

MANAGEMENT PLAN

for the
Testimony
of the
Pearling
Economy



Pearling
Testimony of an Island Economy

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Chapter 1

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1 INTRODUCTION

The management system

The management system for the testimony of the pearling economy aims to conserve and promote the serial heritage site which articulates the history of the pearling economy and the way it has shaped the identity of the island society of Muharraq, Bahrain.

The site and its buffer zone

The site represents all key natural, commercial, social and cultural elements of the pearling economy based on 15 natural and urban properties. 12 of these 15 properties are linked by a shared buffer zone. The significance of this physical testimony proposed for World Heritage nomination is sometimes explained by oral history, documents, historic artefacts and associated intangible expressions such as performance of songs and ceremonies. With the information gained in the framework of these additional sources, the properties convey the grand narrative of pearling in Bahrain.

Documenting the management system

This management plan documents a management system that was developed during the preparation of a nomination dossier for submission to UNESCO, and subsequent evaluation by the Advisory Bodies and the UNESCO World Heritage Committee. The preparation of the nomination dossier was coordinated by the Ministry of Culture and Information, Sector for Culture and National Heritage. An interdisciplinary team worked on the nomination dossier from February 2007 to January 2010. Five task groups undertook research, documentation and planning in the following fields:

- Anthropological and historical research and documentation
- Environmental research and maritime heritage conservation
- Architectural research and conservation
- Urban regulations and design
- Financial planning and tourism development

Scope of the management plan

The management plan details the first implementation phase from 2009 until mid 2013.

This phase focuses on the formal establishment of administrative structures and legislation to protect the heritage site and its Outstanding Universal Value. It emphasises architectural conservation, urban upgrading, historical and anthropological research and the creation of visitor and interpretation facilities.

Hayr Bū 'Amāmah



Looking beyond phase 1, the plan provides guidance for the long-term protection and operation of the heritage site in line with the stipulations of the World Heritage Convention.

The management plan is an implementation tool providing a framework of policies and actions to enable all concerned parties to understand and share the management objectives and their implementation, and to monitor the results achieved. It is oriented towards those responsible for the management of the site and other concerned government agencies, both municipal and national. It also addresses and serves the wider public: environmental and cultural associations, the scientific community, groups and individuals interested in the protection and utilisation of the site, and potential sponsors for conservation measures or interpretation facilities as an outline and verification document.

Navigating the management plan

Chapter 1 Site Description, Objectives and Assessment describes the site, its cultural significance and Outstanding Universal Value. It defines the overarching aims of the management system and 10 strategic objectives, based on assessment of the context in which the planning and implementation takes place.

Chapter 2 Management Strategies introduces 10 management strategies, each responding to one of the 10 strategic objectives. These strategies guide the first implementation phase from 2009 until 2013 and provide a long-term basis for future conservation and protection of the heritage site.

Chapter 3 Site Analysis and Action Plans (2009-2013) outlines the implementation of phase 1. It includes an assessment of each of the site's different properties and their individual or shared buffer zone as well as action plans for the implementation time frame 2009-2013.

The shared **Annex** of the Management Plan and the Nomination File provides illustrations and maps to aid understanding of the properties. Copies or excerpts of documents the management plan refers are also attached.



Seashore Bū Māhir

A lane in historic settlement
Muharraq

2 DESCRIPTION OF THE SITE

The testimony of the pearling economy is a serial site of 15 property components located in the northern territorial waters of the Kingdom of Bahrain and on Muharraq Island. These encompass 3 oyster beds as maritime properties, a seashore site located at the southern tip of Muharraq Island and 11 urban properties, encompassing 17 architectural structures, located in Muharraq. In terms of categories of cultural property set out in article 1 of the 1972 Convention, the serial site consists of 4 sites, 9 monuments and 2 groups of buildings. In combination the marine and land components represent all key natural, commercial and socio-cultural elements of the pearling economy and are proposed to UNESCO as a cultural heritage site for inscription on the World Heritage List under the title "Pearling, Testimony of an Island Economy".

From antiquity until the 1930s, Bahrain's pearling activities - the collection and trade of natural pearls - have been the most outstanding example of this global phenomenon. This is testified through numerous historic documents referring to the abundance and quality of pearls from the oyster beds north of Bahrain, and the scale of production and trade on the island state.

Pearling is the most important reference of Bahrain's national history. The pearl-based single-product economy sustained the society over centuries, shaping a social structure based on a hierarchy of different professions and occupations connected to pearling, and triggering a variety of associated cultural practices. In essence, pearling defined the lifestyle and cultural identity of the island society of Bahrain, and especially of its former national and pearling capital, Muharraq. Here, the millennia-old tradition reached its culmination during the 19th century before it subsided as a result of irreversible economic change which commenced in the early 1930s. The global decline of the demand for pearls during the Great Depression, discovery of oil in the region and the introduction of cultured pearls ushered in the pearling economy's decline and then its almost total abandonment.



"Pearl Roundabout" Manama



Subsequently, Bahrain's living environment and society have undergone rapid and significant change. New lifestyles and an urban landscape altered by land reclamation and housing developments are its most obvious expressions. Nonetheless, a strong collective memory of the pearling era persists and Bahrainis today continue to take pride in the pearling economy that sustained their society for so many millennia. The grand narrative of the pearling tradition survives not only in the local community and in the physical evidence such as the nominated properties but also in the contemporary Bahraini identity.

The testimony of the pearling economy unites representative spatial and physical evidence of this grand narrative in one serial heritage site. It articulates the narrative's full scope through authentic locations and architectural testimony together with the presentation of historic artefacts, documented oral history and related intangible heritage.



Aerial photograph of Muharraq with the historic shoreline (map of 1931)

SITE DESCRIPTION, OBJECTIVES AND ASSESSMENT

The site's marine zone, located north of Bahrain, consists of three famous oyster beds, representing the natural resource of economy: Hayr Bū-l-Thāmah, Hayr Bū 'Amāmah and Hayr Shtayyah. Every year most of the male population of Muharraq embarked on pearling dhows and set sail for the oyster beds. What followed was four summer months of pearl diving: a strenuous, dangerous life marked by deprivations.

The seashore property Bū Māhir symbolically and factually links the oyster beds to the historic settlement of Muharraq. An authentic, scenic stretch of Muharraq's former coastline, Bū Māhir seashore incorporates a natural beach, adjacent marine waters, and the remains of the fort Qal'at Bū Māhir. The annual pearl diving season commenced and concluded in this vicinity. It witnessed the ceremonies held to mark these pivotal events in the pearling calendar and other related year-round activities such as boat building and maintenance.

Aside from the remains of Qal'at Bū Māhir which formed part of the island's defence structure, the site's architectural testimony consists of 16 further buildings of residential, commercial and religious typologies. These mostly vernacular architectural structures date from the 19th and early 20th century and reflect the last stage of the pearling era's living environment. All of the buildings are directly associated with families who played different integral roles in the pearling economy or its society. Together, based on the individual family histories, the properties represent and remind of the wide range of key professions that made up the pearling economy, from the pearl diver and crew of the pearling dhows to the grand pearl merchants and auxiliary professions such as traders of timber for boat construction. The 16 buildings are clustered in eight separate locations throughout the historic settlement of Muharraq, linked within their buffer zone by an interpretation facility, the "Pearling Pathway".



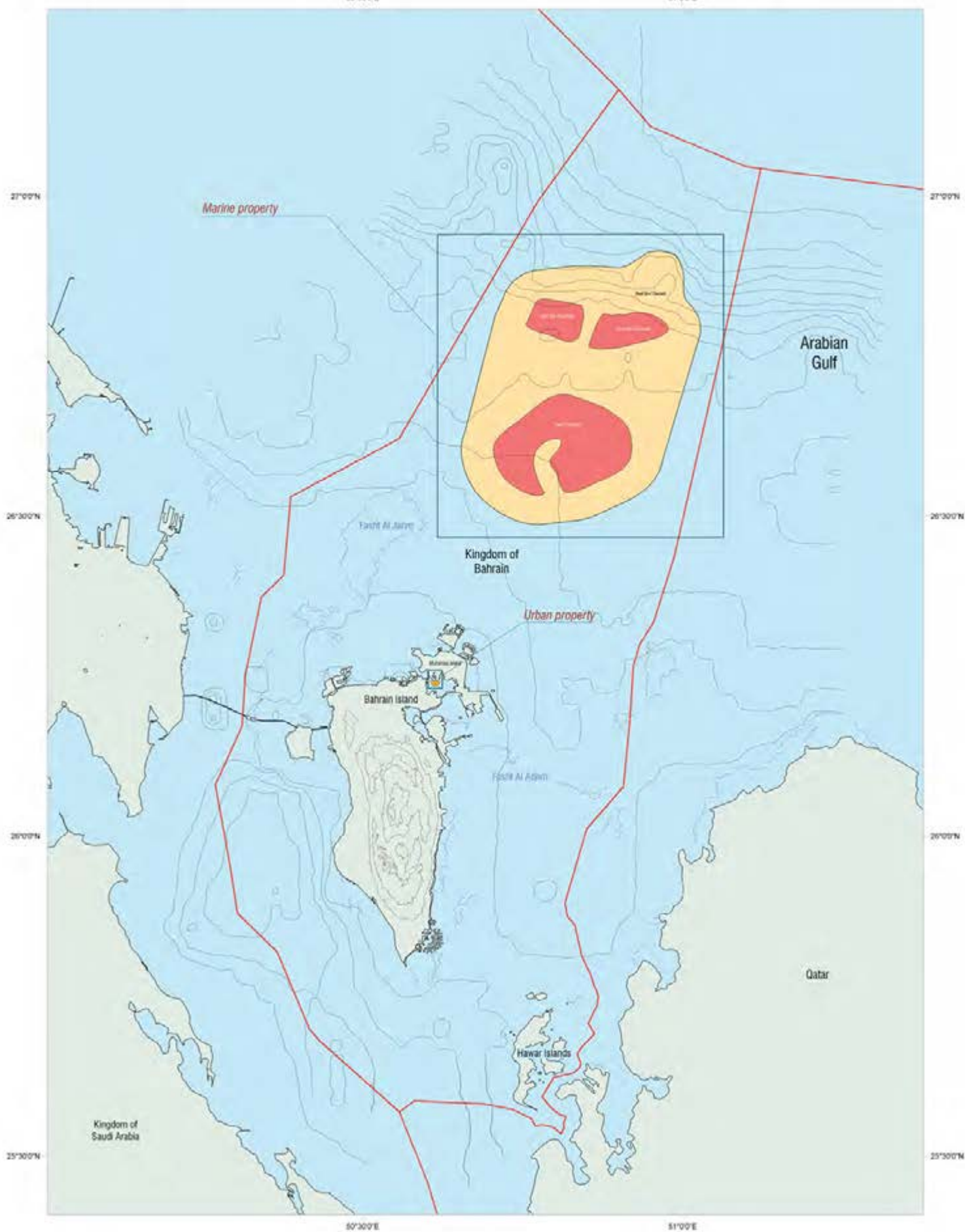
2: Topographical Map of Bahrain with Nominated Properties and their Buffer Zones

December 2009

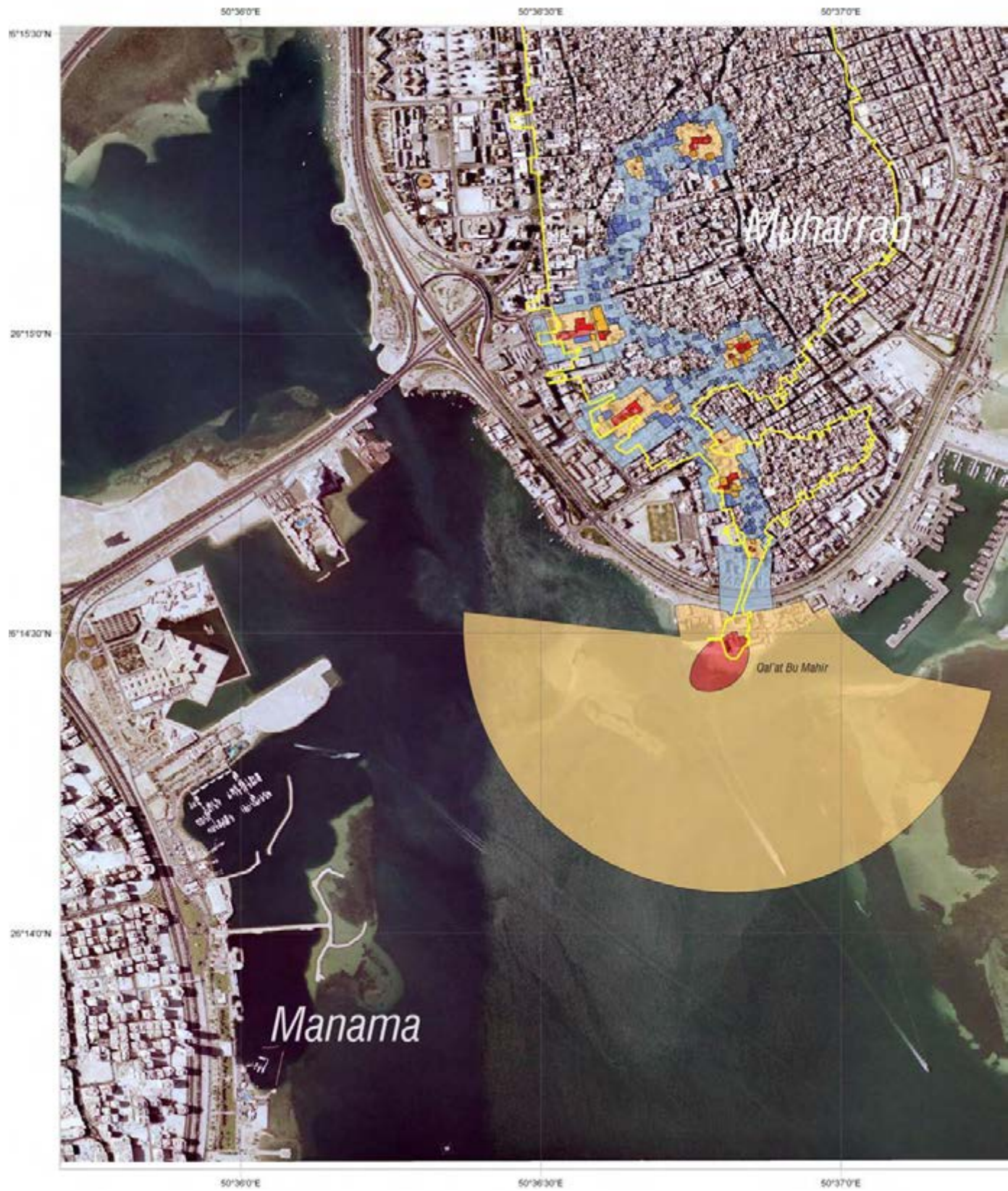
World Geodetic System WGS84 Datum

0 5 10 20 30 40 50 Kilometers

- Nominated Properties
- Buffer Zone
- Limits of Territorial Waters



SITE DESCRIPTION, OBJECTIVES AND ASSESSMENT





3 CULTURAL SIGNIFICANCE AND OUTSTANDING UNIVERSAL VALUE

The prerequisite for inclusion on the UNESCO World Heritage List is the heritage site's Outstanding Universal Value, defined in paragraph 49, chapter II.A of the Operational Guidelines for the Implementation of the World Heritage Convention as "cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity" (Unesco, 2008).

The Outstanding Universal Value of this site exists in its being a unique testimony of a cultural tradition and an outstanding example – throughout centuries – of a single product economy based on a sea use.

The spatial and architectural testimony in this context has two essential meanings: it is the final expression of more than 6000 years of pearling history in the Arabian Gulf; and the reflection of a contemporary island identity and its grand narrative related to the beauty, exploitation and trade of pearls.

Each of the serial properties contributes one or more attributes to the site's Outstanding Universal Value by representing different aspects of the narrative. The value of each serial property is multi-layered, consisting of its spatial and architectural evidence on the one hand and its function within the pearling economy and its society on the other. The memory of the pearling economy far transcends the properties in their physical reality. The presentation of intangible and movable heritage within the serial properties, such as artefacts, documented stories, songs and the performance of other surviving cultural practices directly associated with pearling, strengthens the articulation and understanding of the theme represented by each property.



Pearls

3.1 CRITERIA FOR THE ASSESSMENT OF OUTSTANDING UNIVERSAL VALUE

The Operational Guidelines for the Implementation of the World Heritage Convention (UNESCO, 2008 Chapter II.D) define 10 criteria for the assessment and justification of Outstanding Universal Value. The team, which prepared the nomination dossier, has identified at least two applicable criteria. It therefore proposes the testimony of the pearling economy for inscription on the UNESCO World Heritage List under criteria (iii) and (v) with their following application:

(iii) The spatial and architectural testimony of the pearling economy in Muharraq and the northern waters of Bahrain reflect the culmination and final expression of more than six millennia of pearling history in the Arabian Gulf, the global centre of natural pearl collection. It is the last remaining and therefore unique example which represents the complete narrative of the cultural tradition of pearling, which dominated the Arabian Gulf between the 2nd and early 20th century, and the related human system established in a single-product island economy. While the economic system subsided, the remaining testimony continues to carry the grand narrative it produced, which is still the most significant source of Bahraini cultural identity.

(v) Pearling, and the testimony it brought forth on and around Muharraq Island, is an outstanding example of traditional sea use and human interaction with the environment, which shaped the economic system and cultural identity of an island society. The oyster beds and the architectural testimony of this socio-cultural and economic system are representative of a tradition that became vulnerable and has been gradually abandoned in the 1930s. The collapse of the international natural pearl market value, in the face of the global economic crisis and the introduction of large-scale cultivation of pearls, has irreversibly impacted the system's viability and vitality.

Although the site consists of both natural and cultural elements, its Outstanding Universal Value is solely cultural.

3.2 INTEGRITY AND AUTHENTICITY

The integrity of the site is measured against its ability to convey, both spatially and contextually, a complete understanding of the cultural tradition of pearling and its related human system.

As a serial nomination, the site conveys a complete understanding of the cultural tradition of pearling and the related human system established in a single product economy. The oyster beds and architectural properties selected represent the testimony of this economic system and are of adequate size to contain all major features required to embody the grand narrative it produced. The site's integrity suffered from adverse effects of insensitive housing development and neglect for decades. This is now counteracted by a special zoning arrangement, which ensures the compatibility and control of new developments and urban upgrading schemes which reduce the negative impact of earlier additions.

The authenticity of the site is related to its ability to convey the shared memory and historical experience of all major social and economic roles and processes that constituted the human and economic system of pearling.

While the oyster beds truthfully testify to the outstanding quality of the pearls and maintained the potential of economic pearl collection, the architectural properties are credible memory markers of the grand narrative. In maintaining readability of the traditional uses and functions and in illustrating their traditional building techniques and designs, the architectural properties demonstrate an acceptable degree of authenticity. Over time, elements of these structures were modified or changed, but later additions show architectural continuity with earlier buildings. Since the authenticity of the attributes acting as memory triggers is considered fragile, the management system gives special emphasis to their preservation and promotion.

In the process of developing and documenting the management system for the testimony of the pearling economy, the following apparent values of the site have been identified, many of which interact with each other:

The site is of utmost **historical value** as it provides testimony to the discontinued economic tradition of pearling and its associated socio-cultural system. In this context, its **value of rarity** exists in it being the only

SITE DESCRIPTION, OBJECTIVES AND ASSESSMENT

Carved plaster panel



Historic photo of
pearl merchants
(from public
photo competition 2009)



Pearl oysters



Siyadi Mosque



site preserving comprehensive evidence of all key functions and aspects of the economy and its society. Similarly, the site has **cultural value**, nurturing the **contemporary local identity** by giving body to the most significant aspect of the local history. The site also has **associative and symbolic value** as a memory marker for the local community.

The marine parts of the site have value as an **underwater seascape** and as such have aesthetic value, as well as **ecological value** due to the existence of diverse species. The fact that the oyster beds continue to produce pearls gives them **economic value** for a revived sustainable exploitation of that resource.

The historic buildings have **architectural and functional value**. The survival of high quality architectural details and techniques such as decorative plaster ornaments constitutes **artistic, aesthetic and technological value**. Several urban properties contain underground traces of built structures and activities of the pearling era, which are of **archaeological value**. Being the daily living environment for the local community, the urban parts and their buffer zone furthermore have numerous **local and personal values** beyond the heritage context. Siyadi Mosque, which is nominated within one of the clusters, has **religious value**.

Both the natural and the cultural components of the site are of **scientific and educational value** in generating and disseminating knowledge of all aspects of the pearling past.

Finally, the site as a whole has **recreational value** for its users, as well as **economic value**, mostly in terms of its tourism potential, for the wider local community.

The intangible and movable heritage associated with the site, of value in its own right beyond the World Heritage context, assist in vividly and comprehensively articulating the narrative and the Outstanding Universal Value of the physical testimony.

4 THE MISSION

The management system aims to celebrate and present the Outstanding Universal Value of the testimony of the pearling economy and to ensure its sustainable future development. It focuses on the conservation of the material testimony of the pearling heritage. The management system therefore provides for the preservation of the properties within their setting and the gathering and documentation of historic evidence of the pearling economy and its society.

Further, it enhances the site by improving public access both physically and intellectually for today's Bahraini society and its future generations, and for visitors to the site from the international community. For this purpose, a visitor-friendly pathway through the historic urban settlement of Muharraq links the different urban properties within their buffer zone. Interpretation facilities on site communicate the narrative elements and assist in conveying the history of pearling in its authentic locations.

The Overall Objective is to ensure the sustainable future development of the testimony of the pearling economy by preserving its material testimony of Outstanding Universal Value in the context of its narrative elements, and by enhancing the heritage site by improving public access both physically and intellectually.

5 MANAGEMENT CONTEXT

This section describes the context in which the management system is established. First, the section describes the current institutional structure, the legal provisions and planning instruments to which the system is bound and under which it operates. The text also lays out the social and economic factors that positively or negatively affect the site and its management system, and describes other relevant development projects.

Second, an overview of the current state of conservation of the pearling heritage is provided. The state of conservation not only refers to the condition of the site and its built fabric, but also to the opportunity for physical and intellectual public access.

5.1 CURRENT POLITICAL, SOCIAL AND ECONOMIC CONTEXT

5.1.1 Existing governmental structure and policy

The Government

The government of the island state Bahrain is a hereditary constitutional monarchy ruled by H.M. King Hamad bin Isa Al Khalifa and headed by the Prime Minister, H.H. Shaykh Khalifa bin Salman Al Khalifa. It includes a cabinet of 23 ministers, a legislative branch and administrative divisions.

The legislative branch consists of a bicameral parliament with an elected lower house and an upper house appointed by the His Majesty, the King. The lower house is known as The House of Deputies or the National Assembly of Bahrain. It has 40 members, all of them elected in single-seat constituencies by universal suffrage for a period of four years. The upper house of the National Assembly is known as the *Shura* Council. Its 40 members are appointed directly by the His Majesty, the King of Bahrain.

Bahrain is divided into five administrative governorates that assume the duties of local government: Muharraq, the Capital (Manama), Northern, Central and Southern governorates. The governorates are subdivided into twelve municipalities, each governed centrally by the Ministry of Municipalities and Agriculture Affairs, and each with elected Municipal Councils. The land section of the pearling site is located within the Municipality Al Muharraq of the Governorate of Muharraq, while the sea part is located within the national waters of Bahrain.

The following **ministries** constitute the central government: Justice and Islamic Affairs; Foreign Affairs; Transportation; Bahrain Defence Force; Civil Aviation Affairs; Ministry of Interior; Municipalities and Agriculture Affairs; *Shura* Council and Representative Council Affairs; Finance; Works; Housing; Culture and Information; Industry and Commerce; Education; Labour; Health; Social Development; Cabinet Affairs.

In addition there are a number of **government organisations** which report to the Executive Branch through their chief executives and chairmen. They include the Electricity and Water Authority; Economic Development Board (EDB), Bahrain Centre for Studies and Research; National Oil and Gas Authority; Royal Charity Organisation; and Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

The responsibility for cultural heritage conservation lies with the Ministry of Culture and Information. Natural heritage protection is under the authority of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

For updated information check the eGovernment Portal website of the Kingdom of Bahrain: <http://www.bahrain.bh>

National Policy

Policy trends

Bahrain has rediscovered the importance of its cultural heritage for both societal and economic development and as a result is increasingly supporting the protection of heritage sites and other expressions of the national culture. Attesting this policy, the Ministry of Information was renamed Ministry of Culture and Information in 2008.

National policy also shows an overall trend towards growing environmental awareness. This is expressed in an increase in legislation designed to protect environmental assets and natural heritage and also in a growing number of projects incorporating environmentally sound approaches. The Ministry of Culture and Information is one of the bodies promoting this trend.

As a result of the Kingdom of Bahrain's democracy-building endeavours, the law now requires public consultation in governmental planning processes. Bottom-up approaches are being pioneered. In line with this trend, the Ministry of Culture and Information aims for civil society involvement in all its projects.

The National Strategy for the Economic Vision 2030

The government of the Kingdom of Bahrain has initiated the development of a National Strategy 2009-2014 which aims to realise Bahrain's Economic Vision 2030. It consists of three sub strategies, two of which are directly related to the conservation of the testimony of the pearling economy.

The National Strategy follows the vision's guiding principle that government and society will embrace the tenets of sustainability, competitiveness and fairness. The strategy, like the vision, have been developed in an highly collaborative and consultative process that included the Economic Development Board (EDB), several ministries and other government institutions, the private sector, as well as international organisations and consultants. The strategy identifies the country's priorities for the next six years and includes three constituent parts: Government, Society and the Economy, each focusing on different initiatives as shown in Illustration 1.

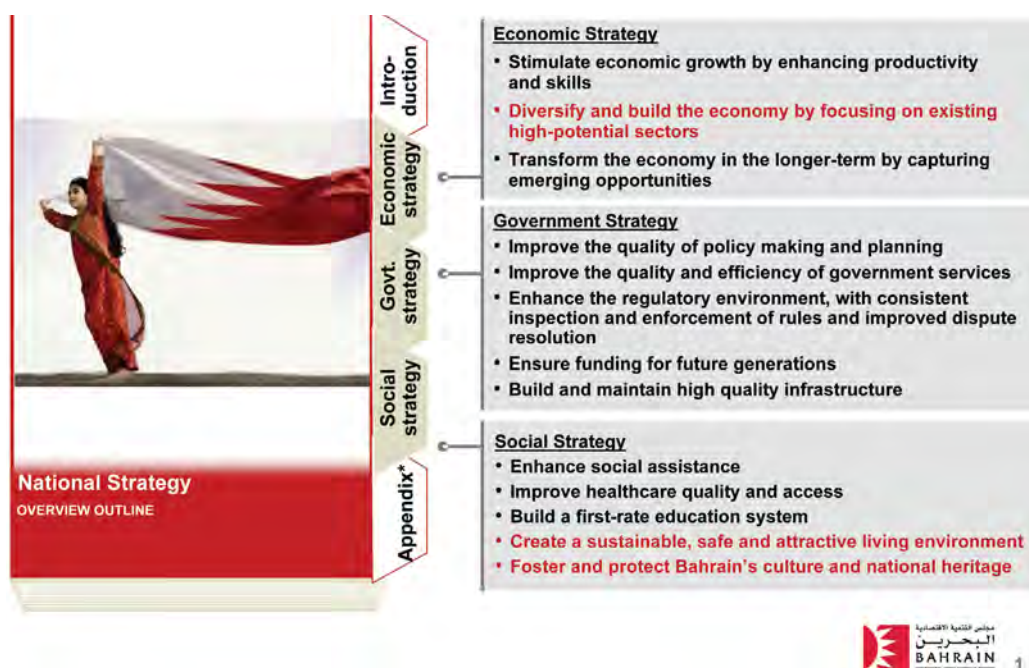


Illustration 1

source: Bahrain Economic Development Board

The conservation and promotion of the testimony of the pearling economy contributes importantly to the Social Strategy by fostering and preserving national heritage and culture. The management system also adds to creating a sustainable, safe and attractive living environment in Muharraq.

It is the Economic Development Board's (EDB) view, however, that the conservation of the testimony of the pearling economy as outlined in this plan contributes most significantly to the Economic Strategy. For this reason it has selected the conservation of the testimony of the pearling economy as a lighthouse project within the National Tourism Strategy. The Economic Development Board (EDB) sees the tourism sector as a key driver in the refocused economy, together with financial services, remote business services, logistics and manufacturing. The Tourism Strategy aims to strengthen the tourism industry by enhancing and promoting Bahrain's cultural tourism offerings. In line with this plan, the testimony of the pearling economy will contribute towards the development of a tourism product that is unique in the regional market.

• see Chapter 2 Management Strategies, Strategy 9 Tourism Development and Promotion

Marine Protection within the National Strategy

Sustainable environmental development is an essential part of Bahrain's National Strategy. The Government meets its obligation to protect the natural environment by protecting natural habitats and biodiversity on land and in the marine environment.

Action was taken to conserve natural resources in the country through the National Environmental Strategy, which was approved by the Council of Ministers of the Kingdom of Bahrain on 8 October, 2006 (Edict No. 02-1902). One of the main elements of the National Environmental Strategy is its section on the Marine and Coastal Environment. This sets out the aims of the strategic vision of the Marine and Coastal Environment Sector: the sustainable exploitation of coastal and marine resources owing to their direct relationship with public health, food security, economic and social benefits and cultural values such as traditional ways of living.

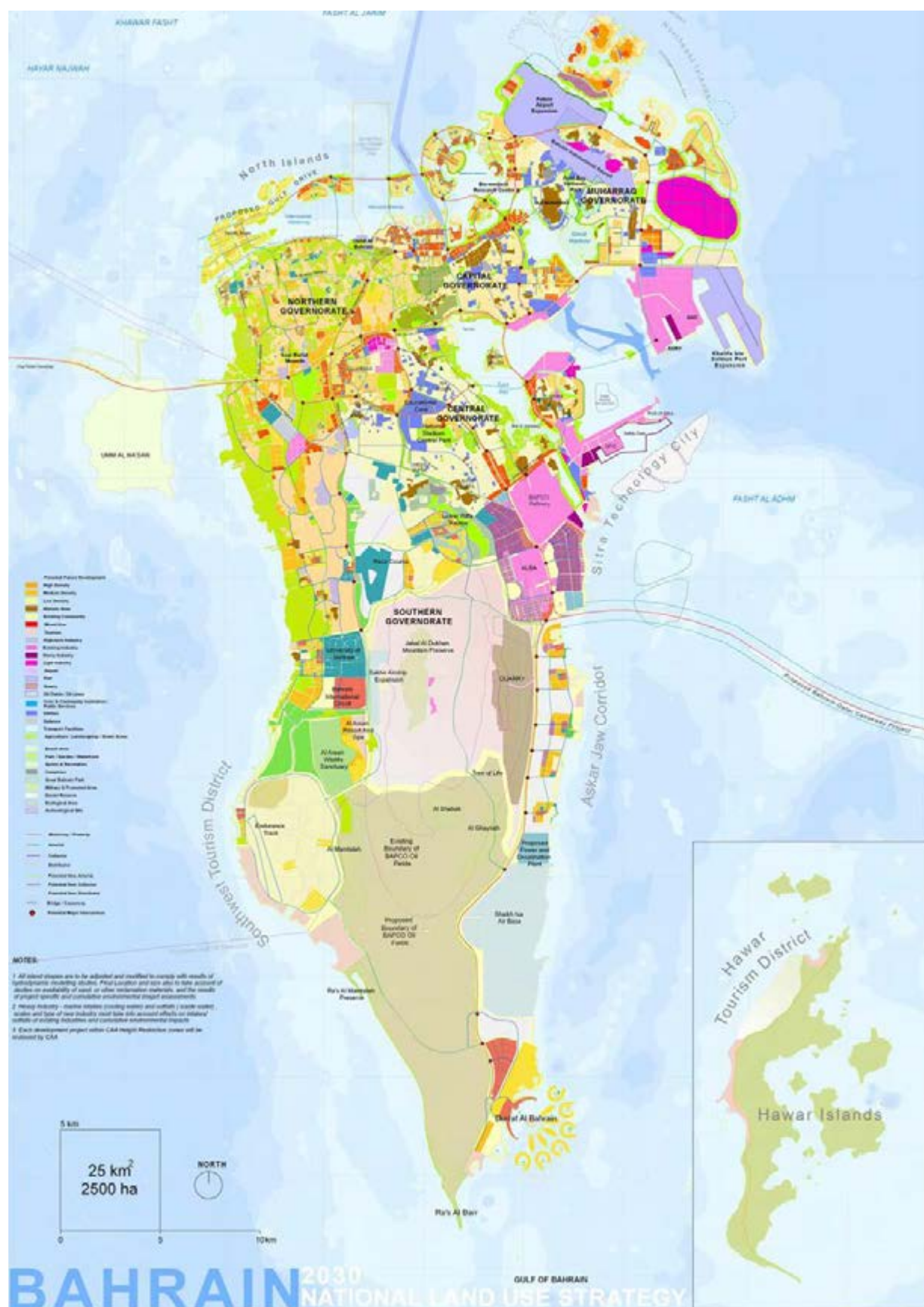
Cultural Development within the National Strategy

The Government is equally committed to protecting, developing and promoting Bahrain's heritage. This core interest consequently forms an important and explicit part of Bahrain's National Strategy 2009-14.

In line with this, the Ministry of Culture and Information sees cultural industries including the performing and visual arts and heritage as important components of the country's strategies for economic and community development. The Ministry of Culture and Information is therefore implementing a comprehensive plan to preserve and protect the historical and human heritage of Bahrain. A main priority is the protection and promotion of the nation's cultural and natural heritage sites. The National Economic Strategy furthermore mandates the Ministry of Culture and Information, alongside the Ministry of Education, to run programmes to boost public awareness of Bahrain's heritage and the need to preserve it. At present this programme includes activities run in schools. A longer-term aim is to include archaeology and heritage conservation in the curricula of Bahrain's higher education institutions. It also includes country-wide public relations campaigns such as heritage-related events, competitions and public lectures.

Bahrain 2030 National Land Use Strategy

The National Land Use Strategy is favourable for this management plan's objectives as it designates the historic settlement of Muharraq as historic district and in the relevant parts retains its present shoreline.



5.1.2 Existing framework of legislation

The management plan will be implemented in line with the following laws:

Environmental legislation

Ministerial Order No. (16) of 1981 for registering fishing boats with the Directorate of Fisheries

All fishing boats are required to obtain a permit to conduct their activities, thus regulating numbers of boats and types of fishing gear through the Directorate of Fisheries.

Ministerial Order No. (10) of 1986 prohibiting trawl fishing in oyster beds areas

This order protects the oyster beds from illegal and destructive fishing methods which involve scraping the seabed and in the process harming pearl oysters. The order states that trawling is not allowed in areas less than 20 meters deep, where most of the Bahraini oyster beds are located.

Decree No. (2) of 1995 with respect to the Protection of Wildlife

This decree introduces the category of protected areas, and gives the Ministry of Housing, Municipalities and Environment (now the Public Commission for the Protection of the Environment, Marine Resources and Wildlife) the authority to establish these.

Amiri decree 21 of 1996 in respect of the Environment

This decree appoints the Ministry of Housing, Municipalities and Environment (now the Public Commission for the Protection of the Environment, Marine Resources and Wildlife) responsible to coordinate in any official process, study or project aimed at the protection of the environment.

Ministerial Order No. (1) of 1998 for implementing EIA on new Development Projects

This is the first legislation in Bahrain requesting Environmental Impact Assessment to be carried out for all new development projects including those which need dredging or reclamation in the marine environment. Since the issue of the order, it is an obligation by law to prepare an Environmental Impact Assessment before the execution of any project.

Ministerial Order No. (4) of 2000 to permit submerged lands

This order clarifies the procedures to be followed when reclaiming any land from the sea.

Royal decree 50 of 2002 for the establishment of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW)

The Public Commission established with this decree is the main agency responsible for the protection of the environment and natural resources, including marine habitats. Under the decree, the Directorate of Fisheries became part of the Public Commission, where it remains.

Decree No. (20) of 2002 with respect to the Regulation of Fishing and Exploitation of Marine Resources

This decree gives the Public Commission for the Protection of the Environment, Marine Resources and Wildlife the authority to ensure the protection of valuable marine resources and to prevent the use of unsustainable fishing techniques.

Royal Decree No. (46) of 2003 for the restructuring of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW)

This decree stipulates the structuring of the General Directorates into other directorates under the umbrella of the Public Commission. Upon this decree, the General Directorate of Marine Resources consists of the General Directorate for the Protection of Marine Resources and the General Directorate for the Protection of Environment and Wildlife.

