth, have fascinated researchers through the centuries, sparking a continuing interest in their therapeutic potential and socio-cultural importance. Archaeological studies have revealed the antiquity of this tradition, with evidence of the use of thermal waters by ancient Berber and Roman civilizations (Bensabeur-Knapp, 2016; Gsell, 1924). Contemporary research highlights the importance of Algerian thermal springs in the context of traditional medicine and public health, highlighting their healing properties for a wide range of medical conditions, including dermatological, rheumatological and respiratory conditions (Benmehdi et al., 2018; Hamouda et al., 2020). In parallel, anthropological and sociological studies explore the cultural dimensions of spa culture in Algeria, highlighting its role in the construction of social and regional identity, as well as its implications for tourism and economic development (Zebbiche et al., 2017; Ouarab et al., 2019). In addition, recent research examines the challenges and opportunities related to the preservation and sustainable management of this valuable natural and cultural heritage, in the context of environmental and socio-economic changes (Boudjellaba et al., 2021; Ministry of Culture, Algeria, 2017).

Algeria, endowed with abundant thermal resources, draws on its ancestral past to perpetuate and enhance this unique heritage. Hammam Debagh, by its unchanging presence in the heart of the city of Guelma, testifies to the continuity of this tradition and its importance in the daily life of Algerians (UNESCO, 2008; Arroub, 2015). This natural and cultural thermal heritage encompasses the natural, architectural and cultural resources associated with the thermal springs and their use for medical and recreational purposes. This includes the natural sites where thermal springs emerge, the human facilities built around these springs such as baths, spas and thermal establishments, as well as the traditions, rituals and know-how related to their use (UNESCO, 2008; Arroub, 2015; Le Prestre, 2001; Glauser, 2006).

Thermal tourism in this city is a formula of stay combining tourist activities and medical or paramedical care. Among the possible health care options, we can mention thalassotherapy or hydrotherapy, for which the country offers interesting opportunities. In addition to the attractive prices charged, it is the quality of accommodation, the possibilities of sports activities, cultural discoveries and a change of scenery that justify the growing interest of tourists in these formulas: thermal cures, fitness stays with hammam, massages and various baths are offered for stays harmoniously combining relaxation and activities.

## Problematic

What is the importance of thermal culture as a heritage among Algerians, focusing on the case study of the Debagh hammam in Guelma?

## Hypothesis

The spa culture is deeply rooted in the cultural and social identity of Algerians, and the Debagh hammam in Guelma represents a significant example of this connection, providing a space for meeting, healing and preserving traditions.

## Objective

To analyze the role of the Debagh hammam in the preservation and transmission of the thermal culture in the region. To assess the socio-cultural impact of the Debagh hammam on the local community of Guelma.

To examine the challenges and opportunities related to the conservation and enhancement of the Debagh Hammam as a cultural and natural heritage.

This article proposes to explore in depth the thermal culture as a heritage among Algerians, by highlighting the specific case of the Debagh hammam in Guelma.

By examining the history, uses, and contemporary issues associated with the Debagh hammam, this work aspires to offer an enlightening look at how spa culture enriches the cultural and social identity of the Algerian nation. Through an in-depth analysis of this emblematic site, we will strive to grasp the very essence of the thermal culture in Algeria, while considering the challenges and prospects for its preservation and transmission to future generations.

## Methodology

To answer the question, an analysis of the environmental, geographical, and cultural characteristics of the study area is required.

-Field data collection through in-depth study of natural features on site, including geological surveys and biodiversity, Direct observation of traditional practices related to hot springs.

-An in-depth search will be carried out by consulting scientific documents, specialized publications, historical archives, and any other relevant documentary material. This will include the review of geological surveys, environmental reports, anthropological work on the area, and previous publications related to the Hammam Debagh Hot Springs. The aim is to gain an in-depth understanding of the natural, cultural and historical features of the site.

- The use of maps and satellite imagery will allow for detailed visualization of the surrounding topography, geological features, and distribution of thermal resources.

## 2. Presentation of the city of Guelma

### 2.1 Geographical location

The city of Guelma is located in the north-east of the country (Algeria) and constitutes, from a geographical point of view, a meeting point, even a crossroads between the industrial poles of the north (Annaba and Skikda) and the trade centres in the south (Oum El Bouaghi and Tébessa). It occupies a middle position between the north of the country, the highlands and the south. The wilaya of Guelma covers an area of 3,686.84 km.