Royal Decree No. (10) of 2005 for the specialization of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW)

This decree specifies the role and functions of various sections in the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

Ministerial decree No. (8) of 2007 for the declaration of Hayr Bū-l-Thāmah as a Marine Protected Area

In line with the *Amiri* Decree 21 of 1996, Hayr Bū-l-Thāmah was declared a Marine Protected Area in 2007. Because this decree targets mainly a reef located north of the oyster bed nominated within the testimony of the pearling economy, a process of expanding the boundaries of the protected area has been initiated in the preparation of the management plan, in order to fully include the nominated area.

The designation puts the protected area under the responsibility of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) to ensure that the marine protection standards stipulated by international conventions ratified by Bahrain are met.

Ministerial Order No. (7) of 2009 for the establishment of a Committee to assess and follow violation of law in the sea by fishermen and others

This is a multi-sector committee with members from the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) and the Coast Guard of the Ministry of Interior, which assesses any problems or violation of law related to the fisheries and marine resources and recommends solutions to the President of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

Regional and International Conventions signed and ratified by the Government of Bahrain related to the conservation of the Marine Environment

- Protocols of the Regional Organisation for the Protection of Marine Environment (ROPME). The Kingdom of Bahrain ratified three protocols related to the protection of the marine environment from pollution in 1978.
- United Nations Convention on the Law of the Sea. Signed in 1982.
- United Nations Framework Convention on Climate Change. Ratified in 1994.
- Brussels' International Convention on Civil Liability for Oil Pollution Damage. Signed in 1995.
- Convention on Biological Diversity. Ratified in 1996.
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar). Ratified in 1997.
- The Regional Convention for the conservation of wildlife and its natural habitats in the GCC. The Kingdom of Bahrain ratified the convention in 2002.

Urban legislation

All construction and urban design activities on the land section of the site and in its buffer zone, and all stipulations covering the urban space and fabric, must comply with the following laws and the minimum standards they define. Especially the Resolution no. 28 of the year 2009 and the Compulsory Real Estate Purchase Law (law 39 of 2009) offer a legal basis of relevance for the management system.

Resolution n° 28 of the year 2009 regarding the specification of the regulatory stipulations for the development in different areas in the Kingdom

This resolution overrules the previous resolution (n°27 of 2005) and includes the zoning schemes for Bahrain.

The urban properties and their buffer zones are situated mostly within the **Attached Residential Area -B-** (also called **Row Housing B**) which includes designated commercial roads.

The stipulations of this zoning (Chapter 4: Area of linked residence -B- Articles 17-21) are favourable to the

management system's objectives as they entail preservation of the historically grown urban layout. The construction height is restricted to a maximum of three storeys, with a maximum height of 13m (or 14.5m in the case of construction of a basement). Construction on the plotline is allowed, with a maximum total built-up area of 300%. However, it allows setbacks and projections from the front line of plots.

Other relevant articles are the general regulations of Chapter 8, as well as Article 21 of Chapter 4, which allows for the use of special stipulations to ensure adherence to a specific area's heritage style as mentioned in clause 4. These areas and their legal status are defined in Chapter 1, Article 1 under "Areas with special stipulations".

Article 109 of Chapter 8 furthermore mandates the Minister of Municipalities and Agriculture Affairs to designate Areas of Projects with Special Nature and superimpose regulatory stipulations for that area upon examination by the Town and Village Planning Directorate.

An exception to the allowed floor ratio of built up area of 100% applies to a special housing project titled "His Majesty King Hamad Scheme for Dilapidated Houses". Buildings constructed within this programme may not cover more than 70% of the plot area.

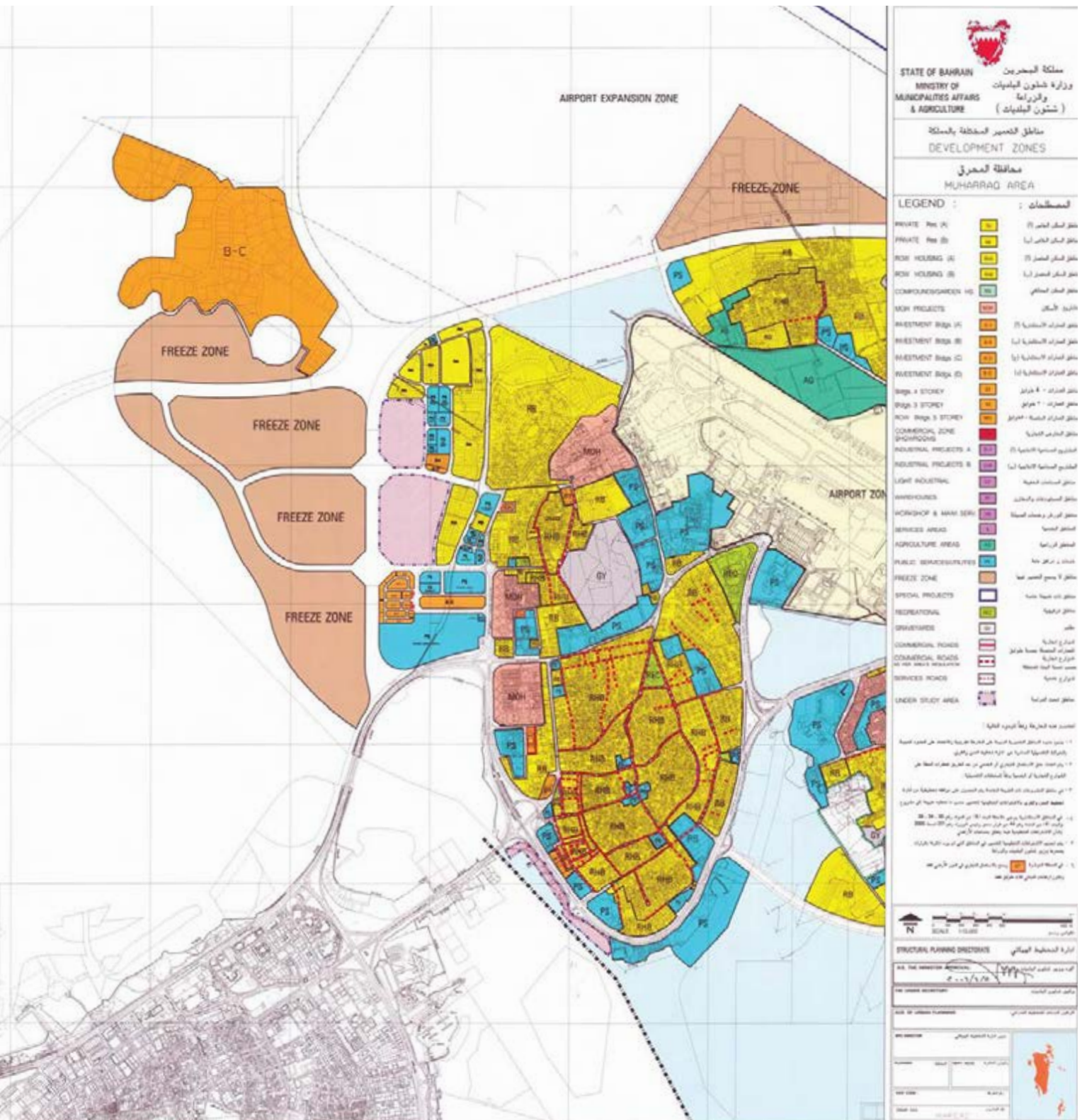
Bū Māhir Seashore is located within a Public Services/ Utilities Area. Chapter 6, Articles 86- 89 define the provisions for such areas, with a maximum height of three floors or 18 metres, and a maximum percentage of construction for all buildings of 180% of the land area. Chapter 7, Article 96 furthermore stipulates that the development of each specific area of this kind must be coordinated with all concerned authorities.

Ministerial decree (MoMA) for the temporary prohibition of construction of apartment blocks in Old Muharraq (August, 2009)

The present zoning scheme is in the process of amendment with a view to designating a Historic District in Muharraq which will come with urban regulations that are even more supportive of heritage protection. In this context, the Minister of Municipalities and Agriculture Affairs issued a decree in August, 2009 prohibiting the issuing of construction permits for multi-unit residential buildings until the study towards the new zoning scheme is finalised. The decree applies to core parts of the future Historic District and – in coordination with the Ministry of Culture and Information – to all areas of the urban buffer zone of the testimony of the pearling economy, where these exceed beyond the core area.

No further architectural specifications such as design guidelines for the protection of heritage or architectural style were in place for Muharraq at the beginning of the nomination process. In the meantime, the Town and Village Planning Directorate has started to develop these in view of the envisaged Historic District designation.





Law 39, Year 2009, Compulsory Real Estate Purchase Law

This law gives the right to expropriate property if the conditions defined in Section 1, Article 2 such as public interest and the provision of an appropriate compensation as defined in the Section are met. Article 3, item 21 of the same Section defines the creation of natural reserves and all works necessary for the protection of heritage buildings as works of public interest. Section 4, Articles 24-26, stipulate the right to order compulsory temporary lease of real estate for project requirements or other reasons. Section 6, article 32 furthermore states that the purchase takes effect when the order is issued, before the pricing and compensation is estimated.

Legislation decree n°13 of the year 1977 (Building organisation law) with its amendments: legislation decree n°15 of 1993

The decree regulates the structure, contents and procedures for building requests and permits, under the responsibility of the Ministry of Municipalities and Agriculture Affairs.

Resolution n°3 of the year 1977 (Bylaw of legislation decree n°13 of the year 1977) and its amendments: resolution n°3 of the year 1990, resolution n°2 of the year 1993, resolution n°1 of the year 1996, and resolution n°2 of the year 1998

The resolution defines minimum standards for new buildings such as heights and floor areas of rooms (Articles 3 and 4), fire escape stairs (Article 17), dimensions of courtyards (Articles 21-25) as well as sanitary conditions, water and electricity provision and fire safety in Appendixes A to E.

Legislation decree n°2 of the year 1994 (Urban Planning) and its bylaw: resolution n°1 of 1994

In accordance with this law, development zones are to be defined by the Structural Planning Directorate of the Ministry of Municipalities and Agriculture Affairs. It describes procedures and tasks required to achieve these master plans.

Legislation decree no. (3) of the year 1994, and Resolution n°2 of the year 1997 (Bylaw of legislation decree no. (3) of the year 1994) and the Lands Areas Schedule according to edict no. (29) for the year 2009

These define the legal procedures and conditions of land subdivision and minimum requirements for new plots under the authority of the Ministry of Housing.

Royal decree 24 of 2008 on adopting the National Planning Strategy for the Kingdom of Bahrain

The decree stipulates that the Bahrain 2030 National Planning Strategy is to be adopted by all government bodies.

Cultural Heritage Protection

Decree Law No. (11) of 1995 Concerning the Protection of Antiquities

The legal provisions for the protection of cultural heritage such as historic buildings and archaeological sites and also for moveable heritage are stipulated in the Antiquities Law under the authority of the Ministry of Information (now renamed Ministry of Culture and Information).

Antiquities are defined in Article 2 as any remains of artistic or historical significance from a former civilisation or past generations, of at least 50 years of age. Any remains connected to the ground such as buildings are defined as immovable heritage as per Article 3. Antiquities have to be registered with the Directorate of Land Registration at the Ministry of Justice and Islamic Affairs (now Survey and Land Registration Bureau), and the decision shall be published in the Official Gazette (Article 31). Articles 32 and 33 can trigger financial implications for the responsible authority. Owners can claim compensation for damage incurred through the designation within 2 years (Article 32). Article 33 (vii) obliges the Ministry of Culture and Information following the registration "to conduct at any time at its own expense what it considers necessary maintenance and restoration works to all immovable antiquities". It obliges the owner not to demolish, modify, lease, or sell the monument without the

authority's approval. Article 34 stipulates that the "concerned authority shall arrange immovable antiquities and historical buildings for receiving visitors; it shall also display their artistic qualities and historical characteristics. It may convert any of them into museums and permanent or temporary exhibitions and provide them with the necessary conveniences through agreements with concerned government authorities."

Article 7 furthermore stipulates the consultation of the Ministry of Culture and Information during the development of plans for areas of heritage value in towns and villages. Article 8 puts the Ministry of Culture and Information in charge of approving building or modification permits for plots near monuments in order to ensure that the neighbouring buildings match in architectural style.

The Antiquities Law is currently being enforced towards 110 monuments within Bahrain registered in January 2010. Up until 2009, the Ministry's usual practice for securing heritage protection for historic buildings had been to appropriate the property or properties concerned through the Ministry of Housing.

Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)

Bahrain is a state party to the World Heritage Convention since 1991 and is therefore bound by this international law to identify the cultural and natural heritage of Outstanding Universal Value within its state boundaries and protect, conserve and present its properties on the Tentative List and the World Heritage List. The testimony of the pearling economy was submitted to the Tentative List under the name "Pearling and its cultural landscapes in Bahrain" in 2008. With inscription to the World Heritage List the pearling testimony will be subject to this international treaty.

Tourism

The creation of tourist facilities and services on site or within the buffer zone is subject to the following laws.

Legislation decree no. 15 of 1986 for tourism organisation and its amendment through Legislation decree no. 12 of 1994

The various aspects of tourism affairs are under the authority of the Ministry of Information (Article 2) (now renamed Ministry of Culture and Information).

Ministerial order no. 1 of 1991 pertaining to the conditions to be fulfilled in restaurants specified for tourism services

This order stipulates requirements for restaurants which are specified for tourism services in terms of their build structure, equipment and hygiene.

Ministerial Order no. 2 of 2005 with respect to the classification of hotels and hotel apartments

A special permit might be required for operating guesthouses in Muharraq where they do not meet the requirements stipulated by the current classification system in terms of the number of rooms and parking spaces provided. Any exemption is currently at the discretion of the Tourism Sector, which is part of the Ministry of Culture and Information.

Other Legislation

Legislative decree no. 10 of 1990 with respect to control over pearls and stones of value and the Ministerial order no. 6 of 1997 with respect to the implementing of decree no. 10 of 1990

These laws are an expression of the importance still attributed to the natural pearl. It bans cultured pearls from the national market and protects the credentials of Bahrain's high-quality pearl market.

Article 1 defines cultured pearls as "Pearls formed in oysters through man's interference". Article 5 prohibits trading with cultured pearls, even when inlaid in jewellery. Penalties apply to selling, offering for sale or possessing cultured pearls for the purpose of selling, and also to altering or forging a laboratory's testing certificate or attributing a certificate to a pearl other than the certified one (Article 9).

5.1.3 Social and economic aspects affecting the site and the management system

Social and economic activities affecting the oyster beds

Economic activities in the oyster beds such as traditional fishing and scuba diving are being carried out on a very small scale. These activities are having a negligible impact on the local environment regarding, for example, littering through abandoned fishing gear and minimal physical traces from anchors. Economic activities which have been identified as possible threats and are therefore monitored are illegal fishing activities using trawling in the oyster beds and land reclamation.

Traditional fishing in
Hayr Shtayyah



The current population of Muharraq

Muharraq is Bahrain's second largest city, with 159,937 inhabitants living in the Governorate (Central Informatics Organisation, 2007). The original make-up of the island's population has seen an extensive transformation particularly in the past 3 decades, with the outwards migration of many of its original families and an influx of foreign residents. In 2007, roughly 40% of the inhabitants in Muharraq were non-nationals (see illustration 2). The testimony of the pearling economy is located across several residential quarters where the social structure has been affected by this phenomenon to different degrees. In some areas, where Bahraini families continue to predominate, the traditional social structures persist. These neighbourhoods can be described as homogeneous, with strong social ties and tending towards the conservative. In other areas, the original local community has mostly dissolved and been interspersed with, or replaced by, predominantly young male bachelor migrant labourers from Southeast Asia. The social network of this community and its lifestyle differ significantly from that of the local families, among whom the perception exists that the disrupted social structure poses a security hazard. Members of the labourer community often live in precarious conditions characterised by poverty and high population density, mostly within historic buildings. High fluctuation characterises this community. Their limited, generally economically-motivated residence in Muharraq furthermore allows them to develop little association with the island or its heritage. The outward migration of families from the traditional settlement of Muharraq is boosted by this phenomenon. But it originates in changed life styles and different demands regarding habitat and living space, and also in the fact that central Muharraq is no longer considered a

عدد سكان مملكة البحرين حسب المحافظة، الجنسية والنوع - يوليو ٢٠٠٧
Population of the Kingdom of Bahrain by Governorate, Nationality & Sex - July 2007

المحافظة Governorate	الجملة Total			غير بحريني Non-Bahraini			بحريني Bahraini			المجموع Total
	كل الجنسين Both Sexes	انثى Female	ذكر Male	كل الجنسين Both Sexes	انثى Female	ذكر Male	كل الجنسين Both Sexes	انثى Female	ذكر Male	
Capital	281,085	95,772	187,313	210,816	59,106	151,711	70,248	34,664	35,602	العاصمة
Muharrag	159,937	68,590	91,346	65,378	21,651	43,727	94,558	46,939	47,619	المحرق
Central	274,128	104,880	169,248	117,441	27,098	90,344	156,687	77,783	78,904	الوسطى
Northern	239,781	111,344	128,437	65,186	24,634	40,552	174,595	86,709	87,885	الشمالية
Southern	84,366	20,637	55,729	53,042	13,721	39,321	31,325	14,916	16,409	الجنوبية
Total	1,039,297	407,223	632,074	511,864	146,209	365,654	527,433	261,013	266,420	الجملة

* Based on CPR August, 2007 Adjusted as for 2007 Mid Year Population (1st July 2007).

* أرقام مبنية على بيانات السجل السكاني المרכזي المتوسط ٢٠٠٧ - ٢٠٠٨ (أول من يوليو ٢٠٠٧).

Illustration 2

source: Central Informatics Organisation

BAHRAINI HOUSEHOLDS BY GROUPS OF ANNUAL HOUSEHOLD INCOME AND GOVERNORATE OF HEAD OF H.H. (2005-2006)

GROUPS OF ANNUAL INCOME	الجملة TOTAL	المحافظات GOVERNORATE					فئات الدخل السنوي
		الجنوبية SOUTHERN	الوسطى CENTRAL	الشمالية NORTHERN	المحرق MUHARRAQ	العاصمة CAPITAL	
LESS THAN 2400	45	2	11	14	7	11	أقل من 2400
2400-	213	10	64	72	29	38	2400-
4800-	322	24	78	126	49	45	4800-
7200-	345	9	99	141	56	40	7200-
9600-	260	12	73	104	45	26	9600-
12000-	287	10	99	104	39	35	12000-
15000-	192	10	54	73	31	24	15000-
18000-	237	7	94	68	49	19	18000-
24000-	123	2	43	39	26	13	24000-
30000+	168	9	74	36	34	15	30000+
TOTAL	2192	95	689	777	365	266	المجموع

NON-BAHRAINI HOUSEHOLDS BY GROUPS OF ANNUAL HOUSEHOLD INCOME AND GOVERNORATE OF HEAD OF H.H. (2005-2006)

GROUPS OF ANNUAL INCOME	الجملة TOTAL	المحافظات GOVERNORATE					فئات الدخل السنوي
		الجنوبية SOUTHERN	الوسطى CENTRAL	الشمالية NORTHERN	المحرق MUHARRAQ	العاصمة CAPITAL	
LESS THAN 2400	21	4	-	2	5	10	أقل من 2400
2400-	232	31	19	9	53	120	2400-
4800-	269	30	17	10	69	143	4800-
7200-	146	1	8	10	19	108	7200-
9600-	71	3	3	1	2	62	9600-
12000-	88	1	8	7	1	71	12000-
15000-	53	3	6	4	1	39	15000-
18000-	67	7	4	7	-	49	18000-
24000-	38	3	4	11	-	20	24000-
30000+	71	4	7	28	1	31	30000+
TOTAL	1056	87	76	89	151	653	المجموع

Illustration 3

source: Central Informatics Organisation

SITE DESCRIPTION, OBJECTIVES AND ASSESSMENT

prestigious place to live. The local government is endeavouring to counteract and reverse the trend of outward migration of local families and to provide alternative housing for expatriate labourers in other centres. At the same time, the families' strong attachment to Muharraq and its long established social networks means they could be drawn to return.

The current economic profile of Muharraq

Income levels in the residential areas of the site and the buffer zone show a wide variation among the different sections of what is a very heterogeneous social fabric, as Illustration 3 shows.

The buffer zone of the heritage site is characterised by numerous vibrant commercial streets, with predominantly small-scale and often highly specialised retail and service facilities catering to the local population. The highest density of businesses is located in Muharraq *Sūq*, which attracts clientele from beyond the local market. The local authorities are currently considering incentive schemes and projects aiming at attracting high-end businesses such as boutique shops, banks and tourism-related operations to Muharraq.



A commercial street in Muharraq

Ownership schemes of the nominated properties and their buffer zones

The oyster beds and their buffer zones are located within the national waters of Bahrain and are governmental property. They may be exploited professionally by licensed fishing operations, and by amateur anglers on a smaller scale. Oyster and pearl collection is not yet restricted but its regulation is considered within the management system.

Bū Māhir Seashore is located on governmental property within a zone of public services/utilities, where the National Coast Guard (Ministry of Interior) is the occupant, and partly within territorial waters. A special agreement allowing for the inclusion of the Bū Māhir Seashore and Qal'at Bū Māhir into the heritage site has been negotiated with the Ministry of Interior. Its buffer zone is made up of the public services/utilities zone occupied by the Coast Guard, and the adjacent territorial waters.

The majority of the architectural properties in the heritage site are owned by private individuals or families. In most cases, these are the original families whose involvement in the pearling economy contributes to the property's value as representative of the pearling economy. The majority of these buildings remain inhabited,

or are at least used occasionally by members of these families; others are rented out for housing or commerce.

Three of the properties are owned by the Ministry of Culture and Information; one was purchased by a private organisation, the Shaykh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research; and two properties are owned by *awqāf* (see below).

The Ministry of Culture and Information has negotiated formal agreements with all the property owners setting out the conditions for including the properties in the heritage site and nomination.



Muharraq Sūq

Historic buildings owned by the MoCI	Properties owned by private individuals/ families	Other ownership
<ul style="list-style-type: none"> Qal'at Bū Māhir Siyadi Majlis 	<ul style="list-style-type: none"> Siyadi Shops Siyadi House 'Amārat Abdurrahman Fakhro 'Amārat Ali Rashid Fakhro (I) 'Amārat Ali Rashid Fakhro (II) Al-Marad Residence Badr Ghulum House Murad Majlis Nūkhidhah House Al-Alawi House Al-Ghūṣ House 	<ul style="list-style-type: none"> Siyadi Mosque (Religious Waqf) Al-Jalahma House (Shaykh Ebrahim Centre) Fakhro House (family waqf)
<p>A waqf (plural <i>awqāf</i>) is an inalienable religious endowment characteristic of Islamic communities in which the property (building or plot) is held in perpetuity and the income devoted to charitable purposes or a specific group of people. It is conceptually similar to the common law trust.</p> <p>Types of <i>waqf</i> according to use:</p> <p>Family <i>waqf</i> - for the benefit of the family and relatives of the property owner</p> <p>Charitable <i>waqf</i> - for the benefit of a charitable foundation or party to build mosques, hospitals, orphanage houses etc</p> <p>Common <i>waqf</i> - used for both family and charitable benefits</p>		

The ownership of the buildings and plots in the urban buffer zone is heterogeneous, including private owners, non-profit organisations, and different government ministries and agencies. Most of the residential and commercial buildings of the urban buffer zone, however, are in the ownership of private individuals. According to the Census of 2001, an average of 41% of the housing units in Muharraq were rented out, while close to 55% were owned by the inhabitants.

5.2 STATE OF CONSERVATION

5.2.1 Physical state of the site and the buffer zone

The following section provides an overview of the physical state of conservation of the properties and the buffer zone.

The oyster beds

The field research undertaken during the preparation of this nomination showed that the three oyster beds remain in good condition in terms of oyster population and pearl occurrence, as well as in terms of other environmental parameters such as visibility, pollution and existence of associated species in comparison to previous surveys.

Bū Māhir Seashore

Bū Māhir Seashore is the only stretch of authentic shoreline remaining in Muharraq. It features a well-preserved natural beach and adjacent seawaters, including a traditional fish trap and the remains of Qal'at Bū Māhir as they existed during the late pearling era after the fort's destruction. The property preserves an ample water view. However, land reclamation joining the former island to the mainland of Muharraq and construction on the adjacent reclaimed land, means there have been some changes on the landside of the property.

The architectural properties

From an architectural point of view, and beyond their cultural significance in providing evidence of the pearling economy and its society, the architectural properties of the testimony of the pearling economy as an ensemble represent the various building typologies, including residential, commercial, religious and defensive structures. The buildings each preserve one-time common traditional construction elements and architectural details. The properties are rare examples of buildings, preserving traditional elements such as the *sabat* (a covered passage between two building parts), the wind-tower and the *bādgir* (traditional ventilation system). The site also preserves the built structure of the different architectural phases from the early to the late period according to the commonly applied classification system by Yarwood (El Masri & Yarwood, 2005), with architectural features and design elements typical for each phase.

In a 2008 architectural survey, the Ministry of Culture and Information, Sector for Culture and National Heritage, identified the 17 historic buildings as in various states of conservation. Most of the buildings preserve the built fabric and architectural elements of the late pearling era; however, some have suffered reversible, or, in rare cases, irreversible modifications.



The windtower of Al-Alawi House

• More detailed information on the state of conservation is provided in Chapter 2 Management Strategies, Strategy 5 Physical Conservation and Development and in Chapter 3 Site Analysis and Action Plans (2009-2013).

More than half of the properties remain in use. The owners or tenants have maintained the buildings over time but have also, consequently, adapted them slightly to modern living requirements. Basic facilities such as kitchens and bathrooms have been fitted, including the introduction of water supply pipes and electrical cabling. Most of the additions to these properties have been carried out using modern materials; in most cases these additions are reversible without impacting on the historic fabric. The abandoned properties have generally undergone very few changes to their built fabric, but some have fallen into disrepair. Depending on their condition, the conservation measures required to restore the 17 historic buildings range from minor to medium to major interventions.

• Please refer to Chapter 2 Management Strategies, Strategy 5 Physical Conservation and Development for details concerning the impact on the historic fabric of the buildings and their conservation.

Architectural properties: evaluation of the state of conservation	Conservation measures required			Current use	
	minor	medium	major	in use	abandoned
Qal'at Bū Māhir	X				X
Al-Ghūṣ House		X		X	
Badr Ghulum House		X		X	
Al-Jalahma House			X		X
Al-Alawi House	X				X
Fakhro House			X		X
Murad House		X		X	
Murad Majlis	X			X	
Siyadi Shops	X			X	
'Amārat Ali Rashid Fakhro (I)			X		X
'Amārat Ali Rashid Fakhro (II)	X			X	
'Amārat Abdurrahman Fakhro			X		X
Nūkhidhah House		X		X	
Siyadi Mosque	X			X	
Siyadi House	X			X	
Siyadi Majlis	X				X

Source: Evaluation by the architectural task group based on a survey carried out in 2008

The condition of the setting of different properties is similarly varied. More than half of the properties are located in clusters of historic fabric with a well-preserved historic pattern. The historic urban pattern surrounding the other properties, likewise, is still clearly readable, although more of the surrounding built fabric has been modernised. In a few cases, urban development and modernisation have significantly affected the traditional character of the urban environment. In terms of the authenticity of the properties' settings, significant changes have occurred to the settlement since the late pearling era. At that time, buildings made of palm branches (*bārāsty*) were a typical feature, and the density of solidly built fabric was much lower than in the following decades. Furthermore, most of the pearling properties were originally built on the waterfront, often on newly reclaimed land. With the exception of Qal'at Bū Māhir, none of the architectural properties is located at the seashore today. Successive land reclamation means the historic settlement of Muharraq has for the most part not preserved the shoreline of the late 1930s.

The urban buffer zone

The wider setting of the architectural properties consists of urban areas with very different characteristics, covering approximately 33.5 hectares with an estimated 7,025 inhabitants. The neighbourhoods are affected to different degrees by previous urban developments.

In the first decades after the decline of the pearling economy, solid buildings increasingly replaced the common *bārāsty*. This period, however, saw continuity in architectural style and building tradition, as traditional construction materials and techniques as well as building typologies were still used. The historic centre of Muharraq in general, unlike the capital Manama, has not been the focus of major planned urban developments, and has retained much of its historic city fabric and pattern. However, during the past 20 years in particular,

the areas have witnessed an alarming increase in the demolition of traditional buildings and a disintegration of the urban fabric. At the same time the introduction of new building materials, techniques and styles can be observed. The traditional buildings and the original urban fabric have now become increasingly obsolete as a result of changed lifestyles and new demands regarding the living environment. Consequently, many families abandoned their houses and left them to decay, or subdivided them and rented them out to new, mostly less well-off tenants. Rent controls have contributed to the degradation of the urban fabric, as prices have fallen below market levels, posing a disincentive for owners of real estate to invest. In combination with high population densities, a strained and poorly-maintained technical infrastructure and a lack of both private and public investment, these factors have led to a degradation of living conditions. Parallel to this process, residents who have stayed in their neighborhoods have been tackling the need for modernisation by adapting or replacing their buildings. As a result, a high level of construction activity has been underway, supported by an increasing contribution from public funds. The high demand for low-cost housing that followed the population shift in Muharraq meant that the construction of apartment buildings became a lucrative real estate investment. These development pressures led to an increase in the replacement of traditional buildings by urban fabric that is uncoordinated in architectural style. This occurs particularly along commercial streets and compromises the traditional appearance of some areas. In recent years, there have been increasing attempts to recreate traditional architectural features in new developments. However, these lack their original function and workmanship. The introduction of electrical cabling, pipes and air-conditioning units on building facades, as well as unsatisfactory waste management systems, has further compromised the streetscape in the buffer zone. In some areas, the scale and proportions of building masses have significantly changed, and streets have been widened to improve access for cars and service vehicles. Some plots where previous architectural structures have been demolished

remain vacant and are used for parking. This contributes to further disintegration of the originally dense urban pattern. The problems of car access to the narrow streets and the lack of parking space persist in most areas and contribute to a congested streetscape. All these deficiencies call for a thorough urban upgrading of the buffer zone.

Despite these issues, in general the traditional morphology of the urban context and the traditional street patterns are well preserved. In some areas in the buffer zone, investors have tackled the above-mentioned problems, solving them by upgrading the streetscape and improving the urban fabric.



A traditional lane in the buffer zone

5.2.2 Other development projects

Several development projects with greater or lesser relevance to the testimony of the pearling economy are currently being implemented or are under planning in the vicinity of the properties.

Development projects affecting the oyster beds

All development projects currently being implemented or in the planning stage such as land reclamation, construction of bridges or dredging for sand are taking place at a sufficiently safe distance from the nominated oyster beds and will not have any impact.

Development Projects in Muharraq

A number of developers are currently implementing or planning urban or architectural projects near the urban sites in Muharraq; each of these projects differs in its objectives and target groups. Some have an explicit

heritage and cultural mission. Others aim at upgrading and modernising the living environment. Yet others aim at attracting high-end businesses and clientele. All, however, aim at improving the living conditions of the historic settlement of Muharraq and its social and economic structure. This in general is a positive environment for the management of the heritage site, and offers opportunities for using synergies on all sides.

Planning towards an historic district of Muharraq

The Town and Village Planning Directorate of the Ministry of Municipalities and Agriculture Affairs is currently amending the zoning scheme of Muharraq with the aim of designating an historic district. The new scheme will define a core area that incorporates the majority of the urban part of the heritage site. Stricter provisions than stipulated in the current zoning scheme will apply to this zone. These will include a prohibition on the construction of apartment buildings to stop the replacement of existing single-unit residential family houses with multi-unit residential blocks and the consequent population shift. An unmet demand for accommodation in the buffer zone poses a threat to conservation efforts. The governmental authorities are helping to address this issue by providing housing for labour clientele outside the historic district, thus releasing development and investment pressures in the historic settlement of Muharraq. At the same time, the Muharraq Governorate plans to urge local enterprises with harmful uses to shift from the area, while encouraging up-scale businesses to invest there.

The Town and Village Planning Directorate together with the Ministry of Works is successively implementing urban upgrading in different areas of Muharraq, including parts of the buffer zone of the testimony of the pearling economy. The upgrading works include the renewal of road infrastructure and street pavements and the refurbishment of public open space.

Muharraq Municipality

Part of the standard procedure of the Monitoring and Inspection Section with the Technical Affairs Directorate of Muharraq Municipality is to identify dilapidated buildings that pose a safety hazard. The owners of these buildings are given notice to demolish. Coordination with the Municipality is taking place where the heritage site or its buffer zone is concerned.

The **Ministry of Culture and Information** is planning three other relevant development projects in Muharraq:

Sūq al-Qaisariyyah is located within the commercial area of Muharraq and included in the 2010 World Monuments Watch due to previous less sensitive development plans. It is interlinked with the testimony of the pearling economy due to its vicinity and through several commercial structures which are properties of the heritage site. The Ministry of Culture and Information's *Sūq al-Qaisariyyah* Development involves the restoration of the historic market and adds value to the historic structures while improving the commercial environment.

A **Museum of Modern Art** designed by the renowned international architect Zaha Hadith is planned for the southern tip of Muharraq close to the urban buffer zone and will constitute another visitor attraction in Muharraq.

The Ministry of Culture and Information is furthermore cooperating with private investors in planning a **Boutique Hotel** on Shaykh Abdullah Avenue in Muharraq. This holds out the future prospect of accommodation in close vicinity to the testimony of the pearling economy.

His Majesty King Hamad Scheme for Dilapidated Houses

A nationwide housing scheme launched by His Majesty King Hamad in 2003 offers house owners the opportunity to apply for the demolition of their dilapidated family home and its replacement under a standardised construction scheme. The programme is located under the umbrella of the Royal Charity Organisation (RCO). The Ministry of Municipalities and Agriculture Affairs administers and implements the programme. In cases where initiatives under this programme are located in the buffer zone, coordination with the site administration is established.



A building of His Majesty King Hamad Scheme for Dilapidated Houses

A lane close to the Shaykh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research



Shaykh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research

This project is a private initiative implemented in several locations in the historic settlement of Muharraq. It involves the restoration of traditional houses as well as new constructions, accommodating cultural and recreational venues. Since 2002, the organisation has implemented seven such projects, also involving urban rehabilitation works along several streets. Most of these are within the buffer zone of the pearling testimony. Five further projects are currently under construction or are planned. The Shaykh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and

Research has further offered to contribute to the restoration of two of the nominated properties: Al-Jalahma House and Nūkhidhah House.

Development around Shaykh Isa Bin Ali House

The Ministry of Works in cooperation with the Ministry of Culture and Information are considering schemes for a project in the vicinity of the largest historic building in Muharraq, the house of the former ruler Sh. Isa bin Ali Al Khaifia. Plans involve the restoration of the building and a prestigious upgrading scheme for its environment.

Road rehabilitation by the Ministry of Works

The Maintenance Section of the Ministry of Works upgrades and extends the road infrastructure as part of its routine operations. Cooperation with the site administration team has been taking place from an early stage regarding any works planned for the site or the buffer zone.

Ḥālat Bū Māhir rehabilitation programme

This urban upgrading scheme is an initiative under the umbrella of the Prime Minister's Court involving the upgrading of public open space and built fabric. Within the initial two implementation phases no overlap between the programme and the area of influence of the pearling testimony was identified.

The Fire Prevention Access Scheme

The Ministry of Interior is coordinating a fire prevention scheme involving the widening of streets, a plan that is crucial for providing fire brigade access to entire neighbourhoods.

5.2.3 Accessibility of the pearling heritage in Bahrain and Muharraq

Current physical accessibility of the site

The oyster beds are publicly accessible within the national waters without legal restrictions. However, due to their location offshore, they are not visited frequently.

Due to its location within the National Coast Guard Base and its lack of visitor facilities, the Bū Māhir Seashore is not currently accessible to the public. Similarly, none of the architectural properties are accessible to the public prior to the implementation of the management plan.

Current intellectual accessibility of the pearling heritage

Public intellectual accessibility to the pearling heritage of Bahrain refers to information that is generally available, as well as to interpretation on the site of the testimony of the pearling economy itself.

Strongly anchored in the collective memory, especially among the original residents of Muharraq, the pearling heritage plays an important role in the identity of today's Bahraini society. References to the pearling past

abound throughout Bahrain in contemporary constructions, place names and businesses. The inclusion of the pearling economy, with its cultural and maritime aspects, in the different national school and university curricula encourages a continuing identification with this national history and heritage among the younger generations.

The specific history of the testimony of the pearling economy, including the significance of the individual families and the role of their properties within the pearling economy, had not been thoroughly researched and documented prior to the preparation of its nomination and has therefore been a focus since the first conservation and research efforts of this initiative. For now, a vast body of knowledge about the pearling economy survives in the local community. However, the dwindling number of potential informants with reliable knowledge about the local pearling past and especially of living witnesses to the pearling era's final days means there is an urgent need for further data collection activities.

Previous research and publications

The known historical and anthropological records documenting Bahrain's pearling economy date back to antiquity.

Overall, the history of pearling and the pearl trade in Bahrain and throughout the wider Arabian Gulf is well documented in local and foreign sources from both historical and ethnographical points of view. This means a good historical picture of the pearling trade can be obtained by studying publications and archives.

Research reports and publications about the oyster beds in both Bahrain and the region are widely available to the public, and cover their history as well as providing information of a general and scientific environmental nature. The three nominated oyster beds feature in a range of publications and reports. Research on the local pearl oyster species, *Pinctada radiata*, is well documented and available to the public.

Several of the site's architectural properties, such as the prominent Siyadi Majlis, feature in publications focusing on architectural and urban heritage. Those not yet documented have been surveyed for their architectural and anthropological aspects during the preparation phase of the nomination. The reports are available at request from the Ministry of Culture and Information and will be integrated into the public archives of the testimony of the pearling economy.

Historic photographs and film footage

Plentiful historic material documenting the late pearling era is available in both Bahrain's national archives and abroad. However, many valuable documents held privately remain inaccessible and unknown to the wider public.

Interpretation facilities

The National Museum of Bahrain and other local museums include the pearling heritage in their coverage of the country's history. In addition, some cultural centres in Bahrain and Muharraq feature the pearling past among other themes related to local heritage. At one time, a pearl diving museum in Manama exhibited material explaining the national pearling history, but has since closed.

The local pearling heritage is referred to in many public cultural and community events, such as in the screening of historical film footage and the performance of pearling songs. However, there are currently no interpretation facilities at the properties of the testimony of the pearling economy, and until the management system is implemented the pearling history of Bahrain cannot be experienced in a comprehensive manner in its authentic locations, and based on its physical evidence.

• Please refer to the Nomination File 2.a Description of the proposed properties and their narratives for reference.

• Please refer to Chapter 2 Management Strategies, Strategy 6 Research and Documentation, as well as to the in the bibliography of the nomination file.

6 MANAGEMENT ASSESSMENT

6.1 STRENGTHS

Political will and commitment

The highest national institutions back the protection of the testimony of the pearling economy. The proposal of this testimony to the World Heritage List and the required management implications were approved by the cabinet in February 2009. All concerned ministries are cooperating with and in support of the Ministry of Culture and Information in the development and implementation of the management system.

Compatibility with national policy

The management system contributes to national endeavours to preserve Bahrain's natural and cultural heritage and is highly compatible with the National Strategy for the Economic Vision 2030.

Cooperativeness of Stakeholders

Stakeholders apart from governmental authorities, particularly the owners of the pearling properties and a number of individuals from the local community who are able to share their knowledge about the pearling era, have been highly cooperative in planning and implementing the management system.

Financial backup

The management system has strong financial support from the Royal Court.

It is also supported by private sponsors and by public funds administered by the Ministry of Culture and Information. Other cooperating ministries implement parts of the required management tasks under their general budgets.

The site administration has sufficient funds at its disposal to complete all activities scheduled up until 2011. A fixed biennial budget for site administration and maintenance will be defined from the biennium 2011/12 onwards.



Pearls

Attractiveness of the pearling theme

The fact that the theme of pearling is strongly anchored in the awareness and pride of Bahraini society supports the communication of the management system's scope and helps to achieve support throughout the society.

The tangible heritage assets

Physical evidence of all elements of the pearling economy and the society it shaped is preserved. This evidence provides the basis for the formulation of a narrative heritage site capable of comprehensively articulating the pearling history.

Intangible and movable heritage

In addition to the physical testimony of the pearling economy, a vast body of intangible heritage in the form of sayings, songs, poetry and dances as well as place and family names survives in the local community as part of its strong collective memory.

A variety of preserved artefacts associated with pearling is also available for research and display purposes.

Location of the heritage site

The urban parts of the site are in a prime, easily accessed location and in close proximity to the capital, Manama, and the international airport of Bahrain.

The proximity of the harbour of Muharraq with its access channel allows for establishing a direct link to the oyster beds by boat.

Natural resource pearls

The oyster beds continue to produce pearls and thus still offer the basis for future pearl diving activities.

Human resources and professional skills

Qualified and committed human resources are available to the site administration from the Ministry of Culture and Information and from the national labour market. Additional experts are being trained by specialised personnel currently hired from abroad. Valuable contributions are also available from the local community and the wider public of Bahrain as well as from its educational institutions.

Knowledge about traditional artisanship such as architectural construction techniques and other techniques relevant to the conservation of the properties has been transmitted through several generations of skilled individuals in Bahrain.



Traditional gypsum carving

6.2 OPPORTUNITIES

Heritage protection schemes in the making

The fact that various stakeholders are currently working on national legal protection of the maritime, urban and architectural heritage and on related administrative procedures presents the opportunity for the joint development of protective schemes incorporating the requirements for heritage protection of the testimony of the pearling economy.

Synergies with other development projects in Muharraq

Attempts by different stakeholders to upgrade Muharraq and to enhance its cultural assets offer the site administration good opportunities to benefit directly or indirectly from neighbouring projects.

Policy trends towards sustainability

The governmental policy trend towards economic, environmental and social sustainability increases the site administration's opportunities to achieve support in its own aspirations for public participation and environmental sustainability.

Aspiration for cultural identity

A growing awareness of the value of Bahrain's heritage both among the population and by the Government, and a concurrent aspiration to articulate cultural identity internally and internationally, is finding expression in outlets such as the reminiscence of traditional features in local architectural developments. These aspirations can be beneficially steered towards the protection of surviving heritage assets.

Need for cultural and recreational facilities in Muharraq

The lack of cultural and recreational facilities in Muharraq offers the site administration of the testimony of the pearling economy the opportunity to boost acceptance and support by responding to this need.

Interest of educational institutions

Given the broad scope of the management system's field of intervention and the attractiveness of the pearling theme and its heritage, national educational institutions such as schools and universities have an interest in contributing to the conservation efforts.

Attraction of sponsors

The management system has a broad scope of activities and targets various users. This factor, together with the attractiveness of the pearling theme, means that the testimony of the pearling economy appeals to a range of different sponsors and that there are numerous opportunities for fundraising.

Economic potential

The heritage site offers the local community opportunities for economic benefit which in return strengthens local support for conservation efforts.

The oyster beds have strong economic potential as a resource for natural pearls which could under favourable market conditions become a core product of Bahrain.

Tourism potential

The testimony of the pearling economy has high potential as a tourism destination. The conservation endeavour initiated by the Ministry of Culture and Information was selected as a lighthouse project within the National Strategy, boosting support from the Economic Development Board and the Tourism Sector of the Ministry of Culture and Information.

6.3 CONSTRAINTS

Lack of customary or regulatory heritage protection

Statutory heritage protection was previously insufficient and customary protection had stopped in some cases.

Lack of administrative structure and procedures for heritage protection

Administrative and institutional structure and procedures for the protection of the testimony of the pearling economy were not until recently in place.

Shortcomings of the urban environment

The importance of presentation and interpretation calls for holistic urban upgrading activities in the urban buffer zone and poses increased development requirements.

Legal constraints

The strong protection of property rights anchored in the national legislation has financial implications for the Ministry of Culture and Information when heritage protection schemes diminish development opportunities and thereby real estate values.

The taxation system in the Kingdom of Bahrain does not incorporate income taxes. This makes it impossible to apply tax reduction schemes commonly used as incentives in heritage preservation.

Local demographics

The demographics of the site's urban sections impose some economic constraints. The high percentage of residents with low income necessitates a higher level of investment by governmental authorities.

The heterogeneous nature of the local community in Muharraq poses a challenge to the management system when selecting objectives, target groups and communication strategies.

Social constraints

A lack of awareness of the values of heritage persists among parts of the local community.

The relatively conservative nature of the local community may not be completely compatible with the needs and behaviour of all expected future visitors to the site.

Changed living patterns and family structures require significant adaptation of the remaining historic buildings.

The decline in the number of surviving witnesses of the pearling era constitutes a challenge for researching and documenting the oral history of pearling in Bahrain.

Ownership

Multiple or unclear ownership of land and buildings is a common phenomenon that could delay processes in the implementation of the management plan if not taken into consideration.

Physical accessibility

The physical accessibility of the oyster beds is limited due to their offshore location.

The dense historic urban pattern challenges private motorised access to the site while no public transport system is in place.

Restricted availability of traditional building materials

Although the authentic, traditional construction materials for restoration are available in or outside Bahrain, the cost-value-ratio in supplying them might not always be justified under economic or environmental aspects and may require alternative solutions.

Limited availability of skilled craftsmen

Knowledge of traditional artisanship for restoration of architectural heritage is available in Bahrain but as the existing work force does not meet the requirements training will be necessary.

Climate and microclimate

The high temperatures and humidity levels during the summer months in Bahrain impose a seasonal adjustment of activities within the heritage site and reduce the time during which the outdoor sections of the site will be attractive to visitors.

The microclimate in the narrow streets near recent developments in the buffer zone is further intensified by the high percentage of concrete and tarred surfaces and by the heat discharge of air conditioning units.

6.4 THREATS

6.4.1 Threats to the oyster beds

The management system is counteracting the following potential threats to the nominated oyster beds.

Illegal fishing methods

Violations by fishermen using the prohibited fishing method of trawling pose a threat to the oyster beds that requires patrolling and enforcement of the law.

Oil spills

Heavy traffic of oil tankers in the Gulf poses a risk of oil spills. Any impact of previous spills on oyster beds is not testified. Nonetheless, the management system takes into consideration this potential threat.

Gas and oil exploration

Possible future gas and oil exploration may constitute a threat to the oyster beds. Even though present day technology is more environmentally friendly, the management system takes measures to further reduce this potential threat.

Dredging activities

Dredging, the collection of sand for development and construction projects, is a common practice in Bahrain which results in the accumulation of sediment in marine areas. Although the nominated oyster beds are located at a safe distance from any planned dredging activities, they may constitute a threat if not coordinated in the future.

Uncontrolled diving and pearl collecting

Uncontrolled diving and pearl collecting activities may constitute a threat to the oyster beds if not appropriately regulated and monitored.

Tourism

Future tourism use of the oyster beds has to be controlled to eliminate negative impacts such as littering or pollution by the discharge from visitor facilities and boats.

Global climate change

There is no evidence that the oyster beds would be affected by the influence of global climate change, such as by a rise in temperature or sea level.

6.4.2 Threats to the historic fabric and the urban setting

Several factors threaten or may threaten to compromise the setting of the urban properties and the appearance of their buffer zone unless urban development is controlled. These factors include:

- **land speculation and real estate development** where it threatens the remaining historic buildings and the historic urban pattern
- **development pressure** due to the need for modernisation, rehabilitation and extension of the habitat, **paired with a lack of protective measures**, where it results in uncoordinated construction activity by both private and public investors
- **lack of protective regulations such as design guidelines and heritage protection** that lead to inconsistent architectural expressions and compromise the traditional urban style in some areas
- **inappropriate architectural and urban rehabilitation practices that** cause the loss of original fabric
- **lack of law enforcement** resulting in rare cases of illegal construction activities or demolition of building stock
- **lack of maintenance of historic fabric** making the buildings vulnerable to **wear and tear** and the **impact of weather**, such as occasional heavy rainfall
- **dense and precarious housing conditions** placing heavy strain on some of the historic buildings
- the increased risk of **fire** due to high population density, outdated electrical infrastructure and household devices in some households, and limited accessibility by fire engines
- **Humidity**, stemming from a **rise in the water table, increased sealing of surfaces** of both the ground and walls and water leakage from **unsatisfactorily maintained supply or discharge systems, resulting in a deterioration of the historic fabric**



Flooding in the buffer zone

- **Temporary flooding** of streets and buildings after heavy rainfall that can cause considerable harm to the traditional built fabric unless appropriate drainage systems are installed and maintained

- **Traffic might affect** historic buildings through vibrations or accidents unless appropriate measures are taken

- **Tourism** where it affects the historic fabric and urban environment through physical and social impact, and also through associated phenomena like increased littering, the

commercialisation of the environment and advertising directed to tourists unless appropriately monitored and managed

- **Global climate change** may affect the urban properties and urban buffer zone in the long term, in particular the Bū Māhir Seashore, if no measures are taken to prevent a rise in the sea level

6.4.3 Possible threats to the implementation of the management plan

- **Opposition from the local community** might arise due to uneasiness among the local community about the implementation of the management plan unless the management system balances interests and negotiates between different stakeholders.
- **Theft and vandalism:** There are occasional cases of graffiti on walls in Muharraq and the theft of directional signage has occurred in other heritage sites in the country. This has been taken into account by the management system.
- **Intercultural misconceptions and misunderstanding** between the local community and visitors to the site may arise if not tackled by the site's tourism management.
- **Vulnerability to cause majeure:** Although there is no apparent risk for uncontrollable political, economic or environmental catastrophes, the management system would be vulnerable to any of such unlikely events.



Graffiti in the urban buffer zone

7 STRATEGIC OBJECTIVES

The strategic objectives are derived from the overall mission of the management system as described in the mission statement. The objectives guide the management strategies described in *Chapter 2* of this plan and are further broken down into concrete actions in *Chapter 3*.

The following objectives are not considered exhaustive and shall be regularly reviewed, adjusted or extended as necessary.

Objective 1:

Create the administrative structure and procedures to steer and monitor the implementation of the management system and to ensure long-term conservation of the serial site.

Objective 2:

Secure long-term legal protection of the serial site and its buffer zone and enforcement of its protective provisions.

Objective 3:

Involve all stakeholders in the management system of the testimony of the pearling economy.

Objective 4:

Offer visitors to the serial site and its facilities an enjoyable, entertaining and informative experience.

Objective 5:

Improve the physical condition and visual appearance of the serial site and its buffer zone.

Objective 6:

Increase knowledge of the pearling heritage and its values by undertaking and facilitating research and documentation.

Objective 7:

Raise understanding and appreciation of the pearling heritage through educational use of the site.

Objective 8:

Foster the continuity of cultural traditions related to the pearling heritage.

Objective 9:

Promote site visits and use of the site's facilities nationally, regionally and internationally.

Objective 10:

Optimise the serial site's contribution to the local and national economy through sustainable use of resources.

Chapter 2

Management Strategies

Each of the 10 management strategies described in this chapter responds to one of the management plan's 10 strategic objectives.

The strategies aim to achieve long-term preservation and enhancement of the serial site in view of an adequate application of the World Heritage Convention. They take into account the heritage site's strengths, constraints, and opportunities as well as factors that threaten both the site and the implementation of the management plan.

Together with the objectives, the strategies and their implementation will have to be reviewed regularly and possibly adjusted to meet changing circumstances.

1. ADMINISTRATIVE STRUCTURE AND PROCEDURES

2. STATUTORY HERITAGE PROTECTION

3. STAKEHOLDER INVOLVEMENT

4. INTERPRETATION AND PRESENTATION

5. PHYSICAL CONSERVATION AND DEVELOPMENT

6. RESEARCH AND DOCUMENTATION

7. EDUCATION AND AWARENESS RAISING

8. SUPPORT FOR CULTURAL TRADITIONS

9. TOURISM DEVELOPMENT AND PROMOTION

10. RESOURCE MANAGEMENT

1

Administrative Structure and Procedures

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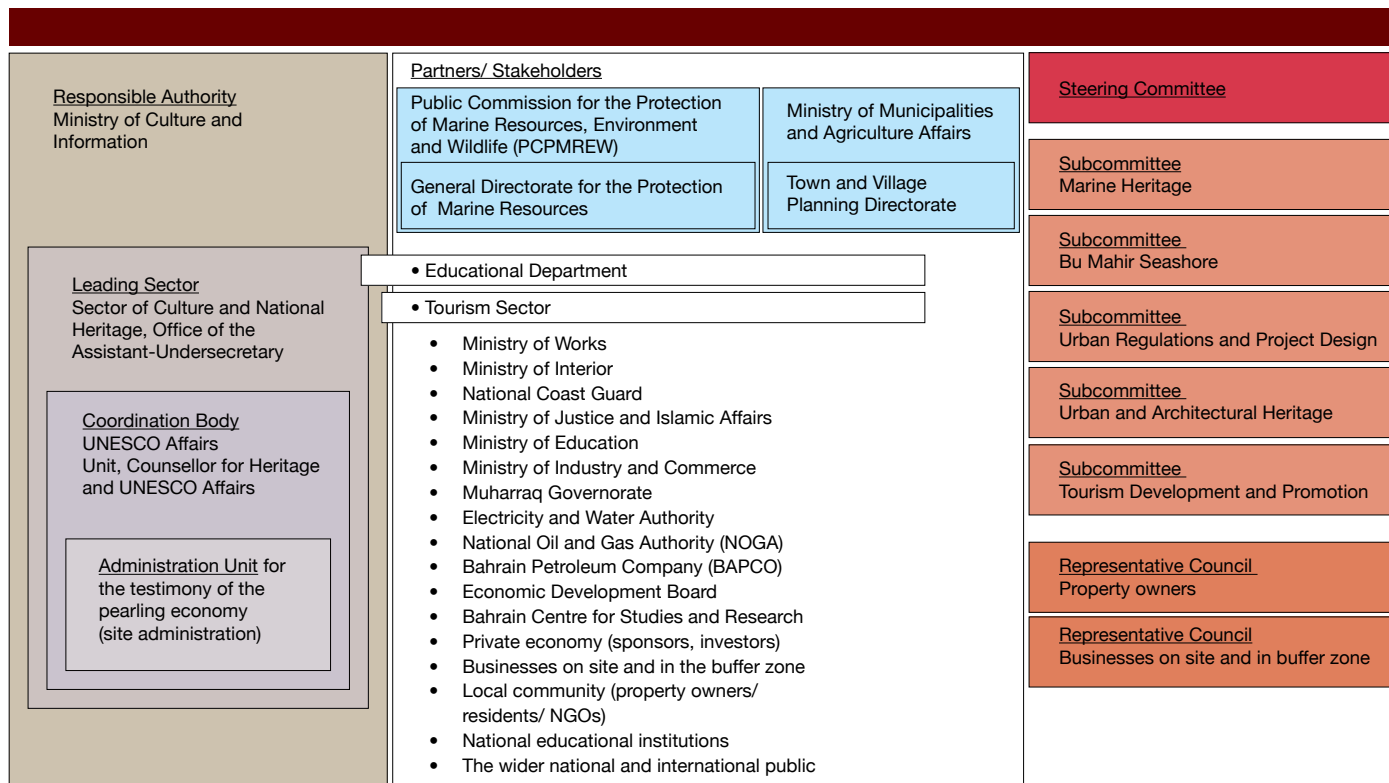
1 ADMINISTRATIVE STRUCTURE AND PROCEDURES

OBJECTIVE 1: Create the administrative structure and procedures to steer and monitor the implementation of the management system and to ensure long-term conservation of the Outstanding Universal Value of the serial site.

In order to achieve the management system's overall objective, a comprehensive administrative structure had to be established. This strategy describes the administrative system the Ministry of Culture and Information developed with other stakeholders to the testimony of the pearling economy. It outlines the framework of entities involved in steering, facilitating and monitoring the implementation of the management plan, and in ensuring the long-term conservation of the testimony of the pearling economy and its Outstanding Universal Value. It also describes the responsibilities, liabilities and procedures for each entity involved in the administrative structure.

1.1 ADMINISTRATIVE STRUCTURE

Given the scale and complexity of the site, and the wide scope of activities required within the management system, the administrative structure endeavours to link the numerous different stakeholders to the testimony of pearling economy effectively and transparently.



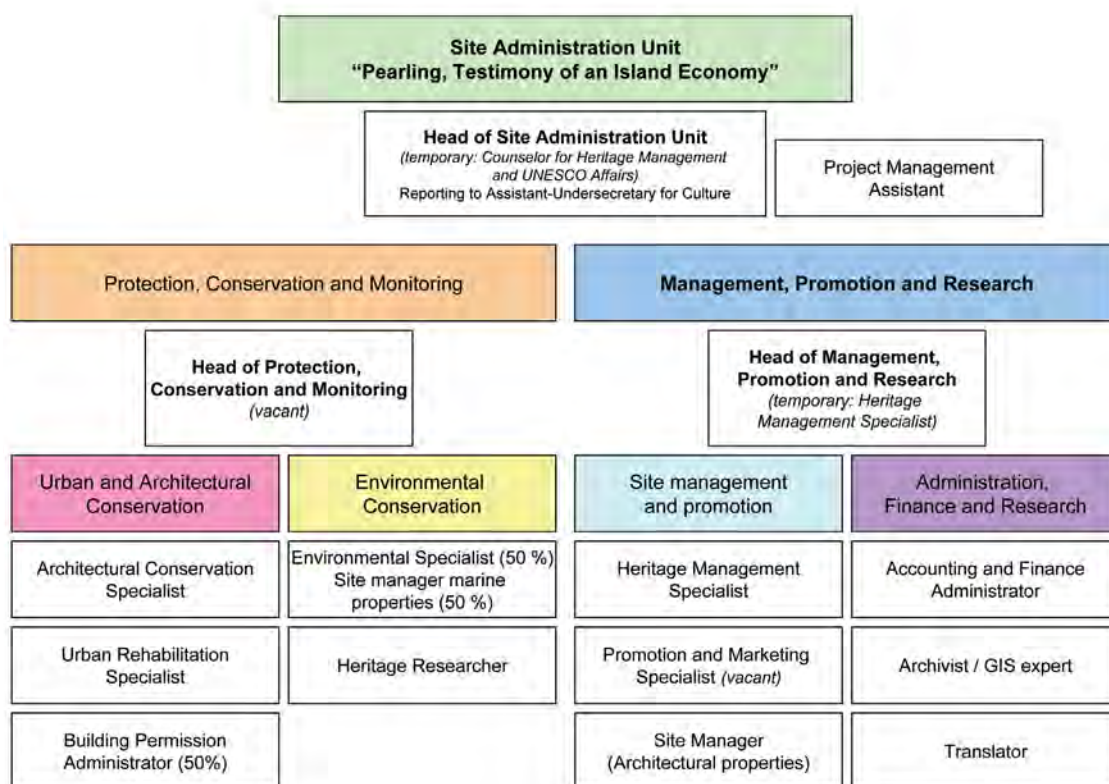
1.1.1 The responsible authorities

The Ministry of Culture and Information, Sector of Culture and National Heritage, is the authority responsible for cultural heritage protection in the Kingdom of Bahrain, and therefore also the entity liable for the preservation of the testimony of the pearling economy under the international regulations stipulated by the Convention Concerning the Protection of the World Cultural and Natural Heritage (1972). The partner authority, liable for the preservation of natural heritage assets, is the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW). The Ministry of Municipalities and Agriculture Affairs is the authority with responsibility for the urban settlements. It is liable for the enforcement of development and zoning plans which concern the site's urban areas.

1.1.2 The coordination and implementation body

The Site Administration Unit within the Ministry of Culture and Information is the coordination entity for the administration of the serial site and the implementation of the management system. The unit consists of an interdisciplinary team with specialised professionals in charge of the different types of properties and of the various intervention fields. It is attached to the UNESCO Affairs Unit, which reports to the Office of the Assistant-Undersecretary, Sector for Culture and National Heritage. The Site Administration Unit team reports to the Counsellor for Heritage and UNESCO Affairs within the UNESCO Affairs Unit.

• see Strategy 10 Resource Management for details on the human resources



1.1.3 Partners and stakeholders

The list of partners and stakeholders who have an interest in the site and whose participation is crucial for the success of the management system includes a number of Ministries and other governmental and national institutions, as well as individuals and groups from the private economy and the local community. Within the Ministry of Culture and Information, the Educational Department of the Sector of Culture and National Heritage and the Tourism Sector are important partners. Close cooperation with the various stakeholders takes place at all levels of the management system. All are directly or indirectly represented in the administrative system through members of the Steering Committee.

1.1.4 The Steering Committee

Chairperson: **Minister of Culture and Information**
Ministry of Culture and Information

Public Commission for the Protection of Marine Resources,
Environment and Wildlife (PCPMREW)

Ministry of Municipalities and Agriculture Affairs

Ministry of Interior

Ministry of Justice and Islamic Affairs

Ministry of Works

National Oil and Gas Authority (NOGA)

Royal Court

The Electricity and Water Authority

Bahrain Economic Development Board

Muharraq Governorate

National Oil and Gas Authority and the Bahrain Petroleum Company (BAPCO)

Representatives of the property owners

Representatives of the local businesses

The Steering Committee is the governing body of the administrative system. It brings together, mainly at ministerial level, members of 12 governmental agencies representing the full range of partners and stakeholders, as well as representatives of the private owners of both the architectural properties and the businesses in the urban buffer zone. The Steering Committee is chaired by the Minister of Culture and Information. It is responsible for taking overall decisions concerning the management policy and for approving all major activities related to the site. It also provides a platform both for conflict management through the discussion of interests, and for generating ideas for the management of the heritage site through contributions from representatives of all stakeholders. The Site Administration Unit for the pearling testimony reports biannually to the Steering Committee on progress regarding the implementation and planned activities. In this sense, the committee also fulfils a monitoring function within the system.

Decisions are generally made on a consensus basis, or if necessary, by voting for a simple majority. Only official members of the committee have voting rights. In addition to members with voting rights, invited advisors and guests can take part in the committee meetings. At least one observer attends to take the minutes. The composition, in terms of members, advisors and guests, can change according to necessity throughout the future management of the heritage site. Changes to the composition of the Steering Committee require a two-thirds majority of Steering Committee members.

The first meeting of the Steering Committee took place in May, 2009. At this meeting, the Steering Committee was officially established. The committee also formally approved the administrative system, the boundaries of the site and its buffer zone, and the nomination to the UNESCO World Heritage List. A second Steering Committee meeting was envisaged for November, 2009 but due to several prior apologies has been rescheduled for February, 2010.

1.1.5 Subcommittees

Five technical and thematic subcommittees of the Steering Committee support the Site Administration Unit with planning and implementation in the different types of properties and intervention fields. They are the decision-making entities in the different focal areas. The number and types of subcommittees as well as their membership may change according to necessity during future site management, if approved by the Steering Committee.

The membership of the subcommittees is composed of the focal points within the different stakeholder entities as designated by their respective representatives on the Steering Committee, as well as members from the Site Administration Unit and of the Sector of Culture and National Heritage. As with the Steering Committee, the subcommittees include members with voting rights, as well as invited advisors such as consultants to the Site Administration Unit and other guests. A secretary appointed to each subcommittee is responsible for administrative tasks such as taking minutes of meetings, distributing information and invitations to the meetings. The members of the subcommittee approve the minutes of the previous meeting at each session. Each subcommittee meets as necessary, unless their members, on the invitation of the selected chairperson, decide otherwise. A decision to establish the following five subcommittees was taken at the first Steering Committee meeting in May, 2009:

Subcommittee for Marine Heritage

Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW)

(General Directorate for the Protection of Marine Resources/ General Directorate for the Protection of Environment and Wildlife)

Ministry of Interior

(Directorate of Coast Guard)

National Oil and Gas Authority

(Bahrain Petroleum Company BAPCO, Directorate of Oil and Exploration)

Ministry of Culture and Information

(Sector for Culture and National Heritage)

Bahrain Centre for Studies and Research (BCSR)

(Marine resource and pearl oyster specialist)

The Subcommittee for Marine Heritage is the entity responsible for the protection and management of the oyster beds. It is the platform for coordinating the process of securing legal protection for the oyster beds as marine resources, and for developing guidelines in consultation with all concerned stakeholders for the oyster beds' future protection and the use of their resources. This includes developing regulations for future pearl collection activities. The subcommittee is also charged with coordinating enforcement of the legal provisions, and with planning and carrying out future monitoring of the oyster beds and their buffer zones, including scientific research. Finally, it assists and advises on the establishment of future visitor facilities and services in the marine parts of the pearling testimony.

In addition to the Ministry of Culture and Information, the subcommittee's members include two relevant directorates of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW), the national authority with responsibility for natural heritage and environmental resources. These are the General Directorate for the Protection of Marine Resources and the General Directorate for the Protection of Environment and Wildlife. The first of these two is divided into the Directorate for Marine Resources and the Directorate for Fisheries. Other members of the subcommittee are the Ministry of Interior, particularly the Directorate of the Coast Guard as an important partner in patrolling and monitoring the properties; the National Oil and Gas Authority including the Bahrain Petroleum Company (BAPCO) in view of expected oil and gas exploration activities and risk preparedness along those lines; and the Bahrain Centre for Studies and Research (BCSR), as an important scientific research partner. The natural heritage advisor to the Ministry of

Culture and Information is a permanent member of the Site Administration Unit and fulfils the function of a coordinator among the concerned stakeholders and the Ministry of Culture and Information.

The first ministerial-level discussion concerning the nomination of the oyster beds took place in September, 2008 between the Minister of Culture and Information, the President of PCPMREW, and the Minister of the National Oil and Gas Authority. The first Subcommittee meeting took place in May, 2009 at Awali. Since then, a series of meetings have been held at a technical level to define the objectives and scope of the initiative, the cooperation requirements, and the roles of the different stakeholders. Tasks groups worked on particular aspects regarding the boundaries and site management processes which were approved in December, 2008 in a series of bilateral negotiation meetings between the subcommittee partners.

Subcommittee for Bū Māhir Seashore

Ministry of Interior

(Directorate of Coast Guard)

Ministry of Works

(Roads and Design Section)

Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW)

(General Directorate of Marine Resources/ General Directorate for the Protection of Environment and Wildlife)

Ministry of Municipalities and Agriculture Affairs

(Special Project Unit/ Urban & Village Development Section)

Ministry of Culture and Information

(Sector for Culture and National Heritage)

The Subcommittee for Bū Māhir Seashore deals exclusively with the protection and conservation of this seashore property, which due to its location requires special coordination. The subcommittee involves the National Coast Guard, on whose territory the property is located and with whom the access conditions to Bū Māhir Seashore as well as the specifications of visitor facilities on the property have to be negotiated and coordinated. The Traffic Directorate of the Ministry of Works is involved, especially for the planning and implementation of a pedestrian crossing of the highway to the north of the property. While the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) has a stake in the environmental protection of the seashore and its adjacent marine buffer zone, the Ministry of Municipalities and Agriculture Affairs also has a stake, mainly in the urban buffer zone of the seashore property.

Cooperation with individual members on the subcommittee commenced in 2008, while an official meeting with Coast Guard representatives concerning the design of the planned visitor facilities took place in June, 2009. The Subcommittee for Bū Māhir Seashore was officially established in early 2010.

Subcommittee for Urban Regulations and Project Design

Ministry of Municipalities and Agriculture Affairs

(Special Project Unit/ Urban & Village Development Section)

Ministry of Works

(Roads and Design Section)

Ministry of Culture and Information

(Sector for Culture and National Heritage)

Electricity and Water Authority

(Network Design and Planning Section)

Muharraaq Governorate

(Building Permit Section in Muharraaq Municipality)

The Subcommittee for Urban Regulations and Project Design is responsible for planning and coordinating the implementation of all urban measures in the buffer zone within the settlement of Muharraq, and for protecting its traditional urban heritage assets.

Its current members are: representatives of the Special Project Unit and Urban & Village Development Section of the Ministry of Municipalities and Agriculture Affairs; the Roads and Design Section of the Ministry of Works, which has a stake in the road infrastructure; the Electricity and Water Authority, regarding the technical infrastructure; the Building Permit Section of Muharraq Municipality; and representatives of the Ministry of Culture and Information.

The subcommittee's tasks include supervising the development of urban design guidelines for new buildings and public space. This involves the enforcement of the stipulations by reviewing and approving or rejecting building or demolition permit requests from real estate owners within the buffer zone. The function of reviewing permits will be limited to extraordinary cases once a position with this specific responsibility has been created within the Permit Section of Muharraq Municipality and a person has been trained by the Ministry of Culture and Information to fill that post. Many of the permit requests refer to buildings, and concern development plans by several of the other member agencies of the subcommittee, as described in *Chapter 1 Site Description, Objectives and Assessment, 5.2.2 Other Development Projects*. The subcommittee is the platform for coordinating these cases. Its tasks also include coordination of the urban upgrading works, according to a master plan developed by an urban design consultant who is an advisor to the subcommittee on behalf of the Ministry of Culture and Information.

The Subcommittee for Urban Regulations and Project Design was established in June, 2009, and since then has been meeting approximately fortnightly.

Subcommittee for Urban and Architectural Heritage

Ministry of Culture and Information
(Sector for Culture and National Heritage)

The Subcommittee for Urban and Architectural Heritage deals with the conservation of the architectural properties as well as of historic buildings in the buffer zone, designated as primary or secondary protection elements. As cultural heritage conservation is the exclusive responsibility of the Ministry of Culture and Information, this subcommittee does not involve any other institutions. Its members are conservation experts such as architects, restorers and archaeologists who are either professionals in these fields from the Site Administration Unit, personnel of the Ministry of Culture and Information, or external consultants.

• see Strategy 2 Statutory Heritage Protection

The Site Administration Unit has been consulting predominantly local but also international experts continuously since 2008. The Subcommittee for Urban and Architectural Heritage was established officially in early 2010.

Subcommittee for Tourism Development and Promotion

Economic Development Board
(Department of Economic Planning and Development)

Ministry of Culture and Information
(Tourism Sector/ Sector for Culture and National Heritage)

The Subcommittee for Tourism Development and Promotion is the governing entity for the wide range of interventions related to the tourism development of the heritage site and its buffer zone, and for its promotion locally, regionally and internationally. The subcommittee is the forum for planning implementation of the *Tourism Development and Promotion Strategy*, and for coordinating the different tasks of its members. This subcommittee cooperates closely with other relevant subcommittees, as well as with representatives and advisors from the local community, including business and the tourism industry.

• see Strategy 9 Tourism Development and Promotion

Established in February, 2009 and chaired by the Director of the Tourism Sector, it meets approximately every

two weeks and has developed the management system's *Tourism Development and Promotion Strategy*. An earlier contribution came from the Economic Development Board and its advisors from the McKinsey Group, who in 2008 began developing the management system and tourism-related aspects.

1.1.6 Councils

The Ministry of Culture and Information encouraged two stakeholder groups on the site to form councils. Each council has two roles: to provide a forum and to elect two members (a representative and a deputy) to represent the groups' specific interests on the Steering Committee. The elected representatives also act as advisors to the subcommittees whenever necessary.

Council of Property Owners

This council is comprised of non-governmental owners of the architectural properties of the testimony of the pearling economy, defined as private individuals, waqf, non-governmental organisations and companies that own nominated buildings and are not otherwise directly represented on the Steering Committee. Although individual cooperation between the property owners and the Site Administration Unit is quite close, this arrangement offers property owners an additional platform for raising their concerns and promoting their interests.

Two volunteer spokespersons from the property owners are representing this group at the time of writing, since the council has yet to elect its representatives formally.

Council of Businesses on the Site and in the Buffer Zone

Businesses in the urban buffer zone are in a strong position to benefit from the urban upgrading works carried out by the Ministry of Culture and Information - and eventually by the influx of visitors. To assist this group to maximise their gains from these changes, the management system will support the establishment of a council and direct representation on the Steering Committee. A first step towards that aim is a workshop targeting the businesses within a series of informational and consulting workshops.

1.2 KNOWLEDGE MANAGEMENT

Effective knowledge management is essential for the efficiency of the management system and its processes and for the transparency of the site administration. Achieving this will require the Site Administration Unit to ensure all relevant data is documented and stored in a way that is accessible to every authorised person involved in the management system. A particularly important tool for this purpose is the Geographic Information System (GIS), currently under development for the site. It will be the repository for all information about the individual properties of the serial site and its buffer zone and about the different intervention fields and functions, and will provide an effective tool for easy exchange and long-term storage and processing of information.

Knowledge management also demands the exchange of information between the involved stakeholders and personnel on the progress of work. This takes place in two ways: through the administrative structure described above; and through fortnightly coordination meetings the Site Administration Unit holds in addition to the regular meetings of the different subcommittees.