**Figure 1: Situation of the city of Guelma.**

Source: google image.

### 2.2 Presentation of the Hammam Debagh region

Hammam Debagh is a commune in the wilaya of Guelma in Algeria, also known as Hammam Meskoutine (Arabic: **والطين المسك حمام**) (musk and clay bath), is located 15 km from the city of Guelma in northeastern Algeria and is one of the many spa resorts in this region. It is the capital of Daïra, resulting from the administrative division that took place on February 4, 1984 by Law No. 84/09.

### 2.2.1 Geographical location

The commune of Hammam Debagh is located west of the capital of the wilaya of Guelma. It belongs to the mountainous region of the wilaya and covers an area of 58.75 km<sup>2</sup> with a population of 18032 inhabitants, according to RGPH 31-12-2015.

It is bounded by:

- To the north: the commune of Roknia.
- To the south: the commune of Houari Boumediene.
- To the east: the commune of Medjaz Ammar.
- To the west: the commune of Bouhamdane



**Figure 2:** The situation of the municipality of Hammam Debagh in relation to the city of Guelma. Source: google image.

### 3.1 Ancient History and Berber-Roman Tradition

The origins of the thermal culture in Algeria date back to ancient times when the ancient Berber and Roman civilizations already recognized the therapeutic benefits of mineral waters. Archaeological remains, such as the Roman baths of Guelma and Timgad, attest to the importance given to baths and thermal treatments in daily life (Gsell, 1924). These traditions have been passed down from generation to generation, becoming an integral part of Algerian culture. Archaeological remains, such as the Roman baths of Timgad and Guelma, testify to the importance of baths and thermal treatments in Antiquity (Bouchama et al., 2017). These discoveries offer a fascinating insight into the early use of thermal waters by ancient populations, highlighting their cultural and historical value.

Guelma is home to several thermal springs, the most famous of which are Hammam Ouled Ali and Hammam Meskhoutine. These sites, with ancient origins, are intimately linked to the history of the region and have played a central role in the lives of the inhabitants for centuries (Bensaber-Knapp, 2016). Archaeological studies have revealed Roman remains attesting to the use of thermal waters for therapeutic purposes as early as Antiquity (Dahmani et al., 2019).

The Roman baths in Guelma represent a precious legacy of antiquity, testifying to the importance of thermal practices in daily life and Roman culture.

The Roman baths of Guelma were built during the period of ancient Rome, probably in the second century AD, during the period of economic and cultural prosperity of the region (Gsell, 1924). Inspired by traditional Roman baths, these establishments were centres of social life, well-being and body care, reflecting the importance given by the Romans to public baths in their daily lives (Boissier, 1896). They were organized according to a typical architectural plan, including hot rooms (caldarium), warm rooms (tepidarium), and cold rooms (frigidarium), as well as recreational spaces such as gardens and gymnasiums (Gsell, 1924). Visitors could enjoy a range of services, from hot and cold baths to massages and physical exercises, in a luxurious and refined setting (Boissier, 1896). They were much more than just sanitary facilities. They were social meeting places, where citizens met to discuss, have fun and make social contacts (Poma, 2000). These establishments were also centers of worship and ritual, where religious beliefs and purification practices were integrated with spa activities (Fantar, 1961). Although these baths have long since ceased operations, their legacy lives on in the modern spa culture of the region. The traditions of baths and thermal treatments, inherited from Roman times, are still alive among the inhabitants of Guelma, testifying to the cultural continuity through the centuries (Toumi et al., 2015). In addition, the archaeological remains of the Roman baths continue to attract visitors and researchers, contributing to the preservation and enhancement of this exceptional historical heritage (Dahmani et al., 2017).

Guelma among the Algerian cities, whose main function is thermal and which can result in climate tourism due to the natural and cultural potentialities they conceal. The survey carried out in this sector confirms the existence of thirteen springs that are little or not exploited at all. It is therefore a virgin and promising niche that is just waiting to be exploited. This locality receives an average of 190,000 visitors annually, which is more than the resident population of 11,918 ha. This large tourist flow creates a movement of population on a local and national scale.