1.3 RISK PREPAREDNESS

Risk prevention relies on the identification of potential risks, to the properties. The vulnerability of the site has been analysed in the preparation of this document. Potential risks identified in this process are listed in the *Risk Preparedness Plan of Chapter 3 Site Analysis and Action Plans (2009-2013)*. The Site Administration Unit is responsible for ensuring that all risk prevention measures carried out by the various stakeholders within the management system take into consideration all known risks, and that prompt action is taken to counteract all newly identified risks. Risk prevention is inseparably linked to the monitoring activities described below. Continuous research into the site and the risks affecting it will be essential to identify, prevent, diminish or defeat risks.

• see Strategy 6 Research and Documentation

• see 1.4 Monitoring and Evaluation

The management system's strategies, documented in this management plan, describe risk preparedness activities carried out or planned in the diverse intervention fields. Many of these aim to prevent risks from eventuating, or at lessening their impact on the site or the management system. The risk preparedness sections within *Strategy 5 Physical Conservation and Development* outline plans for responding to risks to the natural and architectural properties including their Outstanding Universal Value and their authenticity and integrity. These include emergency schemes for immediate action in the case of hazards, emergency situations or disasters.

• A Risk Preparedness Plan for the pearling testimony is included in table format in Chapter 3 Site Analysis and Action Plans (2009-2013).

1.4 MONITORING AND EVALUATION

Monitoring and evaluation will play an essential role in ensuring that the testimony of the pearling economy and its Outstanding Universal Value are preserved, that the management system responds effectively to the site's needs and to the strategic objectives, and that the system is successfully implemented.

The Site Administration Unit is responsible for carrying out the overall monitoring of the site, and for ensuring that all relevant data is collected, documented and evaluated throughout the management process. The contributions and cooperation of the various stakeholders are essential for this process.

The focus of the monitoring and evaluation activities is the properties' built and natural assets. However it also encompasses the provided facilities, including the site's narrative elements and environmental and socio-cultural aspects of the buffer zone.

1.4.1 Preventive monitoring

The site proposed for inscription on the World Heritage List has to be monitored preventively; this will require heritage impact assessments during the planning of each project or intervention, and during its implementation. All activities carried out on the site or in the buffer zone by the Ministry of Culture and Information or other actors therefore have to be carefully planned and supervised to ensure that the conservation measures or other activities do not harm the state of conservation and do not interfere with the strategic objectives set out in the management system. Preventive monitoring is to be carried out throughout the management process by each subcommittee for its own field of responsibility and by the Site Administration Unit for the entire site. These report to the Steering Committee biannually on accomplished, ongoing and planned interventions. The fora for raising concerns about possibly conflicting developments are the different subcommittees, or, if necessary, the Steering Committee.

The Site Administration Unit has responsibility for continuous monitoring, with special attention to be paid to the physical conservation and development of each property, taking into account the conservation strategy defined for each.

1.4.2 Comprehensive monitoring at the end of each budget cycle

At the end of each biennial governmental budget cycle, the site administration will facilitate the compilation of a comprehensive monitoring report based on transparent, readily available indicators of high informative value.

The monitoring report will be prepared by a monitoring group made up of members of the subcommittees and the Site Administration Unit. Again, the focus will be on monitoring the properties' state of conservation, including their natural and built assets. The aim is to measure and document all changes that take place on the heritage site, and to evaluate whether the management strategies are being implemented successfully, the Outstanding Universal Value is being protected, and the overall physical condition of the site is being enhanced. The monitoring group is required to control the state of conservation with the help of the key indicators listed under *Objective 5. Physical Conservation and Development* within the *Table of Monitoring Indicators* in Chapter 3 Site Analysis and Action Plans (2009-2013).

Please refer to the *Table of Monitoring Indicators* defined for each strategic objective of the Management Plan in Chapter 3 Site Analysis and Action Plans (2009-2013)

To assist with forward budgeting, a list of priority conservation issues based on the comprehensive monitoring reports will be created every two years.

Please also refer to the *Nomination*, 6 Monitoring for indicators related to the attributes of Outstanding Universal Value for each property.

1.4.3 Reactive monitoring

In cases where preventive and comprehensive monitoring measures fail and exceptional developments endanger the Outstanding Universal Value of the testimony of the pearling economy, upon inscription on the World Heritage List the Ministry of Culture and Information must report the development to the World Heritage Committee in order to receive assistance from UNESCO's advisory bodies. Reactive monitoring should, of course, be avoided through careful and regular implementation of the preventive and comprehensive monitoring measures described above.

1.4.4 Periodic reporting

As stated in the Operational Guidelines for the Implementation of the World Heritage Convention, Chapter V (UNESCO, 2008), each State Party has to submit a periodic report concerning the legal adoption and application of the World Heritage Convention (1972) on the national, regional and local level. This report is due every six years (most recently in 2009 for the Arab States), and must include a description of the state of conservation of all World Heritage properties located on a State Party's territory. The Sector for Culture and National Heritage within the Ministry of Culture and Information is responsible for compiling this report using information provided by the monitoring group and the management units of the World Heritage Sites.

1.4.5 Monitoring the management process

Site management is a dynamic process. The Site Administration Unit has to continuously monitor the progress and appropriateness of the management system. The administrative structure and procedures provide for this by ensuring regular feedback from all stakeholders. Another mechanism for facilitating feedback is the onsite personnel, in particular site managers who are trained to observe their respective fields of responsibility and to report to the Site Administration Unit. The co-creation space on the website of the testimony of the pearling economy and the future contact point in the Visitor and Experience Centre also allow for prompt feedback from both visitors to the site and the local community. The Site Administration Unit is responsible for adjusting the management system to address issues raised through the feedback mechanisms.

1.4.6 Review and evaluation of the management system

The Site Administration Unit, with the assistance of the monitoring group, will comprehensively review and evaluate the management system at the end of each implementation phase. This will precede the periodic reporting cycle by at least one year. The first review of the Management Plan will be carried out at the end of the first phase of 2009-13. The following implementation phases will be planned over six-year periods in order to fall in line with subsequent periodic reporting.

The purpose of regularly reviewing and evaluating the management system is to measure its progress and to identify priorities for the following implementation phase. The monitoring will be guided by both the key indicators defined for the 10 strategic objectives of the Management Plan, as listed in the Table of Monitoring Indicators at the end of this Management Plan, *Chapter 3 Site Analysis and Action Plans (2009-2013)*, and the action plans for the relevant implementation phase. The first review will therefore be based substantially on the policies and actions plans of *Chapter 3* of the site's Management Plan. This will allow shortcomings of the management system to be identified and adjusted, and a priority list of measures for the following implementation phase to be created. Where circumstances have altered, the review may result in changes to the strategic objectives or to the overall vision.

2

Statutory Heritage Protection

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2 STATUTORY HERITAGE PROTECTION

OBJECTIVE 2: Secure long-term legal protection of the Outstanding Universal Value of the serial site and its buffer zone and enforcement of protective.

Statutory protection of the testimony of the pearling economy is of the utmost importance for ensuring its long-term preservation. As a State Party to the Convention Concerning the Protection of the World Cultural and Natural Heritage (1972), the Government of the Kingdom of Bahrain is responsible for ensuring the protection of sites it deems of Outstanding Universal Value. The Ministry of Culture and Information and the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) are the entities vested with the responsibility of ensuring and enforcing the protection of these sites on the national level in cooperation with other relevant government authorities. To this end, these bodies designate the nominated properties as national heritage and marine protected areas, and define protective buffer zones with specific protective regulations and procedures. The Ministry of Culture and Information has the additional responsibility of promoting the identification and protection of supplemental national pearling heritage.

2.1 LEGAL PROTECTIVE DESIGNATION OF THE PROPERTIES

2.1.1 The maritime properties

In order to ensure adequate protection under national legislation, the nominated oyster beds are in the process of being designated as marine protected areas under Decree (2) of 1995 with respect to the Protection of Wildlife, under the authority of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW). In the case of Hayr Bū-I-Thāmāh the required ministerial decree already exists (Ministerial decree No. (8) of 2007 for the declaration of Hayr Bū-I-Thāmāh as Marine Protected Area). However, the designated area is being extended in order to fully cover the nominated area. In the cases of Hayr Bū 'Amāmāh and Hayr Shtayyah, two equivalent decrees are under negotiation. A formal communication from the Secretary-General of the Public Commission for the Protection of the Environment, Marine Resources and Wildlife to the Ministry of Culture and Information is contained in the Annex (Communication of 2010). It confirms that the proclamation of the nominated oyster beds as marine protected areas is in process and approves the coordinates of the oyster beds and the identified buffer zone.

The coordination of steps towards this designation is taking place among all the relevant stakeholders through the Subcommittee for Marine Heritage. The subcommittee is also developing a scheme for future monitoring and research activities required to ensure the oyster beds' protection. Adequate protection includes the strict enforcement of relevant legislation, in particular the order referring to harmful trawl fishing (Ministerial Order No. (10) of 1986 for prohibiting trawl fishing in Oyster beds areas).

With a view to developing the necessary legislative framework, the Ministry of Culture and Information has reached further agreements with the Bahrain Petroleum Company (BAPCO) concerning conservation measures to be implemented during the exploration and drilling of gas in the area and with the Ministry of Interior in view of its involvement in patrolling for the enforcement of law and monitoring.



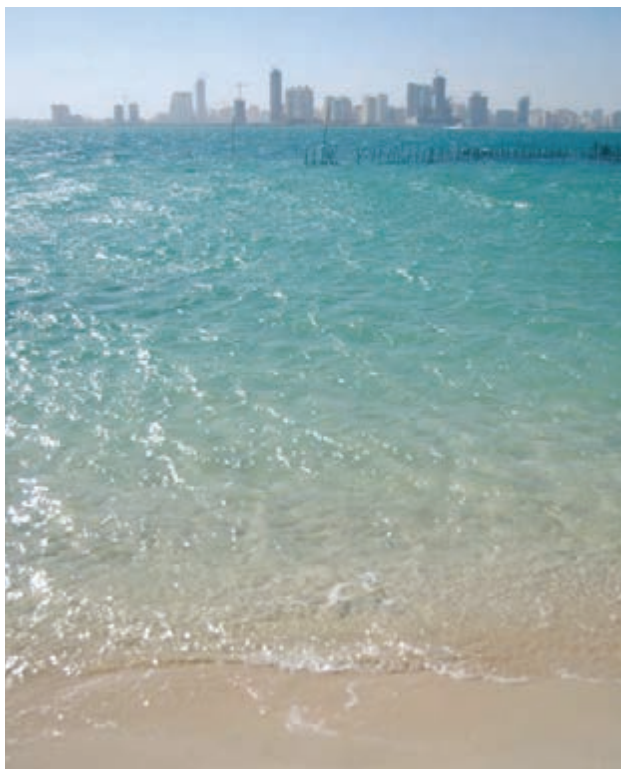
Pearl oysters in Hayr Bū-I-Thāmāh

• see strategy 1 Administrative Structure and Procedures

2.1.2 Bū Māhir Seashore

The Seashore property of Bū Māhir, which includes land and water parts, has been listed as a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities and comes under the authority of the Ministry of Culture and Information.

As the property is located within a Public Services/Utilities Area in use as the National Coast Guard Base, the Ministry of Culture and Information has reached a formal memorandum of understanding with the Ministry of Interior and the National Coast Guard for the property's inclusion into the heritage site and its nomination. This agreement reaffirms the right of the Ministry of Culture and Information, in cooperation with the Coast Guard, to develop visitor facilities within the property, and also grants public accessibility to the property from both the land and the water sides. Coordination of this development and its future operation is taking place through the Subcommittee for Bū Māhir Seashore. This Subcommittee includes other stakeholders concerned with the protection of the property, such as the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) .



• see Strategy 1 Administrative Structure and Procedures

Bū Māhir Seashore

2.1.3 The architectural properties

The 17 nominated historic buildings have been listed as national monuments under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities and are under the authority of the Ministry of Culture and Information.

Where properties are owned privately by individuals or organisations, formal memoranda of understanding have been negotiated between those owners and the Ministry of Culture and Information. These constitute agreement to the anticipated implications of each property's inclusion in the heritage site and define the rights and duties of both partners for future implementation of the management system.

The Subcommittee for Architectural Conservation is the entity within the Ministry of Culture and Information



Urban property:
Siyadi Majlis

• see Strategy 1 Administrative Structure and Procedures

responsible for ensuring appropriate implementation of the management system for each of these monuments, and their preservation in line with the Antiquities Law.

For long-term guidance of the conservation measures, architectural conservation plans have been developed for the different properties. Additionally, consultants to the Site Administration Unit have developed technical guidelines for the conservation of the architectural heritage of the testimony of the pearling economy.

2.2 BUFFER ZONE

The buffer zone of the testimony of the pearling economy, dictated by the complex composition of the serial site and varied nature of the single properties, consists of various buffer zones, each of which is graduated and includes protection elements of special consideration.

The direct vicinity of each property, i.e. the spaces and objects that constitute the immediate setting, is the primary protection zone. Developments within this zone are regulated and controlled. Elements of special heritage significance within this zone are primary protection elements requiring a high level of protection. Some properties in close proximity share one primary protection zone.

The secondary protection zone constitutes the wider context and setting. Developments in this zone are regulated, although at a lower level of scrutiny due to their lower impact on the nominated properties. Elements in this zone earmarked as having heritage significance are secondary protection elements and subject to higher protection than other elements within the secondary zone. Treatment of these elements differs from case to case.

2.2.1 The marine buffer zone

The oyster beds are surrounded by a shared buffer zone in the form of an immediately adjacent primary protection zone of minimum 5km width. In Hayr Shtayyah, an additional inner area in the centre of the oyster bed formation is part of the primary protection zone.

A secondary protection zone cannot be physically defined for the oyster beds. However, developments in the wider surrounding maritime areas will be monitored to ensure there is no negative impact on the marine reserves. The serial site requires the preservation of a direct boat link from Bū Māhir Seashore to the oyster beds. This connection by a waterway is considered a linear secondary protection element connecting the different serial property components of the testimony of the pearling economy without being fixed in a permanent location. At present, no current planning such as further proposed land reclamation compromises this requirement. Future planning will be monitored by the Site Administration Unit and coordinated with the concerned bodies.

• see strategy 1 Administrative Structure and Procedures

The marine buffer zone



The marine buffer zone is targeted by specific provisions in the legislative framework that is being formulated, and includes the monitoring and patrolling scheme.

The responsible entity within the management system of the testimony of the pearling economy for the marine buffer zone is the Subcommittee for Marine Heritage, while the liable national authority for protection of the environmental resources is the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

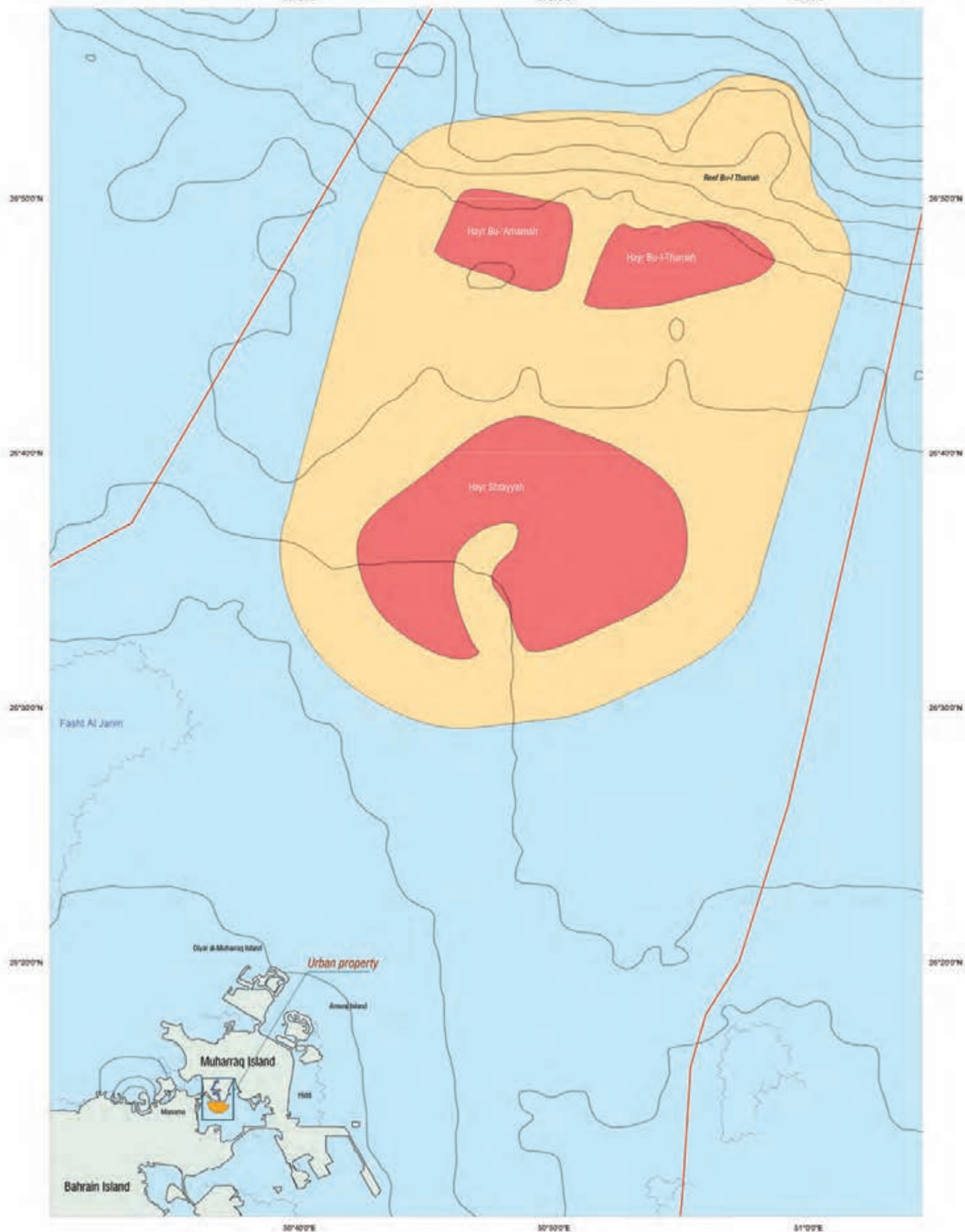
3: Topographical Map of the Nominated Properties and their Buffer Zones

December 2009

World Geodetic System WGS84 Datum

0 2.5 5 10 15 20 25 Kilometers

Nominated Properties
Buffer Zone
Limits of Territorial Waters
Reefs



5: Cadastral Map of the Urban Properties and their Buffer Zones

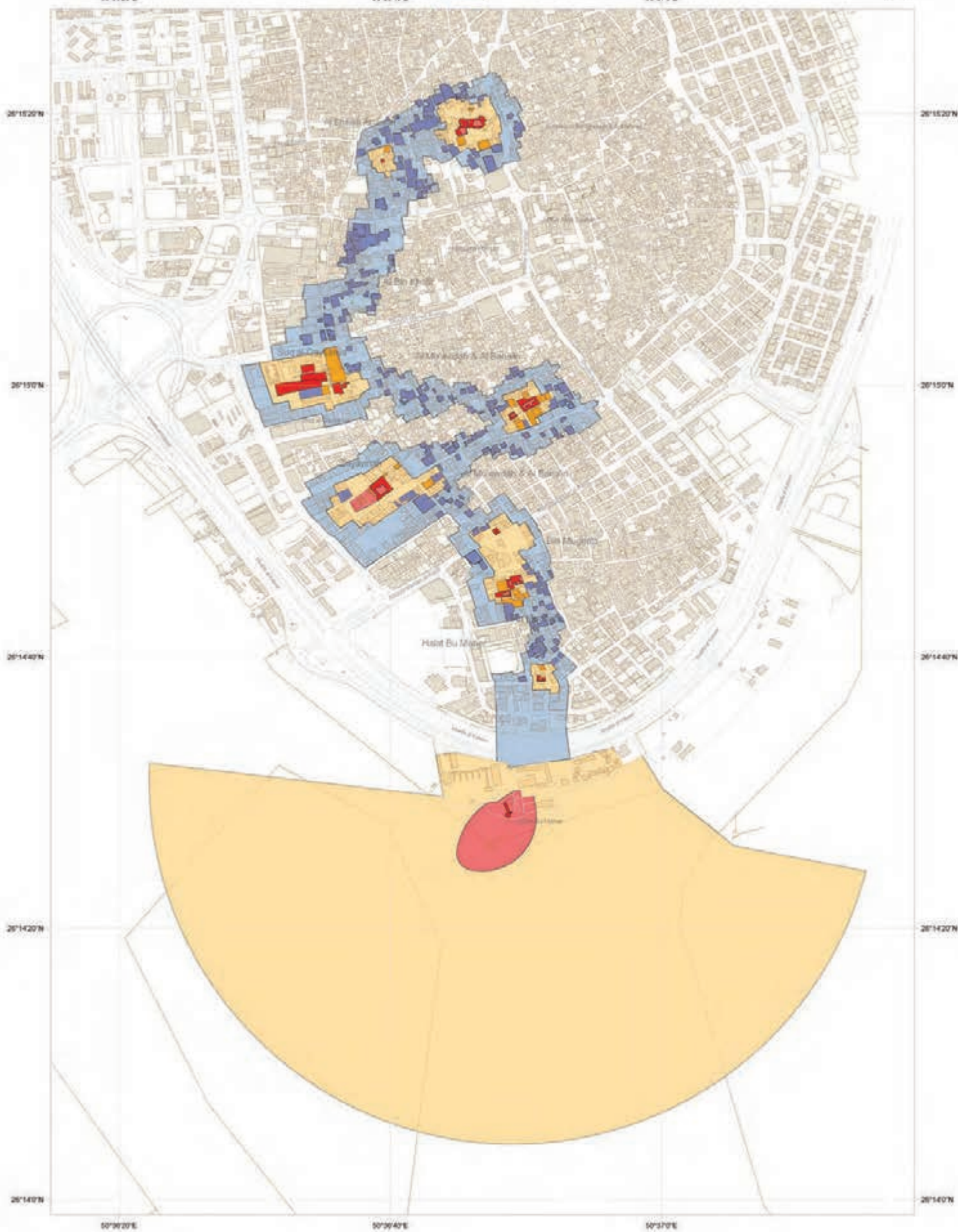
World Geodetic System WGS84 Datum

December 2009

0 0.05 0.1 0.2 0.3 0.4 0.5 Kilometers

- | | |
|--|---|
| Nominated Properties | Secondary Elements |
| Primary Elements | Secondary Protection Zone |
| Primary Protection Zone | |

- Buildings
— Plotlines
— Streets and Fences



2.2.2 Seashore buffer zone

The buffer zone of the Bū Māhir Seashore properties covers an area of approximately 95 ha and consists of a sea and a land part.

The marine buffer zone is 91 ha at high tide. It has a semi-circular shape with a 742 metre radius, determined by the historical visual field of the fort and delimited by both the existing modern buildings and the existing plot divisions along the seashores of Muharraq and Manama. The marine buffer zone covers national territorial waters under the authority of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW). The delineated area is sufficiently large to ensure the preservation of the site's natural condition and visual field. A waterway connection with the site's maritime properties north of Bahrain is preserved in the long term, as Muharraq Harbour to the east of the buffer zone is a protected area, according to the Bahrain 2030 National Land Use Strategy.

The land part of the buffer zone covers the plot occupied by the National Coast Guard. It is an ensemble of two-storied, residential quarters for Coast Guard employees, and also incorporates training facilities, stores, boat repair workshops and a watch tower. The plot is subject to the favourable zoning regulations contained in Resolution n° 28 of the year 2009 regarding the specification of the regulatory stipulations for the development in different areas in the Kingdom, where it is defined as a Public Services/Utilities Area. This stipulates that the Ministry of Culture and Information has to be involved in any developments within this zone as one of the concerned authorities. The Bahrain 2030 National Land Use Strategy maintains the Public Services/Utilities Area of the Coast Guard Base in its current location.

The coordinating body for the preservation and adequate development of the buffer zone is the Subcommittee for Bū Māhir Seashore

• see Chapter 1, Site Description, Objectives and Assessment, 5.1.2 Existing Framework of Legislation

• see Strategy 1 Administrative Structure and Procedures



The buffer zone of
Bū Māhir Seashore

2.2.3 The urban buffer zone

In line with the concept of the buffer zone for the testimony of the pearling economy described above, the architectural properties or clusters thereof each have a **primary protection zone** (ca. 8 ha) where urban development is controlled by the Ministry of Culture and Information. The purpose of the primary protection zone is to maintain or enhance the traditional character of the properties' setting and to articulate the importance of the location with emphasis on the architectural properties themselves. According to Decree Law No. (11) of 1995 concerning the protection of Antiquities (Article 7 and 8), all development within these zones - the direct vicinity of national monuments - has to be coordinated with the Ministry of Culture and Information. This means that the Ministry has to approve all construction and demolition permits. All urban development has to be coordinated with the Ministry of Culture and Information. A bylaw setting out guidelines for architectural design and public space, including implementation maps, is currently being developed by the Ministry of Municipalities Affairs and Agriculture together with the Ministry of Culture and Information for the purpose of regulating urban development in areas surrounding national monuments.

Other historic buildings of heritage value within the primary protection zone are designated as primary protection elements. As such, they are strictly monitored by the Site Administration Unit and will be designated as national monuments wherever necessary. A separate budget is allocated to support the restoration and maintenance of these buildings, with the advice of the Subcommittee for Urban and Architectural Heritage.

The wider urban area surrounding and connecting the primary protection zones is designated as the **secondary protection zone** (ca. 25 ha). To control urban development in this zone more effectively than under existing legislation, an agreement has been reached between the Ministry of Culture and Information and the Ministry of Municipalities Affairs and Agriculture. In line with the Resolution n° 28 of the year 2009 regarding the specification of the regulatory stipulations for the development in different areas in the Kingdom (Chapter 8, Article 109) the urban buffer zone as a whole (ca. 33 ha) was in 2009 designated as a "Special Protection Zone" of the Ministry of Culture and Information by inter-ministerial agreement. Under this agreement, the Ministry of Culture and Information becomes one of the authorities whose approval is required for developments within that zone, including all demolition and building requests. Requests for construction are assessed by the Ministry of Culture and Information against a set of architectural design guidelines. The Ministry of Culture and Information, together with an urban designer, develops an urban master plan for the buffer zone. The master plan includes special specifications for the buffer zone. Wherever these exceed restrictions existing under the

• see Chapter 1, Site Description, Objectives and Assessment, 5.1.2 Existing Framework of Legislation

Primary protection elements in the urban buffer zone



current zoning scheme, they have the character of recommendations. If their implementation diminishes the value of real estate, and the Ministry of Culture and Information wishes to enforce the recommendation as per the Compulsory Real Estate Purchase Law, the Ministry is liable for paying compensation to the affected owner.

In parallel, the Ministry of Culture and Information is working with the Ministry of Municipalities and Agriculture Affairs on a second bylaw to be applied in the "heritage areas" of Muharraq. Its aim is to steer the future development of the historic settlement of Muharraq and to enhance its overall appearance and functionality. The bylaw will incorporate both the design guidelines that are already applied in the buffer zone and an implementation plan. Since no reference in Resolution n° 28 of the year 2009 includes stipulations for heritage areas, the issuing of such a bylaw will require the addition of a special clause to article 21. This amendment requires a Cabinet decision.

Historic buildings of a certain heritage value have been identified as secondary protection elements within this zone. Depending on their value for the wider setting as heritage assets, the treatment of these buildings is decided on by a case-by-case basis, with a separate budget allocated for their restoration. Decisions about the treatment of historic buildings designated as primary or secondary protection elements are taken by the Subcommittee for Urban Regulations and Project Design on the recommendation of the Subcommittee for Urban and Architectural Heritage.

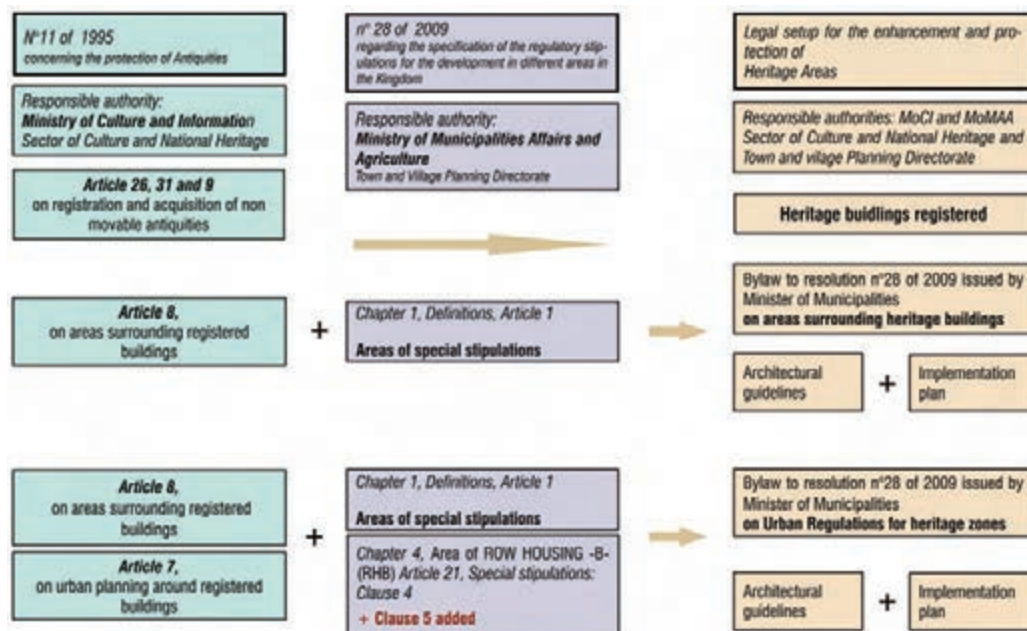
The coordination body for the development of the described instruments and their application is the Subcommittee for Urban Regulations and Project Design. Within this forum, coordination with His Majesty King Hamad's Scheme for Dilapidated Houses is taking place in order to match the programme's approach and architectural standards to the requirements of the "Special Protection Zone".

• see *Strategy 1 Administrative Structure and Procedures*

• For further details on procedures, content of the regulations and timelines, please refer to Chapter 3, *Site Analysis and Action Plans (2009-2013)*



Secondary protection elements in the urban buffer zone



2.3 PROMOTION OF NATIONAL HERITAGE PROTECTION

The Ministry of Culture and Information has an interest in promoting heritage protection beyond the scope of the nominated testimony of the pearling economy. The Site Administration Unit therefore undertakes and encourages research towards identifying other heritage assets in Muharraq related to the pearling heritage, and investigates possibilities for designating them as national monuments. These may be associated with the testimony of the pearling economy within the interpretation approach.

2.4 ENFORCEMENT OF THE LEGAL PROVISIONS AND MONITORING

The enforcement of legislation is the responsibility of the respective authority as defined by the different laws. Penalties for non-compliance will apply as stipulated. However, as the liable entity for the conservation of the cultural heritage site regarding the international community, the Ministry of Culture and Information offers fora for the coordination of the protection of the testimony of the pearling economy among the different stakeholders. This is realised through coordination within the different subcommittees, which are all involved in taking decisions aimed at the application of the legal provisions. The subcommittees, as well as the Steering Committee, also fulfil a monitoring function with a view to the enforcement of the law.

It is the responsibility of the Site Administration Unit to undertake the overall monitoring of development and activities within the site and its buffer zone and if necessary to urge its partners to perform their obligations.

• see Strategy 1 Administrative Structure and Procedures

3

Stakeholder Involvement

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3 STAKEHOLDER INVOLVEMENT

Objective 3: Involve all stakeholders in the management system of the testimony of the pearling economy.

The complex nature of the heritage site inevitably brings with it a wide range of stakeholders, all with concerns related directly to the management system of the testimony of the pearling economy. The cooperation and input of the concerned institutions, individuals and groups is crucial for the management system's overall success in terms of planning and implementation. To maximise stakeholder involvement, the management system puts into place mechanisms and programmes including community outreach, consultation, and the development of incentives. These measures are also designed to satisfy different stakeholders' needs, and to ensure that any cooperation is of mutual benefit.

3.1 STAKEHOLDERS

The table below lists the different categories of stakeholders, provides an overview of their individual needs, and outlines the action the management system desires them to take.

Stakeholders: needs and desired behaviour

Stakeholder	Stakeholder needs	Desired action
The Crown and its investment arm	<ul style="list-style-type: none"> Return on investment Congruence with royal policy 	<ul style="list-style-type: none"> Funding
Government agencies	<ul style="list-style-type: none"> Involvement in decision making Congruence with national policies 	<ul style="list-style-type: none"> Collaborate in planning and implementing the conservation measures
Private owners of nominated properties (monuments)	<ul style="list-style-type: none"> Rights to develop and sell the property Return on investment Market level rents Information about the conservation measures and decision-making powers 	<ul style="list-style-type: none"> Close cooperation with the site administration for restoring and maintaining the property and giving it an integral function within the heritage site Advise in developing the area Speak on behalf of the site administration Disclose knowledge about the property
Residents in the buffer zone	<ul style="list-style-type: none"> Safe, healthy and attractive living environment Privacy and respect for local customs Local identity Local services Information and consultation about the conservation measures 	<ul style="list-style-type: none"> Acceptance of and cooperation with the conservation efforts Use of the sites facilities Shop in the area Positive relationships with visitors Provide input for developing the area Disclose knowledge about the pearling era/ heritage

Real estate owners in buffer zone	<ul style="list-style-type: none"> ▪ Development rights ▪ Return on investment ▪ Market level rents ▪ Information and consultation about the conservation measures 	<ul style="list-style-type: none"> ▪ Cooperate in urban conservation efforts ▪ Invest in real estate ▪ Adhere to urban regulations and bylaws ▪ Provide input for developing the area ▪ Disclose knowledge of the pearling era/ heritage
Local merchants and service providers	<ul style="list-style-type: none"> ▪ Local market ▪ Increased visitor traffic ▪ Information and consultation about the conservation measures 	<ul style="list-style-type: none"> ▪ Improve product and service offerings ▪ Open new businesses ▪ Production and sale of local crafts and products
Muharraq community groups	<ul style="list-style-type: none"> ▪ Information and consultation about the conservation measures 	<ul style="list-style-type: none"> ▪ Assist in disseminating information ▪ Collaborate with the Site Administration Unit
Tourism industry service providers	<ul style="list-style-type: none"> ▪ Increased visitor traffic ▪ New products ▪ Improved visitor infrastructure 	<ul style="list-style-type: none"> ▪ Develop tours ▪ Promote the testimony of the pearling economy to their target audiences ▪ Assist in promoting the heritage values and in conveying the pearling narrative ▪ Assist in tourist planning
Business community including financial institutions and marketing organisations	<ul style="list-style-type: none"> ▪ Increased visitor traffic ▪ New product ▪ Opportunities to sell their firms and products 	<ul style="list-style-type: none"> ▪ Develop and participate in joint marketing and promotion campaigns ▪ Use the site as part of their marketing campaigns ▪ Short term rentals and leases ▪ Advise, participate and/or fund interventions on the site ▪ Assist in financing of private sector projects on site ▪ Purchase naming rights
Arts, culture, and heritage organisations	<ul style="list-style-type: none"> ▪ Partnerships and collaborations for events and exhibitions 	<ul style="list-style-type: none"> ▪ Collaborate in development and roll out of new exhibits, facilities, programmes and events
Educational institutions	<ul style="list-style-type: none"> ▪ Real-life and demonstrative study opportunities 	<ul style="list-style-type: none"> ▪ Cooperate with the site administration in educational and research projects
Residents of Bahrain	<ul style="list-style-type: none"> ▪ Information about the heritage site ▪ Access to the site ▪ Visitor facilities 	<ul style="list-style-type: none"> ▪ Use of the sites facilities ▪ Volunteer work
Regional and international communities (individuals and organisations)	<ul style="list-style-type: none"> ▪ Information about the heritage site ▪ Access to the site ▪ Visitor facilities 	<ul style="list-style-type: none"> ▪ Visit the site ▪ Support the site administration with consultancy or funding

3.2 INVOLVEMENT IN GOVERNANCE

The management system's administrative structure ensures coordination of all authorities relevant to implementing the management plan and governing the heritage site. The permanent nature of the administrative structure facilitates coordination of the long-term protection, development and maintenance of the site in harmony with other national policies and development plans.

• see Strategy 1 Administrative Structure and Procedures

All concerned parties are represented on the management system's governance entity, the Steering Committee, and are thus involved directly or indirectly in the governance of the site. Theme-specific cooperation takes place within five Subcommittees, which in turn bring together the relevant stakeholders according to their specific concerns. In addition to these arrangements, two councils will be established to represent the owners of the nominated properties and the proprietors of businesses in the buffer zone directly.

3.3 PROGRAMS AND INITIATIVES

An enthusiastic community that participates in conserving the testimony of the pearling economy is critical to the success of the management system. The management system therefore includes various programmes and initiatives to encourage the involvement of the local community and the wider public.

3.3.1 Involving the local community

The character of the heritage site and the types of interventions required give the local community a special role. A sustainable management approach calls for community-based action in conserving the testimony of the pearling economy. Cooperation takes place on a variety of levels with different groups and individuals.

Private owners of the nominated historic buildings

The private owners of the nominated historic buildings are an important stakeholder group from the local community. Only with their cooperation can the properties play an integral role in the protection and transmission of the grand narrative of the pearling economy.

Because of the crucial nature of their involvement, the site administration led individual negotiations with each of the property owners in order to register their building as a monument prior to World Heritage Nomination. In general, owners were encouraged to retain the building as their property and to continue using it, or, where appropriate, to make it accessible for interpretation purposes. In line with the Antiquities Law, all such arrangements are conditional on the owner authorising the Ministry of Culture and Information to carry out the required restoration works. In some cases, the Ministry of Culture and Information had to address the property owner's fear of either losing the title deed or of financial loss through reduced development rights. A formal agreement was therefore reached certifying the owner's right to sell or develop the property in line with the requirements of the heritage conservation policies. In rare cases, however, the owner preferred to sell the property to the Ministry of Culture and Information or an associated third party. These acquisitions are currently underway and will be finalised in 2010.



Property owner at the door of Murad House

The main factors motivating property owners' participation are the celebration of their family legacy and the consequent benefits for the family's public image, a belief in contributing to an initiative that will benefit the local and the national community, and financial incentives. These include the financial and technical resources contributed by the Ministry of Culture and Information to restore and maintain each building, and expected future revenues from increased rents or from the operation of facilities.

Depending on the agreed future use of the property, the level of cooperation in implementing the conservation works and future operation of facilities varies. In cases where the property remains inhabited, cooperation is mainly limited to jointly restoring and maintaining the monument. In other cases, the Site Administration Unit will operate visitor facilities within the property, facilitate the operation of services by a third party, or assist the owners in doing so themselves.

In many cases, cooperation with the property owners has grown beyond aspects related directly to their respective properties. Several owners have volunteered to act as spokespersons for the Ministry of Culture and Information and have also offered advice and support for the overall planning and implementation of conservation efforts and research, including the sharing of information and establishing contacts.

Residents and real estate owners of the buffer zone

The planned creation of new public facilities, the urban upgrading works and the urban development initiatives constitute significant concerns for the residents and real estate owners in the buffer zone. The Site Administration endeavors to involve these stakeholders as much as possible, both to maximise the benefits that flow to them from these interventions, and to avoid the possibility of facing obstacles in their implementation. Among the residents, the management system differentiates between that section of the local community characterised by families and a long history of living in Muharraq, and the short term residential population, consisting mainly of expatriate bachelor labourers who have often moved to the area recently and are likely to leave Muharraq. While the former is considered a key target group and partner, involvement by the latter aims mainly at a frictionless implementation of the management plan.

Community involvement and cooperation is essential to ensuring that the planning and implementation of the interventions respond to local community needs. The management system also seeks to boost private investment while simultaneously ensuring compliance with the site's urban regulations and design guidelines.

With these aims in mind, the Site Administration carried out a PR campaign through the media. The Site Administration also commenced a series of community workshops to introduce the site and the conservation measures. These informed the local community about the management system's objectives, benefits and requirements and encouraged participation in planning and implementation at various levels. The workshops additionally fulfilled a consultative function by gathering feedback from the community and responding to immediate concerns.

The local community's main fears are related to the living environment. They include concerns about the loss of parking spaces and restricted car access, the loss of privacy due to the expected influx of visitors, restrictions in development rights in the case of historic buildings and new construction, as well as "red tape" in this context. The Site Administration has to address and appease these fears.

On the other hand, the benefits of an improved living environment enhanced by expanded public facilities and public infrastructure are evident. Economic incentives include the expected rise in real estate values, and financial and technical assistance from the Ministry of Culture and Information for restoring selected historic buildings in the buffer zone.

Further urban design workshops will accompany the future works and a regular newsletter will keep the community informed about the progress of planning and implementation. It will indicate a contact point established within the Site Administration Unit where questions and suggestions can be raised.



Planning for the local community

Businesses in the urban buffer zone

The proprietors and operators of businesses in the buffer zone are a stakeholder group with its own specific needs and interests.

While this group relies on maintaining the local market and clientele, it can also benefit from the expected increased visitor traffic and the subsequent demand for new products. The Site Administration therefore considers supporting selected businesses, with financial or technical assistance, either to help establish new projects or to support the continuation of existing services. Plans are under consideration to offer loans, for example to establish desired types of businesses, such as the production and sale of local crafts. In the first series of informational and consultative workshops for the local community, the businesses in the buffer zone will be addressed separately from residential stakeholders.

Businesses in the urban buffer zone



Knowledge bearers

• see Strategy 6 Research and Documentation

Knowledge bearers



Knowledge about the pearling heritage and history, crucial for understanding and interpreting the site, lingers in the local community. This makes the local community as a whole and in particular those of advanced age who predominantly bear these oral traditions, important partners in researching and documenting the history of the pearling economy. The management system therefore includes cooperative research activities such as interviews with individuals and groups, public competitions and workshops. Beyond gathering oral traditions, these aim at retrieving historic objects, artefacts and photographs.

Incentives for cooperation

Beyond the incentives offered to the different stakeholders described above, the management system introduces a number of additional inducements designed to encourage wider public participation in the site's conservation.

The management approach is oriented towards achieving voluntary cooperation rather than imposing measures. The Site Administration therefore puts significant effort into communicating the benefits of the initiative and into building on the widespread enthusiasm for the pearling heritage in the local community.

The Site Administration uses indirect methods such as encouraging the public media to communicate the values of the heritage site and the benefits of the conservation efforts, including promoting the heritage assets as part of a trendy local lifestyle that will appeal to private investors.

Other more direct initiatives include invitations to the public to participate in competitions related to the different conservation fields. The competitions can range from research activities to street facade makeovers. The management system also encourages contributions from volunteers in its various intervention fields.

Acknowledging public support for the conservation of the properties is just as important as putting in place the inducements to achieve cooperation. In recognition of this, the Site Administration plans to establish an annual prestigious award for "heritage saviours" who contribute significantly towards the protection of the pearling heritage. The annual award will provide an opportunity to acknowledge and honour individuals such as informants who have assisted greatly in researching the pearling heritage, and many other kinds of other contributions.

3.3.2 Communication channels towards the wider public

The following communication channels are used for keeping contact with the wider public:

- Media coverage in the local and partly international press, TV and radio of news related to the testimony of the pearling economy
- Printed publications including a regular newsletter, flyers, maps, brochures and catalogues, postcards, educational material
- Regular community events and cultural activities
- Contact point in the Site Administration and in the website of the testimony of the pearling economy for comments, complaints, suggestions and questions from visitors and the local community
- Existing outlets of the tourism industry, community centres and clubs, for information spreading

3.3.3 Stakeholder involvement during preparation of the nomination file

The management plan has been produced in cooperation with all key stakeholders. This has ensured appropriate planning and support by all partners.

It was developed within the Subcommittees, or, before their official formation, individually with their future members, and on an individual basis between the Ministry of Culture and Information and members of the local community.

Consultation with several of the private owners of the nominated properties started as early as 2007, during the conceptual phase of the nomination preparation.

Several of the property owners and other volunteers from the local community and universities have also been contributing significant work from an early stage in the process.

General information about the conservation and nomination of the testimony of the pearling economy has been reported on in the media throughout the nomination process. However, site-specific information

concerning the Urban Buffer Zone in most cases had to be treated as confidential until sufficient statutory heritage protection was ensured. As a result, the first informational and consultative workshops concerning the Urban Buffer Zone are planned in early 2010.

Several public competitions and cultural events related to the pearling heritage were directed to the public during the preparation of the nomination file.

- see Strategy 5 Education and Awareness Raising



Article in magazine
Gulf Life November 2009

3.4 NETWORKING

Networking for the planning and implementation of the management plan and the future operation of the site takes place on a local, national and international level.

The planning process has led to the establishment of a network of informants, contact persons and gatekeepers to the local community who cooperate with the Site Administration. This network is yet to be extended, in particular to secure the involvement of more local clubs, community groups and non-governmental organisations.

On the national level, cooperation is sought with various public and private agencies and institutions. This includes establishing long-lasting networks with the educational institutions, academic professionals, arts and cultural organisations and many others.

The national business community is a potential partner in a number of areas. Contacts have been established with national firms from the private economy with the aim of securing future cooperation and sponsorship. In one example, a local telecommunications company has been approached to become a promotion partner; in another, Tamkeen (a semi-autonomous body concerned with increasing the prosperity of Bahraini nationals through job creation and increasing employability) has been identified as a possible partner for various development efforts of the management system.

The Site Administration is also seeking international assistance and expertise in management-related issues including heritage conservation by establishing cooperation with specialist organisations. These efforts will be continued in the future and possibly broadened to UNESCO World Heritage-related institutions. The Site Administration is considering a future twinning scheme with other World Heritage Sites upon inscription to the UNESCO World Heritage List. Potential candidates could include: 'Sewell Mining Town' in Chile; 'Vegaøyan - The Vega Archipelago' in Norway; and the watchmaking towns 'La Chaux-de-Fonds / Le Locle, watchmaking town planning' in Switzerland.

4

Interpretation and Presentation

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4 INTERPRETATION AND PRESENTATION

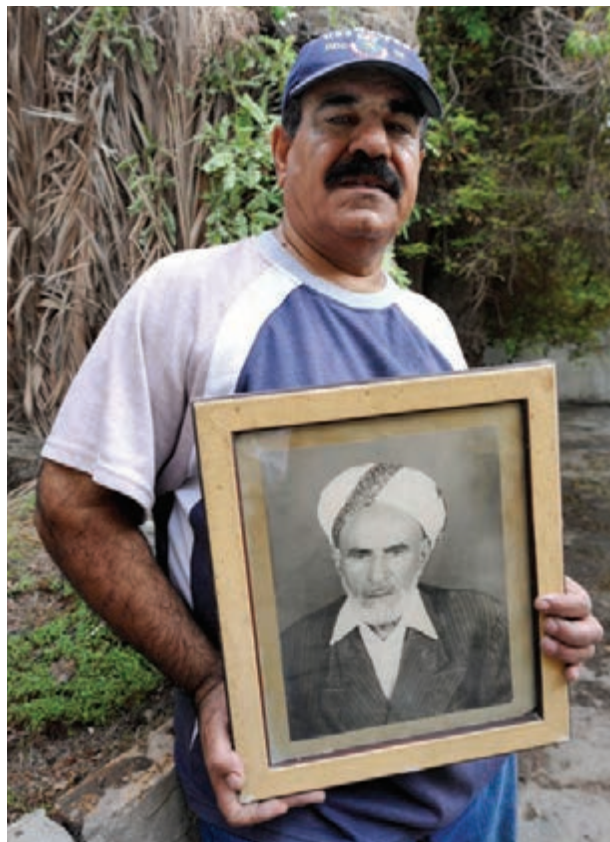
Objective 4: Offer visitors to the serial site and its facilities an enjoyable, entertaining and informative experience.

The value of the heritage site is primarily its quality as testimony of the pearling economy of Bahrain. As such, it provides a foundation for remembering, understanding and explaining the pearling era and the society it shaped. How successful this testimony is in communicating the history and traditions it bears witness to will depend largely on how it is presented and interpreted. For this reason, interpretation and presentation both onsite and offsite play an extremely important role within the management system.

The Interpretation and Presentation Strategy tackles the broad objective of enhancing the heritage site by improving public access physically and intellectually. To this end, the values of the physical evidence, together with other cultural expressions of the pearling heritage, will be communicated to a wide range of audiences in various ways. Content, messages and media will be chosen appropriately and articulated according to the different needs of users of the site, who vary in age, education, physical fitness, interests and cultural background. Please refer to *Strategy 9 Tourism Development and Promotion* for information on target groups. Physical and intellectual access to the site, to the extent possible, will be available equally to all, regardless of physical ability, income or age.

The way the site and the interpretation facilities are presented will be crucial for delivering the desired messages. The management system's clear aim therefore is to strive for interpretation and presentation facilities that are both high quality and varied. This aim also applies to offsite facilities such as publications, promotional material and the heritage site's web page.

• see *Strategy 5 Physical Conservation and Development*



In order to be able to offer visitors an inspiring and informative experience, the site must be equipped and maintained to a level that ensures a comfortable, safe and entertaining visit. Improvements to the physical state of conservation of the properties and their buffer zone and the provision of facilities as listed in this strategy are among the proposed measures.

4.1 ARTICULATION OF THE NARRATIVE

4.1.1 Messages

The objective of the management system's interpretation and presentation strategy is to convey a vivid portrait of Bahrain's pearling era in all its facets and to communicate how the economy shaped the cultural identity of Muharraq and Bahrain. This grand narrative will be told on the basis of authentic built or natural heritage representing the pearling economy and its human system. Each property is representative of one or

A property owner holding the portrait of his grandfather

more key elements within the pearling economy or its associated socio-cultural elements. As a whole, the properties provide visitors with a comprehensive picture of the pearling era in Bahrain. Additionally, documented oral history, documents, artefacts and related ongoing cultural traditions, such as the performance of traditional pearling songs, vividly illustrate the pearling theme. Importantly, the presentation and interpretation strategy aims for authenticity not only by linking the narrative to authentic physical testimony but also wherever possible by presenting original artefacts, authentic film footage of the late pearling era and eyewitness accounts. The interpretation facilities throughout the site will follow a compelling, entertaining and emotive storyline celebrating both the glory pearling brought with it as well as the suffering and hardship it inflicted. While in general the testimony of the pearling economy will be presented sympathetically, this does not mean that the inhuman side of the pearling economy will be denied. Due respect will be paid to those in the pearling economy who endured suffering, and painful memories will be presented alongside stories of success.

By basing the grand narrative on the family histories associated with the individual properties, each of which contributes a core theme, the pearling era can be understood as a shared human experience intimately bound up with the lives of real people. Animated media such as videos, live events and changing exhibitions will also be used to help articulate the narrative in a dynamic manner. Numerous other themes related to the pearling economy, such as trade relations and the cultural exchange implicit in pearling within the region and beyond, also contribute to the narrative. The interpretation facilities will refer to these overarching topics to communicate that the pearling economy was part of a global system with flow-on effects beyond the local society. The narrative will be embedded in the wider historical context of the cultural tradition which dates back to antiquity. In line with UNESCO standards, therefore, the interpretation facilities will promote the local cultural distinctiveness of the pearling economy as well as the global cultural diversity it exemplifies. They will also underscore the cultural interdependencies of humanity's shared heritage, of which the pearling testimony provides a very comprehensive example.

4.1.2 The pearling narrative along the "Pearling Pathway"

The individual properties of the serial site are linked within their buffer zone by an urban pathway (the "Pearling Pathway") which guides visitors through the site. This approach enables a coordinated presentation and interpretation of the different properties within a single heritage. In this way, the urban link becomes an interpretation facility in itself.

The physical appearance and functionality of this link, which consists of streets, lanes and open space of various typologies and features within bustling residential and commercial quarters, thus contributes to the overall



Informant telling about his family history



Artefacts: a diver's stone

The connecting urban
buffer zone, the
“Pearling Pathway”



presentation of the site. A thorough upgrading of the streetscape, of historic buildings in the buffer zone and of public open space will therefore be carried out as outlined in Strategy 5 Physical Development and Conservation and *Chapter 3 Site Analysis and Action Plans (2009-2013)*. The upgrade will include urban interpretation facilities such as references to the location of the historic shoreline, for example in the design of public spaces, and the positioning of interpretation panels in locations which historically had a relationship to the pearling heritage.

The primary focus, however, is the properties themselves. The significance of each property will be explained in an interpretive panel, with text and illustrative material outlining the role the property’s family history played in the pearling economy and its society, and how the property was used. The panels will be located on the facade of each property near its entrance, and so be publicly accessible 24 hours a day. In the case of the oyster beds and of Bū Māhir Seashore which will only be accessible during defined opening hours, interpretive panels will be positioned at the entrance to the seashore property. Most of the architectural properties will be accessible to the public, and together with the interpretation facilities their traditional architecture and living environment will illustrate the daily life and work of the people involved in the pearling economy.

The heritage site does not have to be visited in its entirety on any one occasion; nor does a visit have to commence at any particular point of the “Pearling Pathway”. At the same time, the “Pearling Pathway” offers flexibility, meaning that anyone wanting to follow the narrative chronologically from the collection of pearls to their trade and export can do so, beginning their exploration at Bū Māhir Seashore. Visitor facilities at the

seashore will supplement the ruins of Qal’at Bū Māhir and the scenic natural beach. They will host interpretation facilities describing the ceremonies once held there at the start and close of the pearling season for the arrival and departure of dhows. The management system will occasionally organise the performance of the songs and dances that survive from the pearling era in this location. The interpretation facilities will also refer to the other traditional activities that took place at this location, such as the maintenance of dhows. The facilities will include a jetty for boat excursions to Hayr Shtayyah, and an aquarium for displaying the oyster beds and for providing scientific information about pearl formation and the marine ecosystem.

A pedestrian overpass across the highway north of Bū Māhir Seashore will connect the maritime property with the urban part of the heritage site.

The first property along the “Pearling Pathway” is Al-Ghūs House. This small and simple but attractive building will host a permanent exhibition illustrating the boat crews’ pearl collection activities,

View onto Qal’at Bū Māhir at
Bū Māhir Seashore from a boat



Al-Ghūs House



their life on board the dhows during the pearling season, and also on land during the rest of the year.

En route to the next property, visitors pass by Dar Janaa, a functioning social centre where traditional pearling songs are still performed. The Dar's association with the heritage site helps make this living tradition accessible to visitors.

The second property along the "Pearling Pathway" is Badr Ghulum House and garden which will host a permanent exhibition about a traditional medical consultant whose role was to take care of pearl divers suffering from ailments inflicted by pearl collection. This property evokes both painful and happy memories of diseases and their cure, memory of which remains strong in the local community.

In the neighbouring property, the splendid Al-Jalahma House, the extraordinary life of women during the pearling season will be illustrated in a few of its rooms.

Close by is Al-Alawi House, a property whose interpretation facilities will focus on the role of merchants during the pearling era. It is here that an outlook is given to trade relations with other cities and pearling settlements around the Arabian Gulf. Visitors will also be able to experience the cooling effect of this building's preserved traditional wind tower.

Fakhro House, the next property on the pathway, will host a permanent exhibition about the influential Fakhro family's timber and boat trade as well as an art gallery promoting young Bahraini artists who reinterpret their pearling identity.

Continuing along a commercial street, the visitor arrives at the Murad Complex, where the Majlis will house an exhibition detailing the activities of a local pearl merchant who established the trading link between the boats at sea and the grand merchants in town. The guesthouse within the Murad Residence will offer visitors a chance to experience traditional architecture up close with an overnight stay. Interpretation facilities will explain the traditional life within this building.



Badr Ghulum House



Al-Jalahma House



Al-Alawi House



Fakhro House

Murad Complex



Siyadi Shops in Muharraq Suq



Nūkhidhah House



Siyadi Complex



After passing through a quiet, traditional residential area, visitors will arrive at the bustling commercial heart of Muharraq, where several nominated commercial structures are located. Interpretation facilities positioned alongside those in continued commercial use will illustrate the traditional function of the Siyadi Shops and the three Fakhro Amārāt, one of which will be preserved as a ruin in order to illustrate the disruption of the economy.

Located nearby, the new architectural structure of the Visitor and Experience Centre and its facilities will support the articulation of the history of this formerly busy trading site at the historic seashore within the market area. Within this complex, among other services, a multimedia centre will provide hands-on interactive facilities describing the pearling theme as a whole in its historic and geographic context. A planned public library and archive related to the pearling heritage will add to a better comprehension of the heritage site and will provide tour guides with a valuable resource for providing interpretation.

Continuing the visit through further residential areas and public spaces towards the final stretch of the "Pearling Pathway", the visitor passes by the small Nūkhidhah House, where the profession and life of the pearling dhow's captain will be illustrated.

Last, the visitor arrives at Siyadi Complex, where the impressive architectural ensemble of Residence, *Majlis* (reception hall) and Mosque illustrates the wealth and social status of a grand pearl merchant. While the Residence will remain private to the Siyadi family, who still inhabit the building, the *Majlis* will house a Pearl Museum where the final product of the economy, historic pearl jewellery, will be displayed together with the life and professional activities of this specific pearl merchant and his family. The mosque continues in use and is open to visitors outside prayer times.

4.1.3 Alteration of the “Pearling Pathway”

In the future, physical evidence may be uncovered or contemporary facilities created in Muharraq that relate to the pearling heritage and may be of interest for display in association with the site. With a view to promoting national heritage preservation, the management system encourages the identification and protection of pearling-related testimony such as supply industries or additional, less significant examples of functions represented within the testimony of the pearling economy. Such developments at some point suggest a re-routing of the pathway or the addition of new segments in order to establish a connection to the site. The “Pearling Pathway” has to be seen as a facility rather than a heritage asset, and is not considered as contributing to the Outstanding Universal Value. A re-routing of the pathway would therefore not alter or diminish the Outstanding Universal Value of the site. Nevertheless, the same high standard of presentation described in this section and in this strategy will have to be applied to any new segments of the pathway.

4.2 ACCESSIBILITY

4.2.1 Physical and intellectual access

Accessibility refers to the ability of visitors to enter the site’s properties, and also to the availability of information onsite and offsite.

To maximise physical access, the site administration provides facilities and services for tourists and local residents. Required restoration works will be carried out to allow visitors to be received in the historic properties; the urban upgrading works will tackle issues of pedestrian needs, vehicle access and parking. An access plan and its description will be available on the site’s webpage and in other informational and promotional material.

The offshore location of the oyster beds limits their physical accessibility. The site administration will, however, offer regular boat trips and diving facilities. Future plans also foresee the permanent installation of visitor facilities in the buffer zone within Hayr Shtayyah. Interpretation facilities on land will help to compensate for the limited physical accessibility of the oyster beds.

The urban part of the testimony of the pearling economy is easily accessed. It is located in the most urbanised part of the country and in the vicinity of the national airport. Under the planned extension of the Al Hidd Harbour, cruise ships in the future will be able to anchor directly off Muharraq.

The urban spaces, the “Pearling Pathway”, and most of the heritage site’s properties are accessible to individuals and groups for exploration at their own leisure or in guided tours. Some properties and their exhibitions will be closed for practical and security reasons outside opening hours. Due to safety and conservation issues, certain historic buildings will have limited access in terms of the number of people allowed to enter at any one time. Other properties will not be accessible to the public, or will be only partly accessible, because they are still in use as family homes, or serving other private functions.

Sites accessible during opening hours	Sites accessible during commercial activity	Sites accessible only occasionally
Visitor and Experience Centre ‘Amārat Abdurrahman Fakhro Siyadi Mosque Qal’at Bū Māhir Bū Māhir Interpretive Centre Al-Ghus House Badr Ghulum House Al-Jalahma House Al-Alawi House Fakhro House Murad Majlis Siyadi Majles Nūkhidhah House	Siyadi Shops ‘Amārat Ali Rashid Fakhro (I) Murad House	Oyster beds Siyadi House ‘Amārat Ali Rashid Fakhro (II)

To maximise intellectual access, information about the pearling heritage, its meaning and values, will be disseminated on and offsite. Information and services will also be available at different price ranges and partly free-of-charge in order to minimise the exclusion of people with lower incomes.

4.2.2 Opening hours

All properties and facilities of the site with controlled public access will be open 10 hours a day (approximately 9.00 am – 1.00 pm and 3.00 pm – 9.00 pm), seven days a week. The opening hours take into account the different schedules of the various visitor types and profiles. The heat of the summer months from May to September makes early morning hours attractive for site visits, and late evening hours a prime choice for outdoor events. Opening hours may vary according to seasons and during special holidays such as Ramadan. The site administration must effectively communicate variations in opening hours to all audiences, and ensure that the properties and facilities are accessible as publicised. Feedback from the different audiences will have to be assessed regularly with a view to adjusting opening hours as necessary.

4.2.3 Ticketing

In order to make the pearling heritage accessible to the widest possible audience, a minimal admission fee of 1 BD (corresponds to ca. 3.5 USD) will be charged for a day's ticket admission to all onsite exhibitions. Entry to the public areas and properties hosting commercial functions will be free-of-charge. Additional price-reduction schemes for children, students and families will be available. Entrance for educational purposes for school or university students will also be free-of-charge. Different admission fees will be set on a case-by-case basis for special events. The aim is to offer events at different price levels, and to offer free community events.

Facilities covered by the day-ticket	Facilities free of admission fee
Exhibition in Qal'at Bū Māhir Exhibition in Al-Ghūs House Exhibition in Badr Ghulum House Exhibition in Al-Jalahma House Exhibition in Al-Alawi House Exhibition in Fakhro House Exhibition in Murad Majlis Exhibition in Murad House Pearl Museum in Siyadi Majlis Exhibition in the Nūkhidhah house Exhibition at Bū Māhir Seashore	Retail facilities in Siyadi Shops Retail facilities in 'Amārat Ali Rashid Fakhro (I) Cafeteria in the Visitor and Experience Centre Library/ archive in the Visitor and Experience Centre Café in the Marad House Siyadi Mosque Cafeteria at Bū Māhir Seashore

4.2.4 Accessibility for children

In order to inspire interest in heritage among the younger generations, and in line with the aim to promote family tourism, the site administration will provide interpretation facilities for children and teenagers on site. Both groups will be addressed on the site's webpage, and in other offsite informational material, in particular at the children's experience section of the Visitor and Experience Centre.

Messages and facilities must therefore be adapted to children's needs, with simplified messages, hands-on exhibition items, colourful designs, and storytelling that children can relate to. An example is a display of the

presents, such as sea stars, that pearl divers brought home from the oyster beds for their children at the end of the pearling season.



Colouring book for children
(Ministry of Culture and
Information)



Photo of a sea star from
Hayr Bū'Amāmah

4.2.5 Accessibility for the physically challenged

The management system aims to comply with international standards and UNESCO recommendations in terms of providing access to physically challenged visitors.

As far as possible, barrier-free access to the properties will be made available with the provision of movable ramps for wheelchairs. Access for the physically challenged will be anchored in the urban and architectural design guidelines. Signs will include information in Braille, and be easily accessible to visitors in wheelchairs. The provision of audio guides for the visually impaired could be considered in the future. Tour guides will be trained to assist physically challenged visitors.

4.2.6 Accessibility during implementation

The site administration intends to provide public access to the testimony of the pearling economy as soon as possible. Parts of the site will be open to visitors during the implementation of this management plan, i.e. before finalisation of all physical conservation and development activities. It is intended that the first restored buildings be accessible to the public at least occasionally by late 2010.

4.3 HIGH-QUALITY INTERPRETATION

4.3.1 Types of Interpretation facilities

A wide range of onsite and offsite interpretation facilities can be utilised. Some have a clear educational purpose; others are aimed primarily at promoting the heritage site.

Interpretation facilities include:

- displays in exhibitions (text, graphics, photographs, paintings, drawings, artefacts, models, installations)
- audio-visual facilities (videos, audio-recordings)
- interactive facilities based on computer software (touch screens, personal computers)
- personal contact with tour guides and other personnel
- signage both within the properties and their buffer zone and beyond
- publications (books, reports, brochures, newsletters)
- notices and reports in the media (newspapers, magazines, TV, radio)
- outlets of the tourism industry (tourism information points, travel agencies, tourism commercials)
- the website “Pearling, testimony of an island economy”



Potos from Pearls of Bahrain Exhibition in the Institut du Monde Arabe, Paris

4.3.2 Requirements for interpretation facilities

Any information or explanation about a heritage site is implicitly a subjective interpretation of history. Care will be taken, however, to ensure this interpretation is based on well-researched and accurate information. The documentation of oral history, in particular, implies a subjective and personal recollection of the past. Rather than imposing a single view on visitors, the interpretation facilities will relate the grand narrative of pearling from a number of different perspectives.

In seeking to present a balanced interpretation of the testimony of the pearling economy, careful consideration must also be given to the selection of the objects to be exhibited for illustrational or informational purposes.

In order to provide visitors with a comprehensive understanding of the pearling economy and its society,

• see Strategy 6 Research and Documentation

the whole gamut of related economic, social, cultural and natural aspects must be presented in a way that demonstrates their interconnectedness. The result should be that individual exhibitions within the site demonstrating one aspect of the pearling economy inspire visitors to explore the other themes.

The size of the heritage site presents additional challenges when it comes to communicating the grand narrative of the pearling heritage. Visitors cannot be expected to explore the heritage site in its entirety on any one excursion, and may not start the visit at either of the "Pearling Pathway's" extremities but at any point in between. This means the exhibition at each property must be understandable independently. Each individual theme will be presented in the context of the pearling economy; at the same time, visitors will not want to be faced with excessive repetition. One way to address this issue is to make available, at each property, information including a short overview of the complete narrative. Careful coordination of the content of the separate exhibitions will be required to avoid repetitiveness, over-emphasis of particular themes, and the neglect of certain topics. The content of the outdoor interpretive panels additionally will provide a passer-by with sufficient information to put each property in the context of the pearling economy and to relate one to the other. In cases where the properties are accessible to the public, the interpretive panels will also mention opening hours and information about the exhibitions. Interpretation and information offered through audio-guides, personal tours and off-site facilities, alike the exhibitions, must be coordinated efficiently within the overall interpretation concept.

High-quality interpretation also requires that to the extent possible all information relating to the site be kept up-to-date. The maintenance of the site will necessitate regular reviews and updates of the information provided, and regular workshops and retraining for tour guides. In updating the site's exhibitions, care will also be required to ensure the revised information does not contradict older interpretations still in place: inconsistent information could frustrate visitors; to avoid this situation, all exhibitions may have to be renewed simultaneously.

Matching interpretation to the different audiences being addressed will play an essential role in presenting the pearling testimony successfully. Their individual needs will have to be thoroughly researched when it comes to preparing the interpretative facilities. For example, local and international audiences require a multilingual approach (Arabic and English), and local concepts and expressions related to the pearling testimony will have to be explained for visitors from outside the local community.

Exhibitions and all other informational facilities should be prepared with the input of relevant experts who bring a thorough understanding of the topic at hand as well as the pedagogic skills to advise on how best to present it. Research undertaken during the preparation of the nomination file will provide the basis for the high-quality interpretation required.

• see Strategy 10 Resource Management

• see Strategy 6 Research and Documentation



Pages from a promotional brochure, Pearling, Testimony of an Island Economy (2009)

4.4 HIGH-QUALITY PRESENTATION

High-quality presentation refers to presenting each property and all the interpretative facilities, including the “Pearling Pathway”, in a way that is appealing as well as functional.

To ensure an enjoyable visitor experience, the testimony of the pearling economy and the provided facilities have to be presented in good physical condition. High-quality presentation also requires that visitor facilities and activities not impair the authenticity and integrity of the heritage site. Priority must be given to the safety of both the site and the visitors.

High-quality presentation also refers to an effective coordination of visitor facilities. This involves intelligent visitor management, compatible opening hours and services, and an overall design concept.

4.4.1 Design Principles

A visually consistent presentation throughout the heritage site requires the adoption of basic design principles for all elements with an aesthetic aspect. The aim is an appealing, functional, high-quality design; achieving it will require appropriate planning, the allocation of sufficient financial resources, and the involvement of a professional designer from an early stage of all design related interventions.

The design principles established at the start will have to be adhered to in respect of all physical planning, design and layout work related to the site and its management system. This rule extends to the design aspects of restoring historic buildings, as well as all new construction on the site and its buffer zone. It also applies to the upgrading of the streetscape in the urban buffer zone, the design of public open space, and to street furniture. In general terms, the same principle will apply to all signs, publications and to the website. However, there must also be the flexibility to allow for innovative variations within an overall corporate identity.

All design work will apply the following design principles:

- Only high-quality design is suitable for a heritage site of Outstanding Universal Value.
- Each design will be consistent in its expression and in harmony with its context. The overall aim is a design that is contemporary and sober. New elements introduced alongside original historic structures will be modest in design and not distract from the latter.
- Traditional designs typical to the site shall inspire contemporary interpretations rather than mimetic imitations thereof. Emphasising local characteristics will contribute to creating a distinctive local design, while the repetition of local design themes will help strengthen a recognisable local identity. At the same time, variety and innovativeness shall be strived for.
- High quality design involves the careful choice of materials and an exact and skilful finish of details. Each design should follow a colour concept matched to the specific purpose and harmonious with the wider design context.
- All design must take into account functionality and appropriateness for its specific purpose; objects must be designed to be durable, allow for ease of maintenance and cleaning and minimise the risk of vandalism and theft.
- Environmental friendliness will guide the choice of materials and other design aspects where possible.
- Where relevant, the design will also meet the needs of the physically challenged.

4.4.2 Corporate Design

Using a corporate design is an efficient way to achieve a consistent and appealing presentation of the site and its facilities. It also offers important promotional benefits. The corporate design, which will evolve during the implementation of the management plan, will be applied to all interpretative facilities, to the webpage and publications, and to letterheads. The site’s logo is integral to the corporate design.

• Architectural and urban design guidelines are further specified in Chapter 3, Site Analysis and Action Plans (2009-2013)

4.4.3 Use of the UNESCO and World Heritage Emblems

UNESCO encourages World Heritage Sites to use the UNESCO and World Heritage emblems for promotional purposes. Upon inscription on the World Heritage List, not only will both emblems be used throughout the site to demarcate heritage with Outstanding Universal Value, but also in informational and promotional materials.

Both emblems are internationally protected symbols. The following rules have to be respected: Upon inscription on the World Heritage List, the non-commercial use of the UNESCO emblems is authorised for public bodies and governmentally recognised bodies of the site, as well as entities acting on their behalf. It is not permitted to pass the emblem on to third parties. Commercial use, such as for merchandising, is not permitted. The World Heritage emblem must be used in connection with the UNESCO emblem. The emblems may not be altered or integrated into other emblems.

For further information, refer to the Operational Guidelines for the Implementation of the World Heritage Convention (Unesco, 2008) and the Directives concerning the Use of the Name, Acronym, Logo and Internet domain names of UNESCO (UNESCO, 2007) available on the official website of UNESCO.

4.5 FACILITIES AND SERVICES

Successful interpretation and presentation of the testimony of the pearling economy requires additional facilities and services to receive, host and guide visitors of all categories. For the benefit of the local community, the site's facilities will be available, affordable and accessible to local residents and local visitors to the site, and will consider their needs.

• Please refer to Strategy 9 Tourism Development and Promotion for more information on site and visitor management.

Signage

Different types of signage play an important role throughout the heritage site. In order to address all target groups, signage will be bilingual (Arabic and English) as required by the content. The needs of the physically challenged will be addressed by mounting signs at a height suitable for wheelchair users, and by the inclusion of Braille in both languages.

In addition to interpretive signage inside and outside the properties in the form of signs, plaques and information boards, directional signage for orientation is required. Signs along the "Pearling Pathway", both at the properties and beyond their buffer zone, will guide visitors to and within the site. Depending on the location, directional signs will need to be geared to the needs of pedestrians or vehicular traffic. In addition, regulatory signage will bring rules and risks to the attention of visitors. Signage must not physically or visually compromise the heritage assets.

The site administration will provide guidelines for the design and mounting of signs within the heritage site in order to ensure a consistent visual appearance that is aesthetically pleasing and can be easily recognised and identified. Guidelines will also include provisions to ensure functionality and to avoid damage to the heritage assets.

Guided tours

Regular excursions to the oyster beds will be organised. For the land part, guided walking tours will be offered to visitors who do not wish to explore the site independently.

Different tours will be designed to address the various interests and needs of different visitors, for instance tours for school classes versus tours for senior traveller groups. New, thematic tours will be offered regularly to maintain the local and regional population's interest in the site.

Tour guides must be adequately trained and their performance assessed to promote customer satisfaction. Courses will be offered by the site administration; the certificate awarded on completion will be required for employment as a site guide.

Audio-guides

Visitors will be able to rent audio-guides throughout the site. GPS operated audio-visual devices also offer a possible aid to both enrich the site interpretation through visual material and interactive features, and for

navigating the heritage site.

The possibility of collaborating with a local telecommunication company to offer audio information through visitors' personal mobile phones is being explored. This would allow visitors and passersby to obtain information about the properties regardless of their opening hours by phoning free-of-charge telephone numbers advertised on the site's exterior signage.