The Romans built the baths in each city, an establishment where art was not neglected. When the Byzantines arrived, these architectural gems were abundant and fell into the hands of scandals, who cared little for comfort.

The Turks settled by the sea and created a civilization essentially oriented towards it, on the other hand they established public baths and built the (Hammams).

After 1962 (Algerian independence) During the period 1962-1966, concerns for tourism development were focused on the preservation of this heritage and the collection of information relating to the various areas of tourist expansion, and also the creation of the Algerian National Tourist Office (O.N.A.T). Indeed, the year 1966 represents a historic date in the tourist phenomenon in Algeria, because it also saw the adaptation of a new policy in terms of tourism, a policy dictated by the national chant.

### 3.2 Histories of the Hammam Debagh region

History sums up the past of the whole region founded by the Numidians and conquered by the Romans, It was sacked by the Vandals and fortified by the Byzantines and then fell early into the hands of the Arabs and dynasty that succeeded each other, then came the Turkish hegemony, the occupation and the construction of Guelma, with a rapid growth after independence. Hammam Debagh was once situated on a plateau overlooking the banks of Bouhamdane, about three kilometres from the place where this stream, swollen by the wadi of Charef, forms the Seybouse. It is 20 km from Guelma, the nearest town. The county is very rugged, deep valleys, more or less high knives, imposing mountain ranges. The springs are scattered around an axis 5 to 6 km long. They are clearly marked to the west of the right bank of the Chedakha (a small tributary of the Bouhamdane). They also feed this small stream. The station of Hammam Debagh was located on the route of the Algiers-Tunisia railway line which was called the great transversal and which followed almost the entire route of the cement road built by the legions.

But at the time, only a small piece of road made passable (indicated by a prosaic post) connected it to the national road going from Guelma to Constantine. It always presented to the eye the curiosity of the cones, its warm waters and its waterfall. Despite the efforts made to restore this municipality to its former face and to have a compact, homogeneous and continuous urban fabric. Some problems still remain, and this is probably the consequence of urbanization at too far apart and uncoordinated stages.

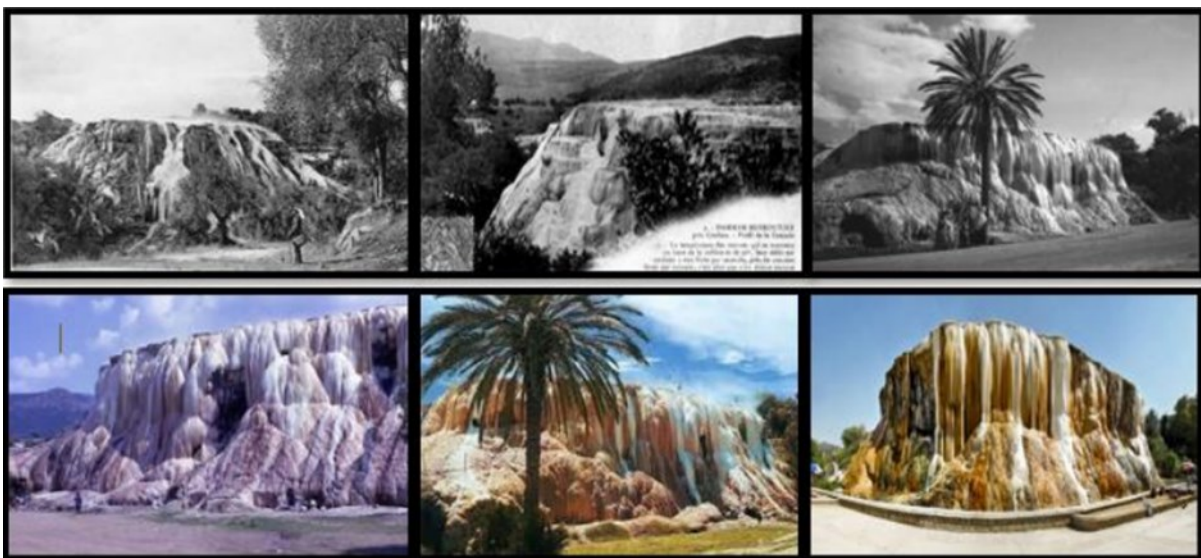


Figure 3: The evolution of the Hammam Debagh waterfall. Source: Fnides Randa.