Printed informational material

Maps, leaflets and brochures about the testimony of the pearling economy will be available throughout the site and in outlets outside of the site with the multiple aims of providing information, inspiring interest and assisting orientation.

Sanitary facilities

Each of the publicly accessible properties will be equipped with at least one sanitary facility. The site's newly constructed visitor facilities will comply with national regulations in terms of the number of facilities provided.

The need for the installation of public toilets in newly designed public spaces in the urban buffer zone will be explored. It is noted that the various mosques in the neighbourhood each have a public sanitary facility that may be available to site visitors.

Urban streetscape facilities

The site administration will provide various streetscape facilities in the surrounding of the properties and in the urban buffer zone. These will include signage, lighting, shading, seating at regular intervals, public open and green space, and waste bins.

Catering Facilities

Although the cultural heritage site focuses on offering educational services, visitors must be provided with catering, especially in view of the size of the serial site and the amount of time it will be possible to spend exploring it. Cafes and restaurants can moreover offer an incentive for local and regional visitors to visit the site repeatedly, and thus can help increase public appreciation of the heritage.

The numerous gastronomic facilities currently on offer in the neighbourhoods of the heritage site are mostly very simple in character. The site administration will broaden the range available by operating various food outlets on site. These should cater for visitors with varying incomes and expectations. The site management will also support the establishment of new businesses in key locations.

Cold stores selling drinks are located throughout the urban buffer zone. However, the hot local climate means that bottled water and other drinks should be offered free of charge or for sale at regular points throughout the site.



Map of the testimony of the pearling economy and the "Pearling Pathway" in Muharraq (2009)

Accommodation on site

Bahrain has a wide range of hotels for tourists to choose from, most of which are conveniently located in Manama. A boutique hotel is currently under planning in Muharraq in vicinity of the testimony of the pearling economy. Additionally, the site administration will facilitate the operation of at least one guest house within a property on site in order to offer visitors the chance to experience the historic architecture more closely, and to encourage them to spend more time on the site.

Retail facilities

The management system will facilitate the production and sale of souvenir items related to the pearling heritage to satisfy visitor expectations and to increase the economic benefit to the local community. The site's accessible properties will serve as outlets for small items such as postcards, pearling-related toys, children's colouring books etc. Specialised shops in the traditional market area will produce and sell jewellery items in their authentic locations. Publications about the heritage site and pearling-related topics will be for sale in art, book or souvenir shops.

The management system aims to secure local production and the use of environmentally sustainable material for the manufacture of souvenir items.

Mosques

Mosques are located at regular intervals within or in the direct vicinity of the heritage site. They should be signposted in view of the needs of local and regional visitors for ablution and prayer facilities.

Shuttle services

The site administration will offer several shuttle services to accommodate different visitor profiles.

A boat shuttle to and from the site will be provided between Bū Māhir Seashore and other important heritage sites, possibly including the Bahrain National Museum in Manama, where parking is available for cars and buses. An additional regular boat shuttle to Hayr Shtayyah will be established once visitor facilities at that destination have been completed. In the meantime, shuttle services to the oyster beds will be available as part of organised excursions.

Within the heritage site, shuttle buses or electro vehicles will establish regular links between the key access areas and the site's properties. Additionally, Segways could possibly be rented to individual visitors for more convenient personal site exploration.

Visitor and Experience Centre

A central, easily accessible Visitor and Experience Centre will offer a wide range of services. Located amid the urban properties, with good access as a drop-off point for buses and other vehicles, the centre will be designed to receive large groups of visitors who can then be distributed in smaller groups throughout the site.

• see Chapter 3 Site Analysis and Action Plans (2009-2013) for details about the Visitor and Experience Centre

Pearling Heritage Archive and Library

The management system envisages making documents and publications about the testimony of the pearling economy and the pearling heritage available to the public by operating a public archive and library within the Visitor and Experience Centre.

• see Strategy 7 Education and Awareness Raising for details

Special events

Special events related to the pearling heritage will be organised on site at regular intervals in order to maintain its appeal. Several venues within the site will be designed and equipped for this purpose.

Visitor feedback facilities

The Visitor and Experience Centre will operate a contact point where visitors, including those from the local community, can articulate comments, complaints and suggestions, and receive answers to questions related to the site in person, by telephone or via mail or email. The same entity will also operate a contact point for the same purpose on the site's web page.

Site webpage

The website “Pearling, testimony of an island economy” will make the pearling heritage accessible to those who cannot physically visit the site. For those planning a visit, however, the website will also provide information such as opening hours, location, entry fees and directions.

4.6 MANAGEMENT OF FACILITIES AND SERVICES

4.6.1 Management authority

The entity responsible for developing or facilitating the development and maintenance of the presentation and interpretation facilities of the testimony of the pearling economy is the Site Administration Unit within the Ministry of Culture and Information. It seeks advice from specialist experts in this field, such as designers and museum pedagogues. Whenever the work is outsourced or developed by partners, the Site Administration Unit is responsible for ensuring that the objectives of the *Interpretation and Presentation Strategy* are met, and in particular that the provided facilities and services do not harm the heritage assets, compromise their appearance, or in any other way negatively affect the site. The unit is also responsible for the maintenance of the site’s facilities and for monitoring their suitability and functionality.

4.6.2 Maintenance of facilities and services

Cleanliness and good physical condition of the site and its facilities are crucial for positive visitor perceptions of the site.

Cleanliness

Cleanliness of the site requires adequate waste disposal facilities and an efficient removal system, as well as cleaning services both indoors and outdoors throughout the site and its buffer zone.

Awareness raising among locals and visitors regarding littering and other harmful behaviours towards the fragile heritage assets can minimise damage and costs. Measures include regulatory signage, training of onsite personnel in communicating these concerns, and possibly fines for violations of clearly communicated rules.

Physical condition and content of interpretation facilities

Facilities and services, including interpretation equipment, have to be regularly updated and adjusted to meet new circumstances and new information. Wear and tear caused by visitors has to be monitored, and traces removed immediately.

Customer care

Pleasant personal contact with the site personnel is indispensable for a positive visitor experience. All frontline personnel and guides will therefore be trained and certified by the site administration.

4.6.3 Monitoring and evaluation of facilities and services

The Site Administration Unit has to continuously observe and evaluate the services and facilities in order to ensure they are functioning appropriately, and in line with the needs of the site and its users. This will require site managers and site personnel to remain alert in observing visitor behaviour and the condition of the site and its facilities. It will also require the site management to carry out regular site inspections and to analyse all relevant data. A precondition is the documentation and efficient filing of sufficient visitor information, including of entrance tickets sold and information gathered in guest books provided and clearly indicated at each of the properties.

5

Physical Conservation and Development

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5 PHYSICAL CONSERVATION AND DEVELOPMENT

OBJECTIVE 5: Improve the physical condition and visual appearance of the serial site and its buffer zone.

The *Physical Conservation and Development Strategy* provides background information and introduces the overall approach and tools in the field of heritage conservation and development. It addresses the nominated oyster beds and the Bū Māhir Seashore (natural heritage conservation), the historic architectural structures both onsite and in the buffer zone (architectural conservation), and the direct and wider urban setting of the pearling testimony (urban development and spatial planning).

The aim driving the *Physical Conservation and Development Strategy* is the physical preservation of the testimony of the pearling economy. However, in its conception it also takes into account the other strategic objectives outlined in the Management Plan and the narrative elements embodied in the physical evidence.

The strategy focuses on the environmental protection of the marine and natural properties and the restoration and maintenance of the architectural properties. However, as the site's purpose is to articulate the grand narrative of pearling, the conservation efforts are also designed to enhance the aesthetic condition and functionality of the heritage site and the connecting urban buffer zone. The management system additionally foresees built visitor facilities in the properties and in the buffer zone to enhance access for site visits.

5.1 NATURAL HERITAGE CONSERVATION

The major targets of the management system's natural heritage conservation endeavors are the three oyster beds. However, the Bū Māhir Seashore property also has a natural component, a natural beach and adjacent coastal waters, which requires minor conservation.

5.1.1 Maritime heritage conservation: the oyster beds

The outstanding quality and abundance of Bahrain's pearls explains why it was renowned for its pearling activities for millennia, and why Muharraq became the region's pearling centre in the 19th and early 20th centuries. The pearl banks north of Bahrain in particular were famous for their abundance of pearls of outstanding quality. Consequently, these oyster beds were the most popular and the ones most frequented by the pearling fleets which came not only from Bahrain but also from neighbouring populated areas, as traditionally the Arabian Gulf's oyster beds were considered the common property of its coastal residents. Predominantly, however, they were the resource underpinning Bahrain's, and therefore Muharraq's, pearling society.

The three nominated oyster beds in the national waters north of Bahrain comprehensively and authentically represent the natural resource on which the pearling economy and its human system were based. Hayr Bū 'Amāmah represents the highest ratio of pearls per oyster, Hayr Bū-l-Thāmah is known to have produced particularly large pearls of the highest quality, while Hayr Shtayyah was the most frequented of all the Bahraini oyster beds. The three nominated pearl banks furthermore are located at depths ranging from the lowest to highest associated with Bahraini oyster beds. And all three have narrative elements related to the diving activities that traditionally took place here during the annual pearl collecting season. These include pearling songs, stories and other memories associated with pearl diving, its risks, and the equipment used.

The focus of the maritime heritage conservation is therefore the protection of this valuable testimony and natural resource while improving its physical and intellectual accessibility.

• For a detailed description of each of the three nominated oyster beds, their attributes of Outstanding Universal Value and their associated narrative elements please refer to the Nomination File, Description of Maritime properties: Oyster Beds and to Chapter 3 Site Analysis and Action Plans of the Management Plan.

5.1.2 Environmental background information for the conservation of oyster beds

OYSTER BEDS: The oyster bed (Arabic *hayr*, plural *hayrāt*) refers to an underwater area of solid substrata to which oysters attach, forming an oyster bed or pearl bank. Apart from oysters, fish, echinoderms, molluscs, corals and sponges inhabit these underwater areas. The water depth of the Bahraini oyster beds typically varies between approximately 10 to 20 metres. Depths of more than 20 metres are quite rare. The average water temperature in the oyster beds ranges from a minimum of 15°C in January, to roughly 30°C in August. Underwater visibility depends on the occurrence of particles called silt in the water. These particles result from water movement caused by currents, marine life or human activity. Vertical visibility, above the water's surface, is slightly higher than horizontal visibility, measured underwater close to the seabed. The latter generally averages around 10 metres on days with calm weather conditions.

THE PEARL OYSTER (*Pinctada radiata*): The Arabian Gulf's most common oyster species is the pearl oyster, *Pinctada radiata*, a member of the bivalve family Pteriidae, sometimes referred to as *Pinctada vulgaris*. The local Arabic term for *Pinctada radiata* is *Maḥḥārāh* (plural *Maḥḥār*). It lives in underwater habitats ranging from very shallow waters to depths of more than 20 metres. The oyster attaches itself to the hard substrata by robust threads called byssus. The substrata is most commonly stone, coral or shell conglomerate, but can also consist of other solid material such as shipwrecks. The strong interior shell is composed of shiny layers of nacre, known as mother of pearl. The shell consists of two valves that protect the soft body. The shells generally range in size from 30-65 mm. Some, however, some grow considerably larger. The pearl oyster is a filter feeder bivalve, meaning that it feeds on plankton and other particles it filters from the water. The *Pinctada radiata* appear very flexible with regard to the salinity of the seawater, which in the nominated oyster beds ranges around 43 ppt (parts per thousands). The species appears similarly untroubled by the rise in water temperature experienced in the Arabian Gulf, estimated at 1.5 degrees C° since 1900 (Al-Khuzai, Jameel, et al., 2009). The *Pinctada radiata* live for up to eight years. Gender is separated and spawning takes place all year round in Bahrain with two distinct peaks in a year: one in the summer (August to September), and a second in autumn (November to December). The swimming planktonic larvae may be carried away by waves and water currents and take around 3 weeks to settle on a suitable surface. This is typically the hard substrata of the oyster beds, but can also be the shells of adult oysters. Young oysters of less than 25 mm in size are called spat. Spat that have attached themselves to seagrass and algae of shallow waters are often carried to a final habitat, such as the oyster beds, once the seagrass blades and stems die off.

The natural enemies of *Pinctada radiata* in the waters of the Arabian Gulf are: rays, file fish, boring gastropod, boring sponge, boring worms, starfish, crabs and cuttlefish. A process referred to as fouling, is the settlement of marine organisms - such as algae, sponges, tube worms and bryozoans - that grow on the oyster shells. Normally, fouling organisms do not harm the oyster, unless they secrete corrosive chemicals or drill into its shell. A process that may be associated with pearl formation. Pearls are formed by secretory cells of the oyster's soft body which also produce the shell. This phenomenon is commonly described as a natural defence mechanism which the oyster adopts when it is invaded by either a parasite or a substance that might damage the soft tissue. The intruder



Inner organs of *Pinctada radiata*



Fouling on the oysters' shells

• For further information on the process of pearl formation please refer to the Nomination File, Maritime properties: Oyster Beds, Pearl formation in the oyster.

• see Nomination File, Maritime properties: Oyster Beds

• refer to the Nomination File, Description of Maritime properties: Oyster Beds and Chapter 3 of the Management Plan: Site Analysis and Action Plans (2009-2013) for details

• see Strategy 6 Research and Documentation

• For a description of each oyster bed and its state of conservation, please refer to Chapter 3 Site Analysis and Action Plans (2009-2013).

• see Chapter 3 Site Analysis and Action Plans (2009-2013)

• see risk preparedness, below

• see Strategy 8 Support for Cultural Traditions

• see 5.1.7 Monitoring of oyster beds, below

is thereupon covered with fine layers of nacre over several years. The origination of the defence mechanism however remains somewhat disputed as a recent theory questions whether an intruding element is necessary for the formation of a pearl.

Pearl oysters have been collected since ancient times for the pearls they produce. Mother-of-pearl from the oyster shells was, and still is, used in decorations of all kinds. Some types of oysters are highly prized as food, both raw and cooked. The flesh of Bahrain's oysters is not usually eaten.

5.1.3 State of conservation of the three oyster beds

Historical records and literature testify that Bahrain's oyster beds produced the highest density of oysters, the highest ratio of pearls to oysters, and pearls of the highest quality.

All three oyster beds are well preserved in terms of their environmental condition and oyster population. A comprehensive field survey of Bahrain's oyster beds by the Bahrain Centre for Studies and Research (BCSR), carried out from 1986 to 1989, recorded the pearl productivity of various oyster beds, including those nominated (Nayar & al-Rumaidh, 1993). Because the oyster beds are no longer commercially exploited, their current state of conservation in terms of pearl production cannot be defined with exactitude. Future pearl collection will contribute to providing reliable quantitative data on the pearl productivity of the nominated oyster beds. Previous surveys have found no significant evidence of change compared to historic accounts. The survey conducted in November, 2008 in the preparation of this nomination for example, discovered no sign of deterioration, and confirmed that the ecosystems of the three oyster beds remain intact.

5.1.4 Conservation policy for the oyster beds

The maritime heritage conservation strategy aims to maintain both the environmental conditions that foster oyster and pearl growth and the balance of the oyster beds' ecosystems to avoid disproportionate risks to the oyster population, including from natural enemies. Additional environmental research required into the relevant biological processes is described in *Strategy 6 Research and Documentation*. Understanding these processes is a precondition for effective future protection measures and for fine-tuned monitoring of the state of conservation, particularly in terms of protecting the attributes of Outstanding Universal Value. In this context, continuation of the properties' pearl productivity is crucial. Although the oyster beds' state of conservation appears not to have altered, records of the pearling era show that their pearl productivity is subject to seasonal change due to natural processes, and varies from year to year. Thus when monitoring the state of conservation of the oyster beds, the management system's aim is long-term continuity of pearl production, rather than precise continuity in terms of yield in each monitoring cycle.

The conservation strategy secondly, but no less importantly, involves protecting the oyster beds and oyster population from existing or potential threats to their environmental condition, in particular from those induced by human activity. This requires the enforcement of existing legislation and the adoption of additional legal protection to ensure the conservation of the oyster beds and at the same time allow for their sustainable use. The main value of the maritime properties is cultural and exists in their status as natural resources for the pearling economy. Sustainable oyster collection in the oyster beds will therefore be encouraged and the cultural tradition made accessible to the public through sustainable marine tourism activities. The oyster beds are additionally an important resource for the local fisheries. The legal protection of the oyster beds must therefore be tailored towards the protection and incorporation of traditional fishing, sustainable pearl oyster collection, and marine tourism. To this end, the management system incorporates the designation of the oyster beds as marine protected areas and regulations and for all activities allowed within the oyster beds and their buffer zones.

In order to ensure the strict enforcement of existing and future legislation, an adequate monitoring and patrolling system must be developed.

Finally, enhanced public accessibility of the maritime heritage requires additional conservation measures. Access to the oyster beds is limited naturally by their offshore location. This will be addressed in the first instance through on-shore interpretation related to the maritime heritage. Visitor facilities created within the land part of the testimony of the pearling economy will interpret the oyster beds and associated pearling

activities. To this end, the management system undertakes further historical and anthropological research into the related narrative elements, such as life on board the dhows during the pearling season, traditional knowledge encapsulated within pearling songs, and other, particularly oral, traditions informing about pearl diving. Interpretation and presentation facilities will emphasise awareness raising regarding the need for environmental protection. In the longer term, the management system foresees improving the oyster beds' physical accessibility by providing regular boat excursions for visitors in cooperation with the tourism industry. Excursions will be coupled partly with pearl diving and oyster collection activities, which the management system supports. Both remedies aim to improve access to the oyster beds and the maritime heritage, but they also serve other purposes: significantly, there is some evidence that oyster collection is beneficial for the state of conservation of the oyster beds and their pearl productivity. As was mentioned above, oyster collection on a wider scale will also allow for quantitative studies of pearl productivity. Installation of permanent facilities to support these activities and to facilitate research, monitoring and patrolling is planned within the marine site.

These planned facilities and activities require appropriate environmental impact assessment. Research into the marine heritage fulfills this important function and accompanies the planning of any facilities within the oyster beds, particularly the future development of all permanent installations. Furthermore, the actual environmental impact of all activities and facilities must be monitored and assessed once they are in place.

Planning for the conservation of the oyster beds, their nomination for World Heritage listing and the development of visitor facilities is currently coordinated by the Ministry of Culture and Information, Sector for Culture and National Heritage, under the lead of the Ministry's environmental advisor. However, the process relies strongly on the cooperation of the main stakeholders. This has been provided for through bilateral meetings initiated by the Ministry and will be formalised through establishment of the Subcommittee for Marine Heritage. The conservation of the nominated oyster beds within the management system for the pearling testimony is coordinated at this level, as well as within the Steering Committee. While the Ministry of Culture and Information is the liable authority for the protection of the pearling testimony towards the World Heritage Convention (1972), the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) is the authority responsible nationally for the protection of marine resources.

5.1.5 Factors affecting the oyster beds

The management system provides both for minimising risks from known threats as described below, and for continuous research to detect any previously unidentified or new threats.

TRAWL FISHING: This fishing method collects fish (and other marine life in their vicinity) by dragging a net close to the seabed. Trawl fishing has been proven to damage fish stocks and the natural marine habitat. It also causes significant damage to the oyster beds. The use of this fishing method has been prohibited in Bahrain's oyster beds for more than two decades under the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) Ministerial Order No. (10) of 1986. The monitoring and patrolling scheme of the management system provides for strict enforcement of this law to prevent future violations. The management system additionally foresees the development and enforcement of regulations for sustainable fishing in the properties and their buffer zones, defining for example the kinds of traditional fishing gear allowed and the number of dhows permitted.

GAS AND OIL EXPLORATION: Oil and gas exploration will not be permitted within the nominated properties. It is expected, however, that gas and oil exploration and production will occur in Bahraini territorial waters in their vicinity, and, under strict monitoring, within their buffer zone. The Kingdom's territorial waters are divided into five administrative blocks. The nominated oyster beds are located in Block 1, where strict guidelines for the environmental soundness of exploration techniques apply.

However, in order to provide for legally



• refer to Chapter 3 Site Analysis and Action Plans (2009-2013) for more information

• refer to Strategy 1 Administrative Structure and Procedures

• see Chapter 1 Site Description, Objectives and Assessment, 6.4.1 Threats to oyster beds

• see 5.1.7 Monitoring the oyster beds, below

• Please refer to the Exploration and Production Sharing Agreement between the National Oil and Gas Authority and Occidental of Bahrain (offshore), LLC in respect of Offshore Bahrain, Block 1, July 2008, Article 1, Health, safety and environmental compliance; Appendix G: Environmental standards and practices and safety guidelines (Contained in annexed CD)

Abandoned fishing gear

binding stipulations that ensure any gas and oil exploration in the oyster beds' buffer zone or in their vicinity is carried out in accordance with international standards, the management system initiates the development of regulations for these activities under the umbrella of the statutory protection of the oyster beds. In coordination with the Bahrain Petroleum Company (BAPCO), a Memorandum of Understanding has been signed with the Nation Oil and Gas Authority (NOGA) confirming the continuation of cooperation with the Ministry of Culture and Information towards this aim.

DREDGING FOR SAND: A major potential threat to the oyster beds is silt sedimentation. Silt accumulated on the seabed prevents oysters from filtering the water and thus from nourishing themselves; it also prevents young oysters from attaching to the hard substrata. Silt swirls up in significant amounts when the seabed is dredged for the sand used in land reclamation and construction projects. Although this is a common practice both throughout the Arabian Gulf and in Bahraini territorial waters, no dredging is planned in the vicinity of the oyster beds. To prevent damage by future dredging activities, a shared buffer zone has been defined for the three oyster beds in which dredging will be prohibited as part of the statutory protection. The patrolling system will strictly observe that no violations occur. Sediment accumulation due to dredging has been identified and recorded both nationally and internationally for many years (Hitchcock & Bell, 2004; Smith, et al, 2008). Technical reports indicate that the impact of the dredging and the plume (travel of sediment in a water column) is normally limited to few hundred metres. However, fine sediment may travel further. Accordingly, a buffer zone extending over 5km from the property's boundary has been established to minimise the potential future impact of dredging.

UNCONTROLLED PEARL DIVING AND OYSTER COLLECTING: The lack of regulations governing oyster extraction during the pearling era in the past led to instances of the pearling fleet overexploiting the oyster resources of Bahrain's pearl banks. One example of this was recorded in 1910. The oyster beds have not been exploited in recent decades. However, the management system's envisaged future reactivation of pearl diving activities, together with the possibility of new pearl collection initiatives by other actors from the public or private sectors, means regulation is now crucial to ensure these activities are sustainable and do not overexploit, deplete or destroy the oyster beds. The management system therefore foresees the elaboration of pearl collection regulations and their enforcement under the umbrella of the statutory protection of the oyster beds. These may define the number and size of oysters that may be collected annually, the seasonality of oyster collection, and possibly a rotational system of locations for collection. A strict management system will be developed under the umbrella of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) if future pearl diving activities reach a significant scale.

TOURISM: Similarly to the planned pearl diving activities and partly related to these, future tourism activities in the oyster beds initiated by the Ministry of Culture and Information and/or the tourism industry must be regulated and monitored. The statutory protection of the nominated oyster beds will include provisions to ensure that tourist activities do not harm the ecosystems through littering, pollution from discharge of visitor facilities and boats, or physical damage during the installation of facilities. Secondly, to protect visitors, strict security standards will be defined for the safety of participants in boat excursions, pearl diving, and all activities within the permanent marine visitor facilities.

5.1.6 Risk preparedness for the oyster beds

OIL POLLUTION AND OIL SPILLS: The oyster beds are prone to the risk of oil pollution and oil spills. Numerous oil spills have been recorded in the Arabian Gulf, including Bahrain, in the past half century. Although no impact on the oyster beds from these spills has been testified, oil pollution poses a continuous potential threat to the pearl banks. Preventive and emergency schemes in place for responding to oil pollution events are as follows:

The Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) is the responsible agency in lead of formulating and administering the national policy to control pollution with oil or other hazardous and noxious substances. In case of such incident, the President of the Public Commission for the Protection of Marine Resources, Environment and Wildlife will activate the National Oil and Hazardous Spill Contingency Plan (SEACOR, 2009). Subsequently the National Incident Command System directs the allocation of resources from the government controlled agency responsible on the local level to assist in surveillance, protection, or cleanup activities. In the case of the three nominated oyster beds, the actor on the local level is the Bahrain Petroleum Company (BAPCO) and any appointed oil and gas exploring company. The BAPCO Oil Spill Contingency Plan (BAPCO, 2005) contains procedures for a rapid response in close cooperation with related

private sector and national government agencies, including the Bahrain Coast Guard (Ministry of Interior) and the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

In addition to this national readiness, regional cooperation has also been established to handle oil spills. In 1972, BAPCO and other national oil companies operating in the Gulf initiated a cooperative mechanism to improve their capacity to combat oil pollution in the marine environment, resulting in the establishment of the Gulf Area Oil Companies Mutual Aid Organisation (GAOCMAO). This organisation plays a significant role in the response to major oil spills throughout the Gulf region.

Governments of the region became more actively involved in 1979 with the promulgation and ratification of the Kuwait Convention for the Protection of the Marine Environment. The formal establishment, in 1982, of the Marine Emergency Mutual Aid Centre (MEMAC) for the Bahrain region was designed to provide governments of the Gulf region with assistance in coordinating and controlling responses to major oil spills.

The main responsible body to be contacted in case of oil spills is the Bahrain Petroleum Company (BAPCO).

• an extract of the BAPCO Oil Spill Contingency Plan is contained in the annexed CD

• see also Chapter 3, Site Analysis and Action Plans (2009-2013), Risk Preparedness Plan

5.1.7 Monitoring the oyster beds

The administrative structure of the pearling testimony provides for the monitoring of the conservation measures and planned activities related to the oyster beds through the Subcommittee for Marine Heritage. The subcommittee reports to the Steering Committee and involves the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

The management system provides for regular patrolling of the oyster beds to ensure no unlawful or harmful activities are taking place within them or their buffer zones. Patrolling will be provided by the site administration in cooperation with the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW), particularly the Directorate of Fisheries within the General Directorate for the Protection of Marine Resources as well as the Bahrain Coast Guard of the Ministry of Interior. The installation of permanent visitor and research facilities in the marine part of the heritage site in the future will result in a significant upgrading of the patrolling and monitoring of the oyster beds. This is because while the planned marine tourism and pearl diving activities are subject to supervision, the activities themselves will also contribute to monitoring of the oyster beds by increasing frequentation of the maritime properties.

Long term monitoring of the three maritime properties' state of conservation will be planned carefully and

• see Strategy 1 Administrative Structure and Procedures



Traditional fishing
in Hayr Shtayyah

• see also Chapter 3, Site Analysis and Action Plans (2009-2013), Monitoring Indicator Table and the Nomination File, 6 Monitoring

conducted with the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW). The three nominated sites will be surveyed and monitored regularly as part of their long term management. Based on further research and surveys, sites for permanent monitoring stations will be identified and demarked in suitable areas in the properties and their buffer zone. Various parameters, as listed in *Strategy 6 Research and Documentation*, will be examined and assessed on a biannual basis (once in summer and once in winter).

Initial surveys will complete the baseline data required for the monitoring programme, and will include updating information about the pearl production of each nominated oyster bed. The General Directorate for the Protection of Marine Resources will make available its facilities for this purpose, including a research vessel, a skipper and divers. A research team will be developed to supervise and conduct the monitoring programme under the supervision of the Subcommittee for Marine Heritage. The team will include representatives of the different stakeholders, researchers and permanent personnel, and will report to the General Directorate for the Protection of Marine Resources and the Subcommittee for Marine Heritage.

5.1.8 Conservation of the natural component of Bū Māhir Seashore property

The seashore property's core value exists both in its status as the connecting element between the urban and the maritime properties, and in its authentic representation of the coastal locations where specific pearling-related activities took place.

The main conservation endeavours are therefore as follows: maintaining and enhancing the waterway link to the marine parts and pedestrian access to the urban parts; preserving the property's physical features; and providing interpretation and presentation facilities that communicate the values of the property. The Ministry of Culture and Information is the entity that initiates the installation of required facilities and is responsible for ensuring these are as modest as possible and do not negatively impact the Outstanding Universal Value of the property. They should therefore not compromise the views from the property to the sea (and vice versa).

The site administration monitors all developments taking place in the buffer zone and beyond, such as land reclamation projects, with the same aim. The Subcommittee for Bū Māhir Seashore contributes to this monitoring endeavour and also serves as a forum for raising and resolving related concerns. Environmental conservation activities related to the natural assets carried out within the management system involve the conservation of vegetation on the property. Otherwise, they are limited mainly to physical maintenance of the seashore and beach. The protection of marine life at the property is to be viewed in the context of the overall protection of the wider coastal waters, a matter beyond the scope of the management system of the pearling testimony. However, it is important that the relevant authority, the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW), is represented on the concerned subcommittee, in order to coordinate whenever necessary.

• For a detailed description of the property and its values please refer to the Nomination File, Description of Seashore property and to Chapter 3 of the Management Plan.

5.1.9 Factors affecting Bū Māhir Seashore

The following factors have been identified as having a potential impact on the Bū Māhir Seashore and are addressed by the management system as follows.

ILLEGAL ACTIVITIES: Illegal activities that would pollute the seashore, such as drainage or dumping of waste and vandalism, are unlikely to happen due to the restricted accessibility of the property and the continuous supervision of the area by the adjacent Coast Guard Base. The management system provides for additional surveillance of the property with a CCTV system and site personnel.

DEVELOPMENT PRESSURES: Developments such as land reclamation in the adjacent water bay to the south or the extension of Muharraq Harbour to the west, might impact the seashore property. The potential impacts are reduced to a minimum by restricting developments in the seashore's buffer zone. In addition, the site administration monitors all planned developments and brings potential conflicts to the attention of all concerned authorities, which are member of the Subcommittee for Bū Māhir Seashore.

TOURISM: The planned tourism facilities and services at Bū Māhir Seashore might impact the property unless

appropriately managed. During the construction and installation of visitor facilities, particularly the jetty for boat shuttles, factors that might impact the physical or environmental condition of the seashore have to be considered. Potential increase in littering of the seashore by visitors and tourists will be counteracted by the ongoing maintenance of the property by the site personnel. The planned visitor facilities at the seashore property include installations for public events. Security measures have to be strictly enforced to protect the site during these events.

MARINE TRAFFIC: With the vicinity of Muharraq Harbour, boat traffic occurs in the buffer zone of the seashore property. Although pollution from boats is currently not impacting the site, the site administration will monitor potential future impacts.

5.1.10 Risk preparedness for Bū Māhir Seashore

SPILLS AND ACCIDENTS: Oil and other spills caused by marine accidents are an unlikely risk to the seashore, however oil or other dangerous substances might be washed on to the shore in case of an accident. The authority responsible for the enactment of emergency measures is the National Coast Guard and cooperates with the the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) and/or the Bahrain Petroleum Company (BAPCO).

NATURAL DISASTERS AND CLIMATE: Severe storms and earthquakes might cause floods that could erode parts of the natural beach. The seashore might also be impacted by a rise in sea level caused by global warming. The management system does not include specific measures to mitigate this threat, but attempts to provide for adaptation measures in the long term if necessary. Future monitoring will focus on carefully recording of any increase in water level. Adaptation measures would concern all stakeholders involved in the management system and will therefore be initiated by the Steering Committee.

PLANE CRASHES: Due to the vicinity of the site to the Bahrain International Airport territory, air plane crashes or other air traffic related disasters are possible to occur. For responding actions in such an event, please refer to the risk preparedness plan.

• see also 5.1.6 Risk preparedness for the oyster beds above

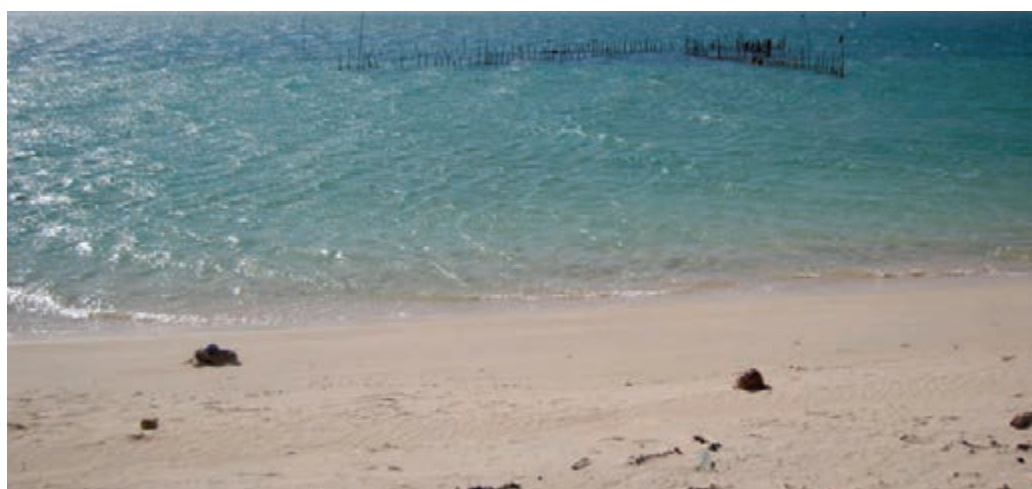
• see also Chapter 3, Site Analysis and Action Plans (2009-2013), Risk Preparedness Plan

5.1.11 Monitoring of Bū Māhir Seashore and its bufferzone

The Site Administration Unit will commission an assessment report for the state of conservation of the seashore every two years. An important partner in this process will be the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

Site personnel will provide daily supervision and monitoring of the property. A site manager will be stationed at the property during opening hours of the heritage site and will report to the Site Administration Unit.

See also Chapter 3, Site Analysis and Action Plans (2009-2013), Monitoring Indicator Table and the Nomination File, 6 Monitoring



Bū Māhir Seashore and its traditional fish trap

5.2 ARCHITECTURAL CONSERVATION

The architectural conservation strategy aims primarily to provide a comprehensive understanding of the conservation activities required to ensure the cultural significance of the architectural properties is preserved while taking into consideration their narrative elements. The vulnerability of these physical assets is assessed, and policies set out for conserving, maintaining and promoting the physical fabric, its Outstanding Universal Value and its integrity and authenticity. The strategy secondly addresses the conservation approach taken towards the historic architectural assets of the urban buffer zone, designated as architectural primary and secondary protection elements.

The architectural conservation strategy defines the conservation principles which set the tone of the conservation activities to be carried out. It also describes the conservation methodology applied to ensure the cultural significance of each property is thoroughly investigated and respected. Based on an overall description of the architectural assets and an analysis of factors affecting their state of conservation, conservation policies are formulated.

The focus of the architectural conservation strategy is therefore to preserve the architectural structures of the testimony of the pearling economy and its urban buffer zone, to articulate their values and to provide access where appropriate through sustainable uses.

5.2.1 The traditional architectural structures

The architectural conservation strategy primarily addresses the 17 historic architectural structures nominated within the 12 land properties of the testimony of the pearling economy located in Muharraq, ranging from Qal'at Bū Māhir at the seashore property to the 11 urban properties. Each of them contributes individual attributes to the site's Outstanding Universal Value; in combination they represent the cultural and social aspects of the pearling economy and its society. They convey an impression of life in the pearling capital Muharraq, including its activities and traditions as well as the living environment. The nominated properties were identified during comprehensive, interdisciplinary research undertaken during the preparation of this nomination as the buildings that most accurately and vividly express these aspects and that constitute important memory markers for the local community. Besides the pearling-related associations they trigger, they are also evidence of the multifaceted history of the city, both its historic events and processes and its traditional architecture. Furthermore, most of the nominated properties remain in the ownership of and in use by the original families, whose involvement in the pearling economy predominantly defines their Outstanding Universal Value.

For a detailed description and complete understanding of the value of the nominated properties, including their Outstanding Universal Value, integrity and authenticity, please refer to the *Nomination File* and *Chapters 1 Site Description, Objectives and Assessment* and *Chapter 3 Site Analysis and Action Plans (2009-2013)* of the management plan.

The architectural conservation strategy secondly addresses the remaining historic buildings in the buffer zone. These are primary protection elements in the direct vicinity of the architectural properties, and secondary protection elements in the wider urban setting. These are valuable for the contextualisation of the urban properties and significantly contribute to the historic character of the urban buffer zone. Their conservation is therefore addressed within the urban conservation and development strategy described below. However, when it comes to restoring and maintaining these architectural structures, the architectural conservation strategy applies. The Subcommittee for Urban and Architectural Heritage is the entity responsible for evaluating and documenting these buildings according to the principles set out in this strategy.

The mostly residential, commercial and religious buildings of the pearling testimony are vernacular architectural structures using local resources and styles. They were often built in a communal effort by the neighbourhood, and without architectural plans. Typically, they were successively developed, extended and consolidated. Varying from extremely simple to highly elaborate structures, they nevertheless all follow clear architectural principles.

As is typical in an oriental city, privacy is a priority in residential buildings, and greater importance is generally attributed to their internal spaces. External public facades are therefore fairly uniform in nature, with subtle decorative details that could intimate to the status of the owning family to a passerby. Important structural elements such as the courtyard, tall *kishtil* (wind tower), *bādgir* (ventilation system built into walls), *mashrabiyyah* (fine crafted timber screen) covered balcony and *ṣabāṭ* (bridging element that connects two parts of one

• see Strategy 6 Research and Documentation

• see Strategy 2 Statutory Heritage Protection

family building across a road) are prevalent in the nominated properties. These are the elements that once gave the 'zarnūk' (winding narrow lanes), *dā'ūs* (narrow dead end lane) and city skyline of Muharraq its memorable character.

Internally, these buildings present a contradiction: expectations raised by the plain external facades have to be discarded on entering the family's private internal enclaves. Graduated according to the family's resources, doors and windows are crafted with sophistication using elements such as timber carving and fretwork, stained glass and wrought iron; walls are decorated with incised plasterwork panels; and ceilings consist of either a colourfully painted composite of mangrove beams over a diamond mesh of reed work, or highly decorated ceiling panels.

Apart from the architectural features typical of oriental cities, Muharraq's architecture is influenced by the wide range of regions Bahrain was exposed to through its trading network and multicultural population. Persian influences are particularly noticeable in the woodwork of the ceilings and decorative panels; elaborate window and door frames were often imported from India; and decorative elements show influences from the Arabian Peninsula, Iraq, East India, and East Africa, particularly Zanzibar.

The predominant building material used is coral stone, readably available along the coastline in former times. For wall construction, the coral stone was grouted with a mixture of local clay, lime and gypsum. Local palm tree trunks and other partly imported timbers such as mangrove poles and bamboo were used for structural elements. The timber used for wooden doors, window frames, shutters and sometimes wooden ceilings was at the time the only expensive material used. As the architecture evolved, less massive walls became common and were replaced by a structural yet slender column and beam grid system. The voids within the grid between the columns were filled in with thin plates of *farsh* (coral stone plaques a few centimetres thick). *Farsh* used to cover extensive areas of the seabed adjacent to the coast, but is now extremely rare due to the reclamation of most of Bahrain's shallow coastal areas. In response to the extreme summer weather, this wall construction included a *bādgīr*, an elaborate ventilation system that assists cross ventilation and creates air currents in both enclosed spaces like rooms, and open spaces such as roof terraces. The wall and column construction was made up of a series of quartered palm trunks positioned horizontally at 2 metres intervals for a balanced load distribution. The roof was constructed of mangrove beams spaced at very short intervals, with a diagonal mesh of split bamboo. Palm-frond woven mats were placed on top of this to hold in the final layer, stone and mud roof topping.

From its earliest development until the



Carved gypsum panels and merlons - Siyadi Majlis



Stained glass window - Fakhro House



Interior of Siyadi Majlis- Transitional Period Architecture

collapse of the pearling economy, Muharraq's architecture has evolved in terms of both construction method and climatic responsiveness. One of the rare chronological stylistic analysis is provided by Dr John Yarwood. In the 1970s and 80s he documented Muharraq's architectural evolution, categorising it into four distinct periods (Yarwood, 2005):

1.) Early Period (up until 1850):

This period finds its expression in solid, undecorated outer walls, with small, square, low-positioned apertures opening onto the internal courtyard or first floor level, emphasising solid over void. Buildings have a simple appearance, with a strong horizontality emphasised in the decoration of internal indoor and outdoor spaces, such as rooms and private courtyards.

2.) Transitional Period (1850 – 1890):

The Transitional Period borrows heavily from the Early Period but is a time of more carefree expression. The buildings' heaviness evolves into a confident enthusiasm, and ground plans become more complex. Massive walls are replaced by narrow piers, and the openings increase in size to dominate the facade, bringing a sense of lightness. Decorations of the Early Period are still prevalent but become more elaborate, attaining a balance between horizontality and verticality. Common elements, particularly towards the later Transitional Period, are shutters, metal grills, loup and zigzag mouldings, and three-step merlons.

3.) Middle Period (1890 – 1930)

In the Middle Period, refinement with rationality and disciplined consistency of architectural features prevail. Stonemasons seem to have pushed the boundaries of the structural capacity of the load-bearing elements. Buildings were formed using a rigid, symmetric grid system noticeable in the formation of the plan; elevations showed elements such as columns, doors and windows all lining up. Structural elements such as columns and beams are no longer hidden within the construction of a wall, but dominate the facade and become a decorative feature in their own right. Rooms are more elongated, with excessive ceiling heights adding to the overall experience of control and lightness. This period becomes more refined in its detail, with the introduction of tall, slender door frames and windows filling the space between already narrow columns and beams. Decorations are evolving from plaster to woodwork, and a different patterning language emerges with considerable mastery of the art. Trefoil and semicircular incised panels in the upper parts of the exterior bays on the façade becomes a common feature. Refinement is further expressed in the climatic responsiveness, with the use of sophisticated ventilation systems (such as a *bādgir*) and building orientation to best harness the climatic conditions. This period can be divided into three subcategories: Arcade, Perpendicular and Columnar Style, each with its unique characteristics.



Middle Period Architecture
in Siyadi Majlis

This period probably owes its characteristics to the more abundant wealth resulting from the peak of the late pearling economy which allowed for the conception of the architectural oeuvre and its execution without interruption, replacing the previously common practice of carrying out a successive building process over years and decades.

4) Late Period (1930–1940)

The Late Period is the period of eclecticism. It evolves out of the transition from the collapsing pearling economy to the newly-formed oil economy, and shows the impact of the economic crisis. The rigidity and vertical expression of the previous period are lost in a bewildering conglomeration of elements borrowed

from all preceding periods with new, imported building materials, elements and technology. The period saw a high level of construction activity; however the quality of craftsmanship was compromised in all aspects, ranging from the decorative elements to the overall architectural articulation and structural condition.

5.2.2 Conservation principles

The policy wishes to encourage a conservation approach similar to the one expressed by Prosper Mérimée (1803-1870): *"It is better to consolidate than repair, better to repair than restore, better to restore than embellish, and in no circumstances knock down."* (cited in Barnes, 2007, p.6)

Reducing the loss of the traditional and original built fabric of the site's architectural testimony will enhance its cultural significance and preserve its integrity and authenticity. The integrity and authenticity of the architectural structures, and particularly of the nominated buildings, is further enhanced through the use of interpretation and presentation, which assist in conveying the properties' values and narrative elements, and support the continuation of the shared memory associated with each property.

All new additions that aim to make the properties accessible should, when interacting with original historic fabric, be reversible. This principle is to be strictly observed in the nominated properties.

The overall architectural approach to a building should be respectful and add value to its character and atmosphere. This can be achieved with the use of a sensitive but identifiable and harmonious architectural style. This will be in line with the design principles set out by the management system, and should be supported for each building by a colour and materials palette to abide by. It is important that any additions and any new developments in the buildings' immediate setting not compete for attention with the authentic historic fabric and be clearly identifiable as new.

In this sense, and in view of the importance of the setting, architectural conservation is closely interlinked with the urban conservation and development strategy described below.

The broad conservation approach encompasses a number of more general principles:

Due to the fact that the main value of the architectural properties is their contribution to the grand narrative of pearling, the historical and anthropological research into each property is indispensable for formulating appropriate conservation approaches. Respect for the spirit of place will guide all architectural conservation planning, while interpretation and presentation facilities will correlate with and promote the buildings' Outstanding Universal Value. Finally, the Ministry of Culture and Information will facilitate and promote publications of popular and academic literature on the history and the nature of the architectural heritage and its role in the pearling economy of Muharraq.

The traditional ownership of the nominated properties is regarded as an asset adding to their value and contributing significantly to their appropriate management. The local community's stewardship of the site and the buffer zone is equally important for the management system. The broad involvement of the local community in the restoration, maintenance and management of the architectural assets is therefore imperative. Similarly, rehabilitated buildings will serve visitors and the local community alike, a factor that must be taken into account when defining uses for the restored architectural structures.

The provision of training programmes throughout the conservation process, particularly in traditional construction techniques, will both help to build a base of skilled individuals within the local community and promote the local economy. For the same purpose, partners in the conservation activities will preferably be local firms, specialists and labourers. However, due to the extent of the needed work, the resources involved and the expertise required, international consultants and firms will have to be employed at least during the first implementation phase of the management system.

In line with the overall principles of the management system, the architectural conservation strategy promotes accessibility to the site by visitors from across the spectrum of physical abilities, applying solutions that do not have a negative impact on the fragile historic architecture and that visually intrude as little as possible.

Environmental sustainability will be promoted as part of the conservation techniques and in the adaptation of the buildings. Energy efficiency and the use of local materials wherever possible will be strived for in the design and planning of the conservation measures and their implementation. The availability of traditional local building materials, however, is severely limited; for environmental reasons, large scale quarrying of coral

• For a definition of the traditional architectural terminology used in this document, please refer to the annexed Glossary.

• see Strategy 6 Research and Documentation

• see Strategy 3 Stakeholder Involvement

stone is no longer permitted and physical conservation measures will have to rely predominantly on recycled stone. Mangrove poles and other timbers traditionally used in Muharraq will have to be imported. Since this could make conservation and maintenance costly and time-consuming, alternative solutions will be explored for some cases.

The safety of the architectural structures, in particular of the nominated properties of Outstanding Universal Value, is of the utmost importance and must be considered in the physical conservation and use of the buildings. Care must equally be taken to ensure that the adapted properties are safe for their users. This necessitates appropriate fire prevention, emergency planning and surveillance systems.

Any conservation or new construction work required will abide by the following principles:

- Ensure prioritization of all interventions towards the protection of the attributes reflecting the Outstanding Universal Value of the properties;
- Retain and promote structural integrity and authenticity of the Outstanding Universal Value of the architectural structures through physical conservation and interpretation and presentation facilities;
- Prefer minimum intervention and opt for repairing rather than replacing; the replacement of elements beyond repair should be on a like-for-like basis;
- Ensure reversibility of all additions;
- Comply with overall design principles, colour and material palette in line with the values reflected in the structures and the grand narrative;
- Consider the building's historic and contemporary setting in conservation efforts;
- Consider and involve all stakeholders in planning, implementation and future use, particularly the local community;
- Favour the use of local and sustainable resources;
- Strive for environmental sustainability in design, conservation activities and use;
- Provide training to local labourers and specialists throughout the implementation process and during long-term maintenance;
- Provide access for physically-challenged users and universal access through offsite interpretation;
- Provide facilities and services for the safety of the heritage assets, facilities and users;

The Ministry of Culture and Information is responsible for ensuring that these principles are respected by all individuals involved in the planning, implementation and long-term use and maintenance of the architectural testimony of the pearling economy. The Subcommittee for Urban and Architectural Heritage is the coordinating body for all conservation activities.

Traditional construction material:
mangrove beam ceiling and
unplastered coral stone wall



5.2.3 Conservation methodology

The architectural conservation strategy is based substantially on the 'Burra Charter' (Australia ICOMOS Burra Charter, 1999). The Burra Charter expresses the importance of cultural significance as a feature conservation strategies should stimulate, enhance and maintain. Cultural significance is described as the value the society's members collectively set on a place. As described above, for the concerned structures this value is related to attributes that express the Outstanding Universal Value related to the grand narrative of pearling. While the architectural conservation strategy sets out the general approach, its application is detailed in *Chapter 3 Site Analysis, Objectives and Assessment*, where the significance of each property and the conservation approach taken in each specific case is outlined in a site-specific conservation plan.

The Burra Charter enunciates a cautious approach to change: *"Do as much as necessary to care for the place and to make it usable, but otherwise change it as little as possible so that its cultural significance is retained"* (Australia ICOMOS, 1999, p.1). This principle is further supported by Article 14 under Conservation Processes set out in the Burra Charter, (Australia ICOMOS, 1999, p.6) and can be translated for the testimony of the pearling economy as: support the attributes reflecting the Outstanding Universal Value of the property to improve the comprehension of their significance within the grand narrative of pearling, which guides architectural conservation within the testimony of the pearling economy policies. To support this principle the conservation processes will abide by, as set out and be defined within the *Burra Charter*, (Australia ICOMOS, 1999, p.1) as follows:

- 1.1) *"Maintenance means the continuous protective care of the fabric and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction.*
- 1.2) *Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.*
- 1.3) *Restoration means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.*
- 1.4) *Reconstruction means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.*
- 1.5) *Adaptation means modifying a place to suit the existing use or a proposed use."* (Australia ICOMOS, 1999, p.2)

Furthermore, the following terms are clarified to mean:

"Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views." (Australia ICOMOS, 1999, p.2)

"Fabric means all the physical material of the place including components, fixtures, contents, and objects." (Australia ICOMOS, 1999, p.2)

"Setting means the area around a place, which may include the visual catchment." (Australia ICOMOS, 1999, p.2)



Carved plaster panels

Referring back to Article 14 (Australia ICOMOS, 1999, p.6) it should be reiterated that the above mentioned conservation processes can be used in combination to assure highest quality interventions that support and protect the attributes, which reflect the Outstanding Universal Value of each nominated property.

Generally, maintenance is strived for to avoid the other conservation measures. Where possible, restoration using authentic but distinguishable materials and techniques is given priority while maintaining as much as possible of the original traditional fabric. Reconstruction is generally applied on a small scale to complete remaining historic fabric or architectural elements which have been partly lost. In some cases, larger scale reconstruction may be necessary to reinstitute a spatial experience, functionality or atmosphere. In these cases, it is however desirable to clearly articulate the reconstructed building parts and elements as contemporary in material or architectural style.

The following 'Code of Conduct' table below has been formulated with the guidance of the 'Conservation Practise' outlined in Articles 26 to 34 of the Burra Charter (Australia ICOMOS Burra Charter, 1999, p.8). This is regarded as a rudimentary guide for all the architectural conservation activities.

Steps	Architectural conservation 'Code Of Conduct'
1	Document the existing architectural fabric and archaeological remains in consideration of their contribution to the Outstanding Universal Value in light of historical and anthropological research results.
2	Compile a conservation report with the input of qualified specialists recommending a prioritisation of a quantified conservation and repair programme; and determine further in-depth surveys and analyses.
3	Analyse the architectural, structural and decorative elements including material compositions and new additions in order to develop appropriate conservation solutions.
4	Develop a site-specific 'conservation plan' based on the Outstanding Universal Values and future use of the properties in consultation with the Subcommittee of Urban and Architectural Heritage and all stakeholders.
5	Develop a site-specific 'risk preparedness plan' in consultation with the Subcommittee of Urban and Architectural Heritage considering immediate threats during the implementation process, and long-term threats to the state of conservation.
6	Create a holistic maintenance plan for the property.
7	Compile a project implementation brief.
8	Carry out full photographic recording before any onsite work commences.
9	Monitor the implementation process and ensure safety measures are in place to protect the historic fabric and labourers and continuously document the process of implementation.
10	Compile a project report that encompasses the entire implementation process including photographic documentation on completion, and handover to the client.
11	Archive all documentation accessibly to all stakeholders.
12	Provide for long-term maintenance and monitoring of the architectural structure and the provided facilities and develop a site-specific 'monitoring plan' in consultation with the Subcommittee of Urban and Architectural Heritage.

5.2.4 Factors affecting the architectural properties

The threat of demolition of historic fabric within the urban buffer zone and the desintegration of the traditional setting of the properties are addressed in the *Urban Conservation and Development Strategy*, below. *Chapter 3 Site Analysis and Action Plans (2009-2013)* includes an analysis of the state of conservation of the individual architectural properties. This section outlines existing and potential threats to the state of conservation of historic buildings in Muharraq,

and describes how the management system addresses these threats.

MODIFICATION PRESSURES: Modifications, adaptations and alterations with the addition of contemporary bathrooms and kitchens, electrical cabling and water supply pipes have in some cases damaged the historic fabric. While these are necessary everyday facilities, the management system provides for the improvement of past modifications and ensures that in the future such modifications are carried out with as little impact as possible on the historic fabric.

INAPPROPRIATE ARCHITECTURAL REHABILITATION PRACTICES AND MATERIALS: The use of modern cements and paints, air-conditioning units and non-permeable asphalt street covering has been the main cause of damage to the nominated properties, compounding problems resulting from a high water table (see below). Walls are unstable, with signs of dampness, efflorescing of salts and wet rot in timber. Damaging modifications include boarding up the *bādgir*, preventing cross ventilation; painting walls with oil based paints and using cement as plaster. These interventions prevent the building material from breathing and accelerate the natural decaying process.

The management system's conservation activities will reduce these harmful effects by removing non-permeable materials and harmful elements wherever possible and applying more permeable surface coverings such as traditional mortar. Awareness-raising will be an additional endeavour to avoid the described harmful practices.

LACK OF APPRECIATION OF ORIGINAL TRADITIONAL ELEMENTS: One of the most harmful practices for Muharra's 'architectural integrity' is the demolition of traditional elements and their replacement with modern, often low-quality, standardised materials and elements.

This is counteracted within the conservation activities of the management system, which protect, reinstate and restore elements using high quality materials and designs; this issue is further addressed through awareness-raising campaigns.

LACK OF MAINTENANCE OF HISTORIC FABRIC: A general lack of maintenance of historic fabric has been noted and can be associated with the large proportion of homes either abandoned or leased to low-income migrant workers. Landlords often fail to carry out regular maintenance, while on the tenants' side, maintenance obligations are not part of standard leasing arrangements. Buildings are often overcrowded. Tenants that do attempt to keep their property in working order, often suffer from a severe lack of knowledge of traditional construction and building materials, and so may unknowingly cause more damage to the property. Furthermore, if the external walls are not maintained each year, as was the custom during the pearling era, cracks which appear on the outer surfaces expose the clay-based mortar. The mortar is vulnerable to rain or any strong water flow, and disintegrates as soon as it is exposed. Eventually this phenomenon renders the internal wall structurally unsafe.

The management system provides appropriate uses for the architectural structures and ensures continuous maintenance.

IGNITION SOURCES AND FACTORS INCREASING THE FIRE HAZARD: Outdated and often illegally-installed electrical cabling, and outmoded and dangerous cooking equipment such as old gas stoves pose an imminent fire hazard in the urban buffer zone.

Two factors furthermore make fire fighting more difficult in the case of the historic fabric of Muharra. First, excessive roadside parking hampers brigades' access by making the roads virtually impassable by large vehicles. The traditional network of narrow pedestrian lanes adds to these access difficulties. Second, the historic fabric to a large degree involves clay as a construction material. This makes water an inappropriate weapon for fire fighting. Water in general, and high-pressure fire hoses in particular, have a damaging impact on both the traditional building finish and the mortar, which are composed of clay, lime and gypsum. The water therefore poses risks to the protective finish and the mortar that holds the coral stone together, and is absorbed by structural elements such as coral stone walls and wooden beams.

The management system involves the following measures: The access for fire fighters is improved by restricting most of the narrow lanes in the urban buffer zone to pedestrian traffic. Parked cars will therefore no longer block these lanes hampering quick access. The risk of fire in the neighbourhood is further reduced through the urban upgrading, which replaces outdated, unsafe electrical cabling.

VEHICULAR TRAFFIC: Vehicular traffic poses a slight threat to the traditional buildings. Local residents navigate their cars through very narrow lanes originally intended only for pedestrian traffic. A slight miscalculation can cause the car to crash into the traditional walls, causing major damage. Furthermore, the 'larger scale vehicular roads' often lack elevated curbs for pedestrian walkways, a feature that creates an added layer of protection against cars colliding with the built fabric. Significant over-exposure to vibrations from heavy vehicles could

also impact the historic structure.

The management system counteracts these threats by making most of the urban buffer zone a pedestrian area and by improving road infrastructure to include curbs. Furthermore, vehicular traffic will be regularly assessed, and, if necessary, heavy vehicles will be banned from streets that directly pass an architectural property.

INCREASE OF VISITOR TRAFFIC DUE TO TOURISM: Properties that are made accessible to the public and attract a high number of daily visitors could suffer a negative impact on the structural capacity of the traditional building due to increased loads, wear and tear, vibrations and humidity. The soft protective finish on the buildings corrodes easily if it is placed under constant contact (friction created by constant rubbing and being leant against).

The management system addresses this threat through controlled access to particularly fragile architectural structures, or parts of it, where necessary. The conservation plans for each property will take into account the load-bearing capacities of the historic fabric and define the number of visitor numbers to be admitted at one time to each space. The impact of visitor traffic is constantly monitored, and resulting wear and tear removed in a timely fashion in the framework of continuous maintenance. Regulatory signage and site personnel will contribute to raising awareness among visitors regarding the fragility of the buildings.

FACTORS INCREASING THE IMPACT OF STREET FLOODING: Water, as previously mentioned, poses a major and well-understood threat to the structural integrity of the traditional fabric, and affects the properties in a variety of ways. Heavy rain can flood the streets, particularly where the drainage system is not able to cope with the water loads. Burst pipes of the supply or discharge systems can also cause temporary flooding. The traditional walls are the most absorptive element in the public domain, and are funerable to this treat particularly when ill maintained. Any increase in the moisture in the walls accelerates efflorescence, which in turn destroys the protective finishing layer. If the walls are left exposed and not maintained, the clay-based mortar will disintegrate on further contact with water, which will in the long-term lead to structural instability.

The management system reduces this threat through successive upgrading of the technical urban infrastructure in the urban buffer zone and the maintenance of especially the outer walls of the historic fabric.

RAIN: Precipitation is rare in Bahrain, but occasional heavy rainfalls pose a threat to ill-maintained historic structures, particularly to partly collapsed buildings or archaeological remains.

The management system counters this threat by identifying cases in the urban buffer zone where interventions are required to prevent loss of valuable heritage assets due to rain, and the provision of temporal emergency roofing or thorough restoration and maintenance.

TEMPERATURE CHANGES AND RELATIVE HUMIDITY: The extreme heat and high humidity in summer, accompanied by the extreme cold created by air-conditioning units in interior living spaces, has detrimental effects on the property surfaces and structures. The extreme difference between interior and exterior environments creates an almost ever-present condensation on windows, doors and walls. The typical construction materials are absorptive, with a high salt content, and absorb most of the condensation, which in turn aggravates the efflorescence. This destroys the finishing layers of the building and the structural integrity of the walls, and also encourages the development of wet rot in the timber material. Due to the extreme temperature fluctuations and the presence of water, the building materials (including clay mortar, finishing layer, coral stone and mangrove beams) expand and contract at an abnormal rate. This causes extreme cracking of the finishing layers, loosening of the structural beams, and disintegration of the mortar joints between the coral stone.

While condensation cannot be fully prevented, it can be countered by promoting resort to less extreme cold indoor temperatures during the summer months and instead providing air circulation and cross ventilation. Water resulting from condensation will be channelled and removed where possible, while surface finishes will be maintained continuously so as not to allow water into the walls.

HIGH WATER TABLE: In certain areas, a water table of less than 1 metre below street level occurs. The traditional buildings are vulnerable to this because most were built with few or no foundations, and out of porous coral stone. The walls of the building soak up the water, which as described above leads to the structural decay. Damming up of underground water directly beneath a building can cause destabilisation of the walls and promote collapse.

The management system provides a remedy by increasing the area of unsealed surfaces adjacent to walls and foundations. The street pavement of the narrow lanes will allow for evaporation of ground humidity, as will surface coverage of interior outdoor spaces, such as courtyards. Wherever necessary, foundations will have to

be appropriately treated to remove damage and prevent further absorption of water.

VANDALISM AND THEFT: Properties are exposed to a small degree of vandalism and theft. Spray-paint graffiti (not the artistic type) is the most common form of vandalism visible across the city. Muharraq is a safe city, and theft is mainly connected to the removal of building material from vacant properties.

The management system reduces this threat by involving the local community in the conservation and thus promoting their stewardship of the heritage site. However, surveillance of the properties is also provided by CCTV systems and site personnel, and by the local police presence in the public domain.

ARTIFICIAL TREMORS: Artificial tremors, such as those previously mentioned from the impacts of vehicular traffic, are harmful to the fragile historic structures. Surrounding large-scale development can also cause artificial tremors due to heavy machinery used in the construction process. Building on reclaimed land in particular requires new building foundations to be piled to a founding level. Concrete mixers, jackhammers and other vibrating equipment create small scale movements in the ground which, combined with the lack of a proper foundations, can be compromising the structural integrity of surrounding traditional fabric.

The management system addresses this threat by monitoring the surrounding building activities at the planning stage, through exchange among the broad network of stakeholders provided for in the administrative structure and during its implementation phase. Where special care or alternative construction techniques are required the management system will communicate these concerns in a timely manner.

• see 5.2.6 Monitoring the architectural properties, below

5.2.5 Risk Preparedness for the architectural properties

FIRE: The traditional buildings contain a considerable amount of structural wooden elements and are, thus, vulnerable to damage by fire. The factors increasing the risk of fire have been mentioned above, along with the measures to prevent fires. However, the risk of a fire outbreak cannot entirely be disregarded. Visitor accessibility further increases the risk.

The management system prepares for the unexpected outbreak of fire by implementing a risk preparedness plan for each property. This involves equipping the properties with adequate and sufficient fire extinguishers, which are based on chemical substances rather than water as the latter can have detrimental effects on the historic fabric.

FLOODS: While the impacts of occasional flooding of streets due to heavy rain or pipe bursts can be mitigated as described above (see factors affecting the architectural properties), major floods due to natural disasters such as earthquakes pose a risk particularly to those architectural properties located rather close to the seashore. Contingency plans have to be developed in cooperation with the relevant local security forces and fire brigades to ensure that provisory barricades and pumping equipment is provided in the unlikely case of a major flood.

EARTHQUAKES: Although major earthquakes are very unlikely in the Gulf region, minor earthquakes have occasionally been reported. There is no evidence so far of Bahrain having experienced any damages due to an earthquake, but in the event of its occurrence the historic buildings would be at major risk. The fragile structures might be rendered structurally unsafe or collapse. The management system, therefore, takes preventive measures that reduce the risk of collapse of historic fabric. These include improvement of structural integrity and stabilisation of fragile buildings during the restoration process.

Earthquakes, as mentioned previously, can also cause secondary damages by causing fires and floods. In the case of a major earthquake, the local fire brigade and security forces have to act to reduce the impact, particularly of secondary damages. The Site Administration Unit will coordinate with these actors, and jointly develop a contingency plan to ensure immediate remedy is provided for the nominated properties.

RISE OF SEA LEVEL: Climate change presents a potential risk to the historic structures. A rising sea level could endanger buildings located along the seashore, and might further increase the impact of groundwater on the historic fabric (see above).

The management system does not include specific measures to mitigate this threat, but attempts to provide for adaptation measures in the long term. All architectural structures are located at least 50 cm above current highest water level (during the spring high tides), but future monitoring will focus on carefully recording any increase in water level and adaptation measures will be designed where and as necessary. Since such actions

• see also Chapter 3, *Site Analysis and Action Plans (2009-2013)*, *Risk Preparedness Plan*

concern all potential stakeholders involved in the management system, this measure will be initiated by the Steering Committee.

PLANE CRASHES: Due to the vicinity of the site to the Bahrain International Airport territory, air plane crashes or other air traffic related disasters are possible to occur. For responding actions in such an event, please refer to the risk preparedness plan.

ARMED CONFLICT: The architectural properties are vulnerable in the unlikely event of armed conflict in Muharraq. Potential risks are war or political unrest resulting in riots or large-scale vandalism. The management system cannot include specific measures to mitigate these risks but will ensure that the Bahraini defence forces and security authorities are well informed of the location of registered monuments that are to be protected.

5.2.6 Monitoring the architectural properties

Monitoring the state of conservation of the architectural testimony and of historic buildings in the urban buffer zone is provided for as described in *Strategy 1 Administrative Structure and Procedures*.

The authority responsible for monitoring the protection of the built heritage is the Ministry of Culture and Information. The Ministry cooperates with all relevant stakeholders in this endeavour, in particular through the Subcommittee for Urban and Architectural Heritage and the Subcommittee for Urban Regulations and Project Design.

The state of conservation upon initial restoration will be assessed regularly focusing on the Outstanding Universal Value of the architectural properties. All conservation work is to be thoroughly documented.

The site administration and the Subcommittee for Urban and Architectural Heritage oversees the appointment of appropriate specialists to facilitate all the necessary conservation activities and ensures that any intervention is preceded and accompanied by heritage impact assessment. The impact assessment includes the evaluation of conservation works to the properties and new architectural and urban scale interventions in the buffer zone. Private and public development projects taking place in the direct surroundings of the nominated properties and in the entire buffer zone are continuously reviewed in cooperation with the Subcommittee for Urban Regulations and Project Design.

The strategy ensures permanent monitoring of the nominated properties and their heritage assets through surveillance by both technical equipment and site personnel. Future site managers will report to the site administration. Also contributing to the monitoring of the site are the stewardship of the local community and the proximity of the local police.

The Site Administration Unit will inspect each property's state of conservation twice a year, and will implement everything necessary to ensure it retains its Outstanding Universal Value.

The Ministry of Culture and Information is currently in the process of designing a long-term maintenance plan (with a 5-year schedule) to be implemented upon restoration of the properties. The Ministry will also appoint a consultant specialist to identify any deficiencies of provided services such as air-conditioning units or any maintenance required due to the impact of tourism.

• see also Chapter 3, *Site Analysis and Action Plans (2009-2013)*, *Monitoring Indicator Table and the Nomination File*, 6 *Monitoring*

5.3 URBAN CONSERVATION AND DEVELOPMENT

The urban buffer zone which links the twelve urban properties is of importance for the presentation, interpretation and contextualisation of the testimony of the pearling economy. The historic settlement of Muharraq itself is not integral to the heritage site, and is not considered as contributing to the Outstanding Universal Value of the serial property. However it does contain features of cultural significance that are worth preserving, and it supports the heritage site in a number of functional ways.

The urban conservation and development strategy aims to enhance the quality of the urban buffer zone aesthetically and functionally with a view to enhancing the testimony of the pearling economy embedded in it through a range of short- and long-term measures.

It introduces the historic settlement of Muharraq and the urban buffer zone. It also describes the vision for its

future development, names the specific objectives of the strategy, and outlines the approaches and instruments applied.



Aerial view of Muharraq

5.3.1 The historic settlement of Muharraq

The prosperous pearling economy of the 19th century saw the rapid growth of cities in the Arabian Gulf where previously there had been only small townships.

Muharraq is an example of this phenomenon. It was the capital of Bahrain from 1810 to 1932, the peak of the pearling era, and was known as the city of the rulers, the grand pearl merchants and the divers, who predominantly lived there.

Its growth began when the ruler, Shaykh Abdullah bin Ahmad Al Khalifa, built his residence and mosque in Muharraq, initiating the migration of other influential tribes who settled on lands allocated to them. This scheme is typical of the genesis of many oriental cities. From these cores, the city's fabric grew organically and without planning, since the communities were free to build however they chose, guided by the requirements of neighbourhood, privacy, climate and Islamic *shari'a* principles (Hakim, 1986). The result is an "incrementally grown morphological pattern" (Bianca, 2000, p.142).

This pattern is characterised by the repetition of a "cellular unit". The house is the neighbourhood's unit, while the neighbourhood constitutes a unit within the *farj* (plural *furjan*), the wider cluster. Muharraq was therefore constituted of several imbricate *furjan*, each having a degree of autonomy. One can therefore say that the fabric had a **hierarchical** structure of house, neighbourhood and the wider cluster with a different **privacy** level for each, comparable to a mansion.

Rather than being planned, public space in the oriental city in the main takes shape haphazardly throughout the development and expansion of residential houses. This was the case in the development of Muharraq's dense fabric. With the minimum area necessary left "outside" for what was originally mostly pedestrian traffic, public open space was a rare element. The result is a maze of intertwining narrow lanes, where unity is experienced

through the continuity of the streetscape and the homogeneity of the colours, textures and architectural language.

In this compact fabric, a specific architectural language can be deciphered. Wind towers act as landmarks, while two-storey elevations with long repetitive niches create a monumental cathedral-like effect, sometimes distinguishing the houses of the rich families. On the ground floor, transparency occurs only where there is a communal room such as a reception hall (*majlis*).

On a wider scale, the island's geographical constraints and the pearling city's close relationship with the sea influenced the shaping of the fabric. Ports and harbours and the seashore in general had great importance that shaped the road pattern. The centre of each *farij* was connected to the seashore and the market by a larger access street. Markets formed around ports. Thus, *Sūq al-Qaisariyyah* stretches in long lanes parallel to the western port, Muharraq's main connection with Manama.

What we understand today to be the traditional settlement of Muharraq consisted originally of three islands separated during high tide: the tiny *Ĥalat Bū Mahīr, Al-Ĥalah*, a bigger island just to its north, and the main island, Muharraq. Successive land reclamations accelerated in the second half of the 20th century, joining the three islands. Land reclamation is just one of a number of construction activities that have changed Muharraq's physical appearance since the economic shift of the 1930s.

With the collapse of the pearling economy, Muharraq's close connection to the sea became obsolete, triggering an overall radial expansion of the urban fabric and changing the shoreline. New commercial roads, better suited to car access, began to appear and compete in commercial activity with the traditional *sūq*, while new, monumental constructions became spatial markers in the old city's periphery.

However abrupt this metamorphosis, continuity can still be easily traced in the reminiscence prompted by most of the streetscape's spatial quality within the original historic city boundaries. Furthermore, many traditional buildings survive to acknowledge the former built form, often constituting complete neighbourhoods. These are important testimonies of the original urban form of this most important pearling city and reveal much about the functioning of the pearling society, its private and public spheres, and the relationship between the two. The atmosphere of the preserved neighbourhoods remains unique, and the spirit of the original Muharraqi society and its younger generations, who do not necessarily live there anymore, continues characterised by a strong identification with the place, memories and pride.

For further information about the historic settlement of Muharraq and its history, please refer to the *Nomination File, Site Description*, and *Chapter 1* of the *Management Plan* provides a description of the contemporary characteristics of Muharraq.

• see Chapter 1 Site Description, Objectives and Assessment



Traditional lane in Muharraq

5.3.2 The vision

Three main goals guide the urban conservation and development strategy's vision for future urban development:

- **Preserving the cultural significance** of the historic settlement in which the testimony of the pearling economy is embedded
- Optimising the **experience** of visitors and other users of the testimony of the pearling economy
- **Benefiting the local community**

Optimising the visitor's experience and promoting the testimony of the pearling economy by preserving surrounding elements of cultural significance and improving the visual and functional characteristics of its urban setting are core concerns of the management system. This requires the urban context to be **adapted** by improving accessibility, providing interpretation facilities, physically upgrading the public space, preserving and rehabilitating the historic fabric and urban pattern, and ensuring compatible uses.

The site is located within a living city, and the local community is an important partner and target group in all management activities. The vision of these adaptations is therefore not the creation of a theme park but rather the **integration** of the pearling testimony in the authentic context of the living city. This is not an easy task, given that requirements of contemporary lifestyle often conflict with heritage conservation. Modernisation has already inflicted considerable damage to the urban fabric and form. The goal is therefore to initiate a “healing” process in Muharraq, by re-connecting the urban form with its origins, favouring the socio-cultural continuity and the spirit of place in uses and architectural language, and offering better living conditions to the local community. Solutions are sought that reconcile urban conservation and modernisation by integrating both aspects in innovative but sensitive ways.

If this is successful, a symbiosis between the heritage site and urban setting will slowly take place. The two entities will benefit from each other's development: the site's growing appeal will attract more visitors, stimulating the economic growth of the area and encouraging other initiatives in the city, thus improving general living conditions while simultaneously enhancing the setting of the heritage site.

Enhancing the urban form

An objective of the management system is the protection and promotion of the traditional urban form. This includes the articulation of spaces and architecture based on the concepts of hierarchy, unity and privacy.