## 4. The riches of the municipality of Hammam Debagh

Riches in Ruins (Waterfall, Dolmens-baths, forest, water springs)

### 4.1 The Waterfall

It is a majestic image of a petrified cataract. It eclipses other formations of the same nature, including the one created by chance in the trench dug in the 19th century for the construction of the railway. The large waterfall is due to the griffins from which it receives the thermal waters. It is a marvel and occupies an almost vertical surface thirty meters high above a section of the Cheddakha wadi, as it passes at the bottom of the open-air theater, along the area laid out as a promenade. The drooping surface is cut at different points as if by tiers of elegant basins that cushion the fall of



the water. If it is of a dazzling whiteness, where water flows in abundance, affecting the most varied colours, in dry places or with little current, its calcareous incrustations are coloured in various shades, including reddish yellows resulting from the presence of microscopic fungi.



**Figure 4:** The Hammam Debagh waterfall. Source: Amira Mihoubi.

#### **4.2 The dolmens**

There are other extraordinary sights in the northern part. This attraction occupies one of these astounding places by the silence and solitude that reigns there. The dolmens, Neolithic tombs, formed of massive rough stone tables, are grouped on a rocky plateau on the edge of a cliff. Also known as crateriformes, they were formed at the time when water gushed out in sprays above the ground, many centuries ago. Some are four or five meters high and are fairly regular.



**Figure 5:** the dolmens. Source: Fnides Randa.

#### **4.3 Forests and wadis**

The forest richness of this region offers a great good for the mildening of the climate and its filtration of pollutants. Olive trees and eucalyptus trees are the main types that exist. Several wadis and Chaaba descend from the mountains and cross the area, directly influencing the temperature and humidity.

To the south-west, a large dam (Bouhamdane) plays the role of the main element modifying the humidity in the area.



**Figure 6:** Represents the Hammam Debagh forest and the Buhamdene dam. Source: Fnides Randa.

#### 4.4 Springs and waters

The springs are scattered around an axis 5 to 6 km long. They are clearly bounded by the right bank of the Chedakha, a small stream which they feed, moreover. The temperature of the springs varies between 70 and 96°. They appear to be the hottest in the world, except for one or two cases. The water bubbles out of small cavities, digs canaliculi and leaves very abundant encrustations. The springs give hyper-thermal waters, with low mineralization, sodium chlorides and calcium carbonates. Some waters are ferruginous; others contain a little hydrogen sulphide, by reducing the sulphates in contact with the superficial soils. All contain arsenic. They are perfectly clear. Discharging a considerable quantity of water (about 48,000 m<sup>3</sup> per day), they are divided into nine groups:

1. Ain Skhouna.
2. Source of the stream.
3. That of the great Cascade.
4. Those called baths.
5. Ain Echfaa.
6. Springs of the Cone Plateau.
7. Those of the old railway.
8. Those of Bouhamdane.
9. Four other outcrops.

\* Physical characteristics:

Temperature: 97°C, Hyperthermal waters

PH: 7.6 Alkaline Neutral (PH Alkaline)

#### 4.5 Chemical and Mineral Composition

The thermal waters of Guelma have a complex chemical composition, rich in minerals essential for human health. Chemical analyses reveal the presence of calcium, magnesium, potassium, sulphate, as well as trace elements such as zinc, copper and iron (Bouzid et al., 2018). This mineral composition gives the thermal waters their therapeutic properties, helping to relieve various dermatological, rheumatological and respiratory conditions.

#### 4.6 Physical and Thermal Properties

The thermal waters of Guelma are also distinguished by their physical and thermal properties. They are generally characterized by a high temperature, often exceeding 40°C or more, thus classifying them as hyperthermal waters (Bensaoula et al., 2019). This natural heat promotes vasodilation, improves blood circulation, and relaxes muscles, making it an effective solution for relieving muscle and joint pain.

#### 4.7 Quality Assessment and International Standards

The quality assessment of the thermal waters of Guelma is carried out in accordance with current international standards, such as those established by the World Health Organization (WHO) and the United States Environmental Protection Agency (EPA) (Bensalem et al., 2017). These standards define the chemical, microbiological and physical parameters to ensure the safety and effectiveness of thermal waters for medical and recreational use.

#### 4.8 Timeliness of the study area

- Natural and heritage wealth.
- The Bouhamdane dam.
- The location near the main roads.
- The richness of the existing groundwater in this municipality.
- Presence of numerous thermal springs (thermal water reaches 97°C).

- The archaeological remains of the region and the beauty of the site.
- Very rich historical, cultural and landscape heritage.
- The marvellous Waterfall.
- The panoramic views and the quiet environment (the forest).
- A natural pole of attraction due to the richness of the green and plant spaces of the study area.
- An accessible site with a well-equipped transportation infrastructure.
- A site favourable to urbanisation.
- The springs and waters existing in this site

#### **4.9 Tourism Potential of the Hot Springs**

Guelma is renowned for its natural thermal springs with healing properties, such as Hammam Ouled Ali and Hammam Meskhoutine. These sites provide an ideal setting for the development of spa tourism, attracting visitors in search of well-being and relaxation (Ministry of Tourism and Handicrafts, 2019). In addition, the rich history of the Roman baths of Guelma adds a cultural dimension to this unique tourist experience (Dahmani et al., 2019). However, despite its potential, spa tourism in Guelma faces several challenges. The lack of adequate tourism infrastructure, such as hotels, spas, and wellness centers, limits the region's attractiveness to domestic and international tourists (Ministry of Spatial Planning and Environment, Algeria, 2020). Moreover, the increasing competition with other spa destinations in the region requires an effective marketing strategy to promote Guelma as a prime spa destination (Belmihoub-Zerdani, 2018).

Despite these challenges, thermal tourism in Guelma offers prospects for sustainable development for the region. Diversifying the tourism offer, by integrating cultural, ecological and well-being activities, could stimulate the local economy and create employment opportunities for residents (Bouraoui et al., 2021; Amen & Nia, 2020; Aziz Amen, 2022; Kafrawy et al., 2021; Mahgoub, 2021; Nassar, 2021). In addition, the preservation and enhancement of Guelma's natural and cultural heritage is essential to ensure the long-term sustainability of spa tourism in the region (Ministry of Culture, Algeria, 2021). Thermal tourism in Guelma represents a significant potential for the economic and tourist development of the region, capitalizing on its natural thermal springs and rich historical heritage. However, concerted efforts are needed to overcome infrastructure and competition challenges, while ensuring sustainable and environmentally friendly development.

The thermal waters of Guelma are widely used for the treatment and prevention of a wide range of medical conditions. They are renowned for their effectiveness in treating dermatological conditions such as psoriasis and eczema, musculoskeletal disorders such as arthritis and rheumatism, as well as respiratory conditions such as asthma and bronchitis (Belhouchat et al., 2020). Clinical studies have demonstrated the effectiveness of these thermal treatments, offering a natural and complementary alternative to conventional therapies.

#### **5. Thermal traditions**

**Use of local thermal springs:** The Algerian population traditionally used local thermal springs to treat various ailments. These practices can be passed back generations and informally within families and communities.

The population of Guelma has a deep culture of thermal baths because it becomes a weekly necessity of relaxation, the local individual every week goes to the hammam to relax their stress of the week with a good natural hot water bath and after a well-done massage he then feels psychological comfort, as if he had gone on a recreational vacation. Treatment of common ailments can use thermal waters to treat common ailments such as joint pain, skin problems, and respiratory disorders. These treatments are often perceived as natural or complementary alternatives to conventional medical care.

**Regular visits to spas** In areas where spas are located, it is common for people to make regular visits to enjoy the benefits of the thermal waters. These visits can be scheduled regularly, for example during certain seasons of the year. Wellness and relaxation practices, in addition to medical care, spas in Algeria can also offer wellness and relaxation activities. This can include relaxing baths, massages, and other spa treatments.

**Transmission of knowledge and cultural heritage:** Knowledge about the benefits of thermal waters and treatment techniques can be passed down from generation to generation within families and communities. Ancient healing practices can be preserved and integrated into modern lifestyles.

**Integration with modern medicine:** Nowadays, spa resorts in Algeria can also incorporate modern medicine approaches to offer holistic healthcare. Medical professionals can recommend thermal treatments as an adjunct to traditional medical treatments.





**Figure 7:** thermal and wellness treatment centres. Source: google image.



**Figure 8:** Represents the natural sauna chamber and the hammam pool. Source: Mihoubi Amira.



**Figure 9:** represents the leisure area at the Debagh hammam. Source: Mihoubi Amira.

## 6. Discussions

The thermal culture in Algeria, exemplified by sites like Hammam Debagh, is a national treasure rich in history and therapeutic benefits. These public baths, both ancient and modern heritage, offer a revitalizing experience of relaxation and pampering, while preserving traditions and stimulating local economic development. In short, Algerian thermal waters are much more than just a tourist attraction; They represent a cultural heritage to be protected and valued for future generations. Thermal baths offer a range of therapeutic benefits, taking a holistic approach to health. At Hammam Debagh, these assets are particularly highlighted. The thermal waters are rich in minerals composed of several minerals, beneficial for the skin, joints and muscles, helping to relieve pain and tension. In addition, the thermal experience promotes mental relaxation and reduces stress, thus contributing to the overall balance of well-being. The testimonies of the beneficiaries often highlight an improvement in their physical health, but also in their emotional and mental state. The Debagh hammam embodies a complete approach to health, offering treatments that nourish the body, mind and soul. the thermal heritage of the Debagh hammam has a history over the centuries, deserves to be world-class because it is inherited as a culture through the generations, because it has been established as a culture since childhood, this means that when it comes to bathing and feverish relaxation, the individual grows here as a weekly or monthly culture that changes with the treatment and relaxation time of the people because it is a pleasure to experience the hot water, In conditions of normal anxiety or disruption of routine, is equivalent to making a therapeutic recreational trip and extends its area of influence at the national and international level, we find the development of infrastructures and leisure facilities, hotels and traditional shops, by settling in this city it becomes an area of tourist attractiveness throughout the cold and temperate seasons, including the transformation of a people's culture over time into tourism in an important area without seeking to do so, in order to bring many benefits, including economic benefits



Hammam Debagh in Guelma, much more than just a bathing place, is a real cultural crossroads where different generations and traditions intersect. However, its integrity is threatened by neglect, lack of funding, and urban development pressures. To address these challenges, various preservation initiatives have been launched, including the restoration of historic buildings, the promotion of cultural tourism, and raising awareness of the importance of thermal heritage. In addition, it is essential to guarantee the intergenerational transmission of the knowledge and traditions associated with the Debagh hammam in order to ensure its sustainability. This can be done through educational programs, community events, and integration into school curricula, allowing future generations to understand and appreciate the cultural and historical significance of this iconic site.

The thermal culture in Algeria, exemplified by sites like Hammam Debagh, is a national treasure rich in history and therapeutic benefits. These public baths, both ancient and modern heritage, offer a revitalizing experience of relaxation and pampering, while preserving traditions and stimulating local economic development. In short, Algerian thermal waters are much more than just a tourist attraction; They represent a cultural heritage to be protected and valued for future generations.

## 7. Conclusion

Guelma, is a region rich in historical heritage and natural resources, especially its thermal springs. Hammam Debagh, is particularly renowned for its thermal waters, its Roman archaeological remains, and its natural landscapes, such as the petrified waterfall. These assets make Guelma a strategic crossroads between the industrial poles of the north and the exchange centers of southern Algeria, offering significant potential for the development of thermal and ecological tourism. The thermal springs of Guelma, among the hottest in the world, have unique physicochemical properties, with a composition rich in minerals beneficial for various dermatological, rheumatological and respiratory conditions. Despite their therapeutic and tourist potential, these resources remain under-exploited due to the lack of adequate infrastructure and competition from other spa destinations.

The spa culture has been perpetuated through the centuries, incorporating traditional and modern wellness and health care practices, and remaining an essential component of the local way of life.

The region offers considerable opportunities for the sustainable development of spa tourism. The enhancement of natural and cultural wealth, the creation of tourism infrastructure, and the promotion of an effective marketing strategy could transform Guelma into a first-class spa destination, attracting national and international visitors. The preservation of the thermal heritage and the transmission of traditional knowledge are also crucial to ensure the sustainability of this cultural wealth.

The spa culture in the town of Guelma has become from an ordinary culture among the locals to a tourist center and economic gain for the region.

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## Conflict of Interests

The Author(s) declare(s) that there is no conflict of interest.

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