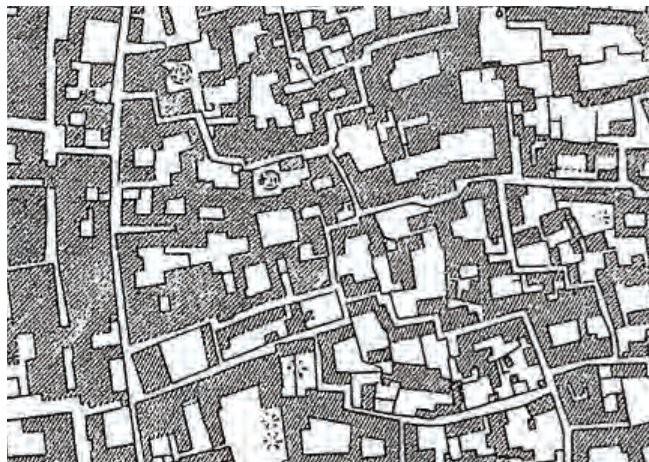
Measures include reinstating the traditional volumes, masses and basic architectural features and principles wherever possible by rehabilitating fabric that still preserves these traditional volumes and principles or by encouraging the respect of these characteristics in new construction. Care has to be taken in this endeavour to avoid mimicry of traditional elements. Such increasingly popular cases are often detached from their original function and are therefore detrimental to the endeavour of creating a clear and comprehensible urban environment. New construction ideally takes up the spatial qualities of historic fabric and is in harmony with its architectural language. It avoids the copying of exact features in inauthentic materials and techniques. A sense of unity must also be expressed through cohesion and continuity of the urban form; sober and simple facade designs will be encouraged.

In line with the traditional urban form, the graduated levels of privacy and publicity of the different areas is emphasised. The privacy of residential buildings is promoted and articulated in facades and entrances. The congestion of residential lanes with vehicular traffic and inappropriate uses will be avoided and the vitality of commercial and public areas in return promoted. Contemporary demands on the urban environment such as parking and open space must be answered without further disintegrating the dense urban pattern and will therefore preferably be enclosed towards the streetscape. Spaces tailored for local community use are encouraged to develop the neighbourhood spirit.

In brief, the sense of the “urban mansion” is revived in the urban buffer zone and consequently in Muharraq as a whole. In the long term, it is hoped this will foster the image of Muharraq as a comfortable and attractive living environment, and strengthen the sense of rootedness in place.

5.3.3 Approach and instruments

The Ministry of Culture and Information has the role of initiator, actor or facilitator in some of the interventions, particularly regarding the targeted urban and architectural projects. Other instruments such as legal stipulations guide private and public investments and thus steer the continuous urban development process in the site's buffer zone to be in line with the management system's objectives. For all interventions, cooperation with the various



Traditional urban pattern of Muharraq (map of 1931)

• see *Strategy 1 Administrative Structure and Procedures*

• see *Chapter 1 Site Description, Objectives and Assessment*

stakeholders, including the local community, is crucial. Coordination of all planning and implementation takes place within the Subcommittee for Urban Regulations and Project Design.

Available instruments include legal provisions such as urban regulations and design guidelines on the one hand, and implementation-oriented urban design tools such as an Urban Master Plan on the other. Designation of the urban buffer zone as a “Special Protection Zone” empowers the Ministry of Culture and Information to take part in the urban planning of the wider urban context of the heritage site within the buffer zone. Please refer to *Strategy 2 Statutory Heritage Protection* for a description of the current application of these instruments and to *Chapter 3 Site Analysis and Action Plans (2009–2013)* for a description of their contents and implementation.

The Subcommittee for Urban Regulations and Project Design is the forum for ensuring that the synergies of development endeavours by all stakeholders are used and that all interventions in the urban buffer zone are coordinated.

In addition, the Site Administration Unit seeks direct contact with the local stakeholders, including the locally active designers, developers and owners through meetings and encounters to promote the management system’s objectives.

5.3.4 Urban intervention fields

Optimising physical accessibility

As outlined in *Strategy 4 Interpretation and Presentation*, physical accessibility has to be maximised through specific actions for each level of intervention:

On the national level

Measures to ensure proper vehicular access to the site include the implementation of signage along the main highways and roads, and at other heritage sites, providing clear directions to the testimony of the pearling economy. The development of public transport to the site should be considered in the future, as the national transport system evolves.

Within Muharraq

This is where the transfer between vehicular mobility and pedestrian/light vehicular mobility takes place. Parking areas in key access points as well as suitable shuttle services are to be created to ensure this transition occurs as smoothly as possible in the congested context. Unambiguous signage and safe pedestrian connections are then necessary to guide the visitor to the heritage site.

Within the urban buffer zone

Most of the narrow residential lanes in the urban buffer zone will be restricted to pedestrian traffic to ensure visitors are not endangered by motor vehicles, to respect the lanes’ authentic use, and to preserve the integrity of the historic fabric. Special attention is to be paid to the comfort and safety of the visitor on foot.

The pathway will be punctuated by rest areas. Climatic constraints will also be taken into consideration; shading could be considered for some of the streets, provided it does not affect their spatial quality. To ensure proper safety, traffic lights or other solutions must be provided at important crossings. Special attention will be paid to accessibility for the physically challenged and the elderly.

Clear signage is equally essential for guiding the visitor throughout the buffer zone and for indicating the properties as well as services and other points of interest in the immediate vicinity.

The creation of pedestrian lanes provides visitors with a safe and convenient means of access. At the same time, parallel solutions have to be proposed for ensuring the comfort and amenity of local inhabitants. Provision of access will be studied on a case by case basis, and alternative parking spaces made available to residents.

Around the properties

When approaching the architectural properties, the visitor should be oriented in a way that favours the best visual approach to the building, and whenever possible, through an authentic, well-preserved street pattern. Signage and the choice of parking areas will be made accordingly.

Physical and environmental upgrading

Upgrading the visual and functional condition of the urban buffer zone, particularly with a view to presenting an attractive and well managed heritage site, requires the upgrading of streetscapes and services in the urban buffer zone.

The improvement of existing elevations in the buffer zone involves all works related to the removal, replacement, integration or screening of degrading elements on the facade, painting, removal or relocation of elements on roof tops that are visible from the street, and even minor modifications in the elevation's architectural composition, whenever possible and necessary.

Upgrading of public space also involves adequate pavement solutions that take into account the pedestrian or vehicular traffic, general heritage conservation aims, public lighting and urban furniture, in line with the basic design concepts.

The intention is to create an uncluttered, harmonious streetscape that emphasises the traditional elements and urban principles while counteracting such threats to the historic fabric as flooding due to ill-maintained canalisation systems.

The upgrading of technical infrastructure such as supply and discharge systems will therefore be addressed throughout the process.

Continuous maintenance of the above described public area and facilities is required to ensure a healthy environment for visitors and residents. This includes effecting an improved system for collecting and disposing of waste, incorporating recycling if possible.

Creating interpretation features and facilities

Besides enhancing the urban form and emphasising its historic patterns and features, elements of cultural significance in the buffer zone in the context of the pearling society are highlighted and explained to visitors.

Interpretation and presentation efforts are made in first place in the direct surroundings of the architectural properties. However, in the wider setting, other historic buildings or spaces that have cultural significance in the wider context of the pearling economy, or elements of a geographical nature such as the historic seashore as it existed during the pearling era, will also be brought to the attention of visitors. Whenever relevant, these should be demarcated in a way that evokes their former role or existence and relates them to the grand narrative of pearling. Spatial interventions will include signboards and associative interventions such as the introduction of discreet design elements within the urban buffer zone for example demarcating the historic shoreline.

The management system provides two major visitor facilities at main access points to the heritage site: the Visitor and Experience Centre in the market area, and the Bū Māhir Interpretive Centre at the seashore property. These facilities complement the heritage assets by providing services that cannot be integrated into the historic fabric.



Other built interpretation facilities might in the future be provided at sites of special interest or key points to indicate access to the site. New architectural design shall be in line with the overall design principles of the management system, stressing a sober look inspired by the spatial qualities of the traditional architecture. However, new architectural projects can serve the purpose of adding new emblematic features to the urban buffer zone. All construction projects initiated or commissioned by the Ministry of Culture and Information in

• see Strategy 4 Interpretation and Presentation

A lane in the urban buffer zone at night

the context of the pearling testimony will be designed and executed in a way that sets a standard for new construction in the heritage context for other projects.

Restoring and rehabilitating historic fabric in the urban buffer zone

Historic fabric of value has been identified within the urban buffer zone and designated as primary and secondary protection elements. These are given special attention within the urban interventions and long-term development and are, wherever possible restored, rehabilitated, and allocated appropriate uses.

The Subcommittee for Urban Regulations and Project Design is responsible for raising any demolition or alteration request for the primary and secondary protection elements, and gives special attention to the plots neighbouring these elements.

Cases requiring investigation are transferred to the Subcommittee for Urban and Architectural Conservation, which is responsible for evaluating the protected elements and empowered to make recommendations on how best to address the specific cases.

The Subcommittee for Urban and Architectural Conservation conducts two architectural surveys for the interior and exterior of the heritage building, and a basic anthropological inquiry to collect information about the building's socio-historical background. In case it appears that the building is of significance, the Site Administration Unit initiates negotiation with the owners regarding the conservation of the building.

In cases where the local Monitoring and Inspection Section of Muharraq Municipality notifies that the protected elements are in danger of collapsing, the Ministry of Culture and Information appoints a structural engineer to produce a structural report on the building and to decide on the rehabilitation process to counter the public safety hazard while preserving the fabric wherever possible.

Promoting compatibility of uses

While certain types of land use and commercial activity are beneficial to both the heritage site and the local community, others must be considered harmful. Uses that endanger the architectural properties or the visitor, or are a nuisance to residents or visitors to the site (for example by creating pollution or congestion) will be relocated and prohibited. Other functions, however, will be encouraged and supported in the short-term urban interventions and in the long-term management of the buffer zone.

Based on a land use study of the urban buffer zone, a distribution map will be created highlighting areas where certain uses are needed to accommodate aspects of heritage preservation and presentation and the needs of the residential or commercial neighbourhoods. Community workshops with an urban development focus have an important role to play in assessing the needs of local residents and businesses, such as green areas, playgrounds, or parking and delivery spaces.

Local cultural traditions will be promoted by providing venues and facilities for their practice. Examples are venues for cultural activities, and special areas to be used by the public for communal purposes or supporting uses rooted in traditional practices (for example plaster and wood carving and musical instrument-making workshops).

Researching and documenting evidence of historic urban development

Finally, the management system seeks to promote the research and documentation of the urban history of Muharraq, and therefore facilitates archaeological research within the urban buffer zone, particularly prior to the implementation of any new development.

5.3.5 Monitoring

The Subcommittee for Urban Regulations and Project Design is responsible for the preventive and comprehensive monitoring of all interventions in the urban buffer zone, and all regulations, guidelines and urban design are assessed by the subcommittee. Any major concerns or conflicts that cannot be solved within that forum will be referred to the Steering Committee.

• see Strategy 3 Stakeholder Involvement

• see Strategy 8 Support for Cultural Traditions

6

Research and Documentation

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6 RESEARCH AND DOCUMENTATION

OBJECTIVE 6: Increase knowledge of the pearling testimony and its Outstanding Universal Value by undertaking and facilitating research and documentation.

Conservation of the heritage site goes beyond the preservation of its physical and natural assets: it also includes researching and documenting knowledge of the built and natural pearling heritage, its intangible socio-cultural expressions, and the technical and cultural aspects of each.

Conservation moreover involves a duty to spread acquired knowledge as widely as possible, both to strengthen awareness of the values of the heritage site and to contribute to its long-term preservation and sustainable use.

Research and documentation of the properties' state of conservation as well as their potential and problems is an indispensable basis for informed and successful preservation and enhancement of the site. A broad range of technical data has to be gathered, assessed and filed continuously throughout the site's management, as it underpins effective decision making and serves monitoring and evaluation aims.

6.1 RESEARCH

Research is an integral component of the management system's various fields of intervention. Only with an understanding of the site's elements, including their history and functions, can one relate fully to the heritage assets, capture their values and provide appropriate management.

The main scientific research fields are marine, historical/anthropological, architectural and archaeological. Thorough baseline surveys in each field were undertaken during the preparation of the nomination file. All fields are additionally subject to long-term systematic research, including further cataloguing of the wide range of cultural and natural assets of the site and its buffer zone, and targeted research during the preparation of specific interventions.

The Site Administration Unit is the entity responsible for coordinating the different research projects and integrating their outcomes. Research within the different focal areas of the management system is planned, supervised and coordinated by the relevant subcommittees. The Site Administration Unit authorises and supervises research activities by others, and has responsibility for ensuring that none of these activities endanger or negatively impact the cultural or natural heritage assets.

The research activities are conducted or facilitated by the Site Administration Unit in consultation with relevant researchers and concerned stakeholders. The latter include concerned agencies, the local community, and institutions of higher education such as universities and other research facilities. In general, agencies, organisations or individuals who have an interest in researching the pearling heritage and who rely on access to the site or its facilities are supported and authorised to do so provided the intended activities do not harm the heritage. Scholarships and publication grants could, in the future, be offered to students, postgraduates or post-doctoral researchers for academic research. Research is incorporated into the training of tour guides and community activities.

In the future, another important partner for research activities will be the planned Arab Regional Centre for World Heritage (ARC-WH) in Bahrain, a category 2 centre under the auspices of UNESCO, whose role is to assist and support Member States in the implementation of the 1972 World Heritage Convention in their territories.

The outcomes of the full range of research activities form the heritage site's information data bank and will be incorporated into onsite interpretation such as exhibitions, audio guides and other informational material. Research activities are also incorporated into educational and awareness-raising strategies and contribute to managing and conserving the site.

6.1.1 Marine Heritage Research

Environmental research concerning the oyster beds, the Bū Māhir Seashore and their buffer zones aims at documenting, assessing and monitoring the state of conservation of the marine and natural heritage assets as well as past, present and possible future impacts. While the complex ecosystem of the oyster beds requires in-depth study, the seashore property Bū Māhir does not require extensive environmental research. Here, future research will mainly serve the purpose of preserving the property's physical features. Study of its wider marine ecosystem is beyond the scope of the management system and is not relevant for the testimony of the pearling economy.

In addition to investigating environmental aspects, research into the oyster beds and the seashore property involves anthropological and historical research as described below. The team that prepared the nomination dossier consulted publications referring to the history and cultural aspect of the oyster beds, particularly regarding traditional pearl collection and the traditional use of the Bū Māhir Seashore. A better understanding of the narrative elements of the natural parts of the testimony of the pearling economy will be an additional target of future anthropological and historical research.

• see 6.1.2 Historical and Anthropological Research

Previous research on the pearl oyster and the Bahraini oyster beds

The onsite and literature-based research activities related to the oyster beds are predicated on the findings of earlier surveys and studies, as outlined below.

Systematic scientific research into Bahrain's oyster beds began only in the 1980s.

In 1985, D.H. Vousden, on behalf of the Environmental Affairs Directorate, carried out the first scientific expedition to the oyster beds located off Bahrain's north coast. His fact-finding expedition, part of a larger survey of Bahrain's marine habitat, is documented in a seven-page report (Vousden, 1985).

The first comprehensive field survey of Bahrain's oyster beds was carried out by the Bahrain Centre for Studies and Research (BCSR) from 1986-89. Its main objective was to assess the status of the oyster beds and the potential for reviving the traditional pearl fishery. The survey covered seven major oyster beds (*Hayrāt*), including the three nominated ones: *Bū-l-Thāmah*, *Bū 'Amāmah*, *al-Mayyanah*, *'Abū al-Ja'al*, *'Abū al-Kharb*, *Shtayyah* and *Shqīṭah*. The age, structure and percentage of pearls in the pearl oyster *Pinctada radiata* was calculated. The complete findings were presented in a special report published by the Bahrain Centre for Studies and Research in April, 1993 (Nayar and Al-Rumaidh, 1993). During this project, research was also conducted on settlement of spat, and laboratory trials of pearl cultivation were carried out.

In 2004, a preliminary survey was conducted by the non-governmental environmental organisation Malkiyah Rangers on a select number of oyster beds to assess their natural state. Their findings were documented but not published.

Morphometric characteristics of the oyster *Pinctada radiata* from two localities in Bahraini waters were compared (Al-Sayed et al, 1993), while the genetic variations of the same local species was studied in the laboratory using electrophoresis technique (Beaumont and Khamdan, 1991).

PhD research on the oyster's reproductive cycle, spawning time and larval rearing was conducted in the laboratory by collecting oysters from the field over a year-long period (Khamdan, 1988; Khamdan 1993).

A useful Arabic reference offering important information on pearl oysters and pearls in the Gulf is highlighted in Khamdan (2008).

Marine heritage research undertaken during preparation of the nomination file

In addition to the analysis of the scientific reports listed above, the Ministry of Culture and Information, in cooperation with its partners, carried out field surveys of the oyster beds during the preparation of the nomination dossier.

In 2008, an initial survey was conducted of four oyster beds: Hayr Bū-l-Thāmah, Hayr Bū 'Amāmah, Hayr Shtayyah and Hayr al-Mayyanah, of which only the latter proved not to fulfil the requirements for inclusion in the nominated marine areas. The Ministry of Culture and Information joined forces with the Directorate of Fisheries of the Public Commission for the Protection of Marine Resources, Environment and Wildlife Environment (PCPMREW) for the purpose of this survey. Additional assistance was provided by specialists from the Bahrain Centre for Science and

Team preparing
to leave the Marina in
Manama



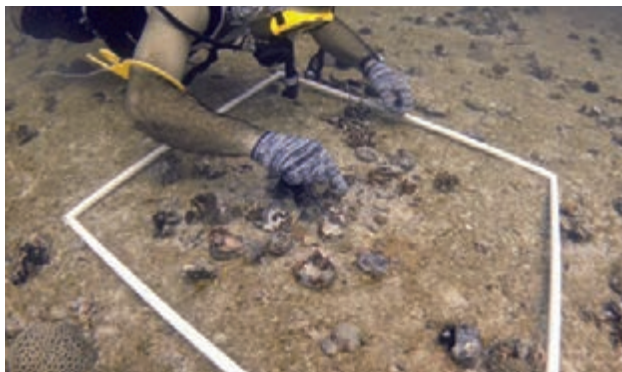
Captain using
GPS Navigator



Divers preparing to dive



Diver counting oysters
in the quadrat



Research. The objective was to assess the state of conservation of the oyster beds and to define their exact boundaries and coordinates within a Global Positioning System (GPS). A report of all findings was prepared (Al Khuzai, 2008).

A boat crew of four members, including two divers, carried out the field work over four days in November 2008. They used a 32-foot-long boat equipped with GPS and a water depth finder, allocating one day for surveying each oyster bed. The boat was made available by the Directorate of Fisheries of the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

Two scuba-divers working in tandem carried out the investigation and collected the required information. They used an underwater camera to confirm the environmental condition of the oyster beds in comparison with previous surveys, focusing on the occurrence of oysters, biodiversity, and other factors. Three to four stations were surveyed in each bed. A quadrat of 1X1 m was used to quantify the density of oysters in each diving station. The average of 5-10 replicates was used, and the condition of the oyster bed was recorded including water salinity and vertical and horizontal water visibility.

Prior to the field survey, five reference points (coordinates) were identified for each oyster bed's location, depending on sampling stations used in the comprehensive survey of 1986-89 (Nayar and Al-Rumaidh, 1993). The amalgamation of information from the previous and 2008 survey stations, together with data on the water depth and habitat around the beds, enabled the drawing of the boundaries of the surveyed oyster beds. A Geographic Information System (GIS) digital map was developed showing the locations of the three nominated oyster beds within the Bahraini waters.

A second survey was carried out in November, 2009 with the main purpose of defining the boundaries of the marine buffer zone.

Future marine and natural heritage research

Future environmental research into the natural heritage assets of the pearling testimony will involve continuous investigation for monitoring purposes, targeted survey projects, and long-term cooperation with educational/research institutions.

Monitoring the state of the Bū Māhir Seashore property and ensuring its conservation may require minor future environmental research. Such research will be planned and led by the Subcommittee for Bū Māhir Seashore, of which the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) is a member. The focus of the management system's future environmental research, however, will be the oyster beds. For this purpose, the Site Administration Unit, with the input of the Ministry's natural heritage advisor and under the lead of the Subcommittee for Marine Heritage, will compose teams of marine biologists to conduct field surveys. The Subcommittee for Marine Heritage will be responsible for coordinating the planning, supervision and assessment of the surveys.

Research for monitoring the state of conservation

The continuous long-term monitoring programme to observe the state of conservation of the three maritime properties involves environmental research. At several monitoring stations in the properties and their buffer zones various parameters will be examined and assessed on a biannual basis, covering the following items:

- Pearl Oysters: general status; population structure, recruits and density; associated animals.
- Water and Sediment: water quality (including salinity, visibility and pollution); sediment quality (physical and chemical features including level of hydrocarbons and heavy metals); sediment accumulation.

• see Strategy 5 Physical Conservation and Development

Project 1: Biology and population structure of the pearl oyster *Pinctada radiata* in the oyster beds of Bahrain

Prior to setting up the monitoring program for the three oyster beds and their buffer zones, a comprehensive survey is required for gathering base line data in order to set a reference point for future monitoring. The survey is planned for 2010 and will target the following items:

- Gather adequate information about the pearl oyster population and age grouping.
- Density mapping to show places with high and low density.
- Relate density of pearl oysters to habitat features and other parameters.
- Physical and chemical properties of water and sediment.
- Sedimentation in the properties and percentage of sediment accumulated over a specific period.
- Select a suitable location in the inner buffer zone of Hayr Shtayyah for the provision of permanent research and visitor facilities on a floating or stilt platform and gather all relevant data for an Environmental Impact Assessment of these.

Project 2: The life cycle of the pearl oyster *Pinctada radiata* and spat settlement in the waters of Bahrain

A comprehensive field survey is planned for 2011-12 to verify the spawning time of the pearl oyster and to clarify the mechanism of spat settlement.

A map showing areas where the spat are settled will be developed. Substrates and habitats associated with high spat settlement will be assessed. This survey is a precondition for addressing the pearl oyster recruit in the long-term conservation programme.

Cooperation with educational and research institutions

At a later stage, and building on the information accumulated from the previous surveys, a long-term programme will be established in conjunction with the Ministry of Education, national universities and research institutes to:

- Promote the inclusion of pearl oyster biology and oyster beds as ecosystems in the science curricula at different educational levels.
- Encourage postgraduate programmes to incorporate the topic in their themes and to develop a long-term research line for the in-depth study of pearl formation and pearl oyster conservation.
- Encourage national and expatriate researchers to be involved in long-term pearl oyster research programmes in such areas as advance studies of pearl formation, recruitment, pollution, diseases, and the conservation and sustainable use of oyster beds.

6.1.2 Historical and anthropological research

The purpose of the historical and anthropological research, both textual and oral, is to document the pearling economy in Bahrain and Muharraq in all its economic, social and cultural aspects. The primary focus is the late phase of the pearling era (from the late 19th century to the 1930s), in particular the history and original uses of the buildings from this epoch surviving in Muharraq. Special attention is paid to the history of the nominated buildings, including the history of the families who occupied or used them during the late pearling period. Overall, the historical and anthropological research aims to build a comprehensive understanding of the pearling economy, the human system it was based on and the society it shaped, including the history of the nominated buildings and surrounding neighbourhoods (*fūrjān*).

A good overview of the history of pearling in Bahrain and the wider Arabian Gulf can be obtained by studying publications and archival material. However, these are written mainly from an outsider's perspective. Although these views are highly informative, local community perceptions of the pearling era and its local heritage are equally important and are therefore the focus of the management system. An important task for the site administration of the testimony of the pearling economy, therefore, is to research and document the memories and oral traditions lingering in the local community. These include personal memories, traditional stories and sayings related to the pearling era, and the lyrics of traditional pearling songs encapsulating centuries of pearling knowledge.

The historical and anthropological research is being carried out by a task group of specialists including historians, anthropologists and other professionals employed in the Ministry of Culture and Information, Sector for Culture and National Heritage. Local and international consultants or interns are engaged to assist with specific research tasks as required.

Anthropological and historical research undertaken during preparation of the World Heritage nomination file

Historical and anthropological research, textual and oral, was undertaken during the preparation of the World Heritage nomination dossier. The Ministry of Culture and Information began the process in 2006, during the initial planning phase. The historical/ anthropological task group within the Site Administration Unit was established in 2008.

For the text-based research, the resources of a number of archives and libraries in Bahrain and abroad were consulted, as were internet data bases. Most of the research was conducted in Bahrain and was based on the resources of the Bahrain National Museum Library; the Shaikh Isa Cultural Centre; the Bahrain Centre for Cultural Diversity, Muharraq; the Historic Document Centre, Riffa; the library of the Shaikh Ebrahim Centre for Culture and Research, Muharraq; and the Library of the American Mission Hospital in Manama. Libraries consulted abroad include the British Library and the library of SOAS (School of Oriental and African Studies) in London; the archives of the Arab World Documentation Unit at the University of Exeter; Dr. Sultan Al-Qassimi Center for Gulf Studies in Sharjah, UAE; and the ICOMOS Documentation Centre in Paris.

To better understand and document the history of the nominated buildings, their neighbourhoods, and

their individual families, the textual research was supplemented by oral history research. This was conducted mainly through open-ended and highly personalised interviews with individuals knowledgeable about the history of the nominated buildings or specific aspects of the pearling economy. These informants are primarily senior members of the Muharraq community who were personally involved in the pearling economy, or who have valuable recollections of the pearling era. Occasionally, interviews were conducted with family groups. Whenever possible, and with the agreement of the informants, interviews were audiotaped, and in some instances videotaped. The interviews were then transcribed and translated into English, and in most cases condensed into reports. In addition to these in-depth interviews with select individuals and families, oral history surveys were carried out in the streets and coffee houses of Muharraq. These also focused on senior members of the local society and aimed to gather and document oral history related to both specific neighbourhoods and buildings constructed during the pearling era. Archaeological and historical/ anthropological research merged during archaeological excavations carried out on the heritage site in the autumn of 2009: as they observed the archaeological dig's progress, spectators from the local community were reminded of memories related to the site, and shared them with the site administration team.

Bahraini students who participated in the research competition, "Pearl Diving Heritage", conducted in spring, 2009 also contributed to the generation of knowledge.

As well as enriching existing knowledge of the pearling heritage, the oral history research offered the added benefit of identifying private sources of historic photographs of Muharraq (including family photos related to the nominated buildings) and other historic items from the pearling era, such as diving equipment and records of pearl merchants. Additionally, a public photo competition, "Pearling in Muharraq", encouraged participants to submit copies of historic photographs related to



• see Strategy 7 Education and Awareness Raising

Interviews with informants

• see Strategy 7 Education and Awareness Raising

pearling for use in future exhibitions and publications. The historic photographs of Muharraq are also relevant to the architectural research.

Future historical and anthropological research

Although much has been written about the history of pearling, a more thorough understanding of the pearling economy and society in Bahrain and throughout the Arabian Gulf in all its facets will require further research and documentation. Key areas for future investigation include trade relations and activities of Bahraini pearl merchants overseas; off-season pearl-diving expeditions by Bahraini boats to other parts of the world; and activities of international pearl merchants doing business in Bahrain and many other themes. The fact that Bahrain's pearling economy was embedded in a larger international trade network means it will also be essential in the future to continue and expand existing relationships with overseas researchers and institutions.

For as long as witnesses to the pearling era are still alive, however, priority will be given to the ongoing task of researching and documenting the oral history of pearling in Muharraq, of Muharraq neighbourhoods and families during the pearling era, and of the buildings surviving from this time. While oral history research and documentation during the preparation of the nomination file necessarily focused on the nominated buildings and their respective families, future research will broaden in scope to encompass the history of pearling in Muharraq more generally. This will emphasise first of all the use of in-depth oral history interviews to document the biographies and memories of senior Muharraq residents personally involved in pearling or the pearl trade during its late phase. A second emphasis will be on documenting the memories of women with personal recollections of life in the pearling era. Interviews will be audio- or videotaped wherever possible, transcribed and edited in accordance with scientific research standards, and translated into English. Together with the previous reports these will form a comprehensive oral history archive documenting the late pearling epoch in Muharraq and providing a permanent resource for the public of today and for future generations.

A number of activities and measures are planned to increase local community participation in documenting the oral history related to pearling. These include the establishment of a contact point in the Visitor Centre where individuals can offer their input; further cooperation with schools and universities in documenting family histories; the organisation of community workshops and various special events on pearling; and a heritage-guardian award initiative to acknowledge and honour contributions to conservation efforts, including research contributions.

6.1.3 Architectural and urban research

Research related to the architectural and urban assets of the testimony of the pearling economy and its buffer zone in Muharraq serves the dual purpose of assessing and communicating their values, and providing information on technical aspects that support physical conservation measures.

The architectural research of the testimony of the pearling economy is embedded in a wider context of considerations for the cultural region, both in terms of architectural and urban traditions and also historical and anthropological aspects. These include the migration of populations and cultural and climatic influences. The urban and architectural heritage of Muharraq is analysed in this context. As with other areas of inquiry, the focus of the architectural research is the nominated properties, in particular the individual history of each building and its use, its function within the pearling economy, and its society. Importantly, the architectural research aims at monitoring and enhancing the physical state of conservation of the individual buildings to ensure the preservation of their Outstanding Universal Value.

Looking beyond the nominated properties, historic buildings in the buffer zone, the primary and secondary protection elements are to some extent individually researched. In addition, the analysis and evaluation of contemporary urban development is required for the planning of interventions in the urban buffer zone.

The Site Administration Unit carries out or commissions literature and document-based research as well as site surveys. The professionals involved include architects, architectural conservators, restorers, urban planners, art historians, historians, civil engineers, chemists, anthropologists and archaeologists.

• see Strategy 2 Statutory Heritage Protection

Previous surveys of the traditional architecture in Muharraq

Previous surveys, in particular the three described below, have greatly assisted the Site Administration Unit's research endeavours:

Al-Muharraq, Architectural Heritage of a Bahraini City (El-Masri & Yarwood, 2006) documents the traditional city planning system of this unique city and records its traditional urban growth and architectural evolution. In the book, which grew out of Dr. Yarwood's doctoral thesis, he presents a first-of-its-kind classificatory system for the traditional architecture of Bahrain, based on surviving buildings in Muharraq. This classificatory analysis describes the architectural language, decoration, material and construction methods linked to each architectural period.

The United Nations Development Programme's Urban Design Projects for Traditional Areas in Bahrain (Ministry of Municipalities Affairs and Agriculture & United Nations Development Programme, 2006) was originally an initiative of His Royal Highness Crown Prince Shaykh Salman bin Hamad Al Khalifa in response to concerns over the rapid disappearance of Bahrain's built cultural heritage. The initiative earmarked the protection and conservation of traditional buildings. But it soon became clear that a holistic, inter-disciplinary strategy was required to assure the success and longevity of conservation initiatives. The strategy focused on the rejuvenation of the entire urban precinct of Muharraq and Manama; empowering the community and developing economic strategies and incentives to give the community a sense of ownership.

Architectural Features of Traditional Cities in Bahrain (Ministry of Housing, Municipalities and Environment, 1999) documents important, traditional architecture located in Muharraq and Manama and details contemporary factors affecting the heritage fabric such as modernisation and socio-economic change. The book outlines an approach of preserving heritage fabric and urban character through a policy of "Design through Traditionalism", on the basis of guidelines for adapting traditional fabric and modern homes.

Architectural and urban research undertaken during preparation of the nomination file

The Site Administration Unit team and other professionals involved in the preparation of the nomination dossier have been evaluating Muharraq's architectural and urban heritage through onsite surveys as well as literature and archive-based research since its initial phase. The physical assets have been evaluated in terms of their relevance for and representation of the pearling economy and its human system, taking into consideration the associated anthropological research. The urban development of Muharraq and the development of the local architectural style and building tradition have also been investigated. This has included research into the use of traditional techniques and materials. The collected urban analyses, architectural surveys and catalogues, evaluations of the present state of conservation, building related anthropological data and archaeological information form the backbone of the data base for these heritage assets.

In summer, 2008 an architectural survey task group was established within the Site Administration Unit and assigned to prepare a detailed architectural survey of historic buildings, including the nominated properties. The survey took place over a six-month period and involved two teams of two members each. The manual survey was completed using 'Laser Distance Meters', supplemented by tape measures. Plans, sections and elevations were handdrawn and measured applying the triangulation method. The information was then digitalised using AutoCad (drawing software application) in a level of detail for 1:100 scaling. All rooms, interior and exterior spaces as well as constructive and decorative details were photographed. A total of 25 buildings were documented and evaluated in terms of architectural value and condition. The survey covered the typical local building typologies, ranging from the *majlis*, *pl. majālis* (guest and business reception space); *dukkān*, *pl. dakākin* (shops); *'amārah*, *pl. 'amārāt* (warehouse); *masjid*, *pl. masājīd* (mosque); *qal'ah*, *pl. qilā'* (fort); and *bayt*, *pl. buyūt* (residences).

The survey team subsequently identified more than 300 historic buildings of variable heritage value, the primary and secondary protection elements in the urban buffer zone, and compiled basic documentation including exterior views and location. It developed survey forms for evaluating the exterior and interior of these houses, and for making an initial assessment of related anthropological and historical data. These support the management of the historic built fabric in cooperation with other concerned authorities.

With a view to assessing, cataloguing and eventually protecting Muharraq's historic building stock of value outside the urban buffer zone, an equivalent documentation of all historic buildings in Muharraq of obvious heritage value was carried out in autumn, 2009. Approximately 700 buildings were identified.

Throughout 2008, the Site Administration Unit employed a team of urban designers to analyse and document

• see Strategy 2 Statutory Heritage Protection

the current state of conservation of the urban buffer zone and the wider urban context of historic Muharraq, looking at traffic flows, street and facade characteristics, and spatial patterns. This work is being continued by the urban designer appointed to oversee urban upgrading works in the buffer zone.

The most extensive architectural research was reserved for the 16 nominated properties and involved detailed documentation of their construction history and former use, as well as of each building's physical state. Both aspects guide the future restoration and conservation approach as well as the future use of the building and its role within the heritage site, and require close, ongoing cooperation with the owners and inhabitants of each property.

In order to provide guidance for the planned restoration and conservation works, the Site Administration Unit, with the input of architects and conservation specialists, prepared a report on each property's state of conservation. The reports document the impact of factors on the heritage fabric. They include modernisation (especially modern additions, the introduction of modern building elements, and modern finishes); previous conservation (in particular the conservation of traditional fabric); and deterioration (focusing on human neglect and climatic impact on the material). The reports also take into consideration the built properties' urban setting and an analysis of building materials used, focusing on types of stone, traditional mortars and their chemical composition. Areas in need of further investigation by archaeologists, geologists and specialist engineers have been identified, and assistance sought. In-depth analysis of the conservation aspects of all nominated properties is currently being carried out, and international consultants in cooperation with local conservation professionals are preparing a handbook documenting the experience gained during their restoration and conservation. The handbook will also offer guidance for the conservation of other, similar buildings.

Architectural research undertaken during the preparation of the nomination file also included review and analysis of previous conservation projects and research in Bahrain. Conservation research dates back to the early 1980s, and covers aspects such as the impact of the climatic conditions on contemporary conservation solutions and traditional fabric; the chemical analysis of building materials; and the impact of the subterranean conditions, such as foundation soil and ground water on the traditional and contemporary fabric. These topics feature in the following technical reports:

Conservation, Restoration, and Preservation of Archaeological Monuments and Sites of the Pre-Islamic and Islamic Periods by Roger Saidah and Ronald Lewcock (Saidah & Lewcock, 1980): The focus of this one-month heritage conservation mission in 1979 were fortifications, archaeological sites, mosques, palaces, residences, and architectural elements unique to the traditional fabric of Bahrain as areas of importance within Muharraq. Saidah and Lewcock investigated Qal'at Bū Māhir, Bayt Sh. Isa Bin Ali Al Khalifa, Bayt Siyadi, Bayt Sh. Hamed and Bayt Sh. Abdullah and the Al-Kharu Quarter in Muharraq. The investigation documented the (natural) factors affecting the properties in great detail; the authors describe the interventions needed to preserve the built cultural heritage, and warn against using contemporary materials and methods in conservation activities due to their detrimental effect on the integrity and 'genuineness' of the original building. The report also argues for a holistic conservation approach that includes key government bodies, the community, and private investors.

Conservation Techniques for the Monuments of the State of Bahrain by Ronald Lewcock and Richard Hughes (Lewcock & Hughes, 1981): This research project was carried out to supervise and advise on a new conservation technique involving the use of low-viscosity polymers to impregnate the traditional porous built fabric. The test focused on the burial mounds of Saar and the walls of Qal'at al-Bahrain. An in-depth study of the impact of climate, topography and geology, seismicity and hydrology on the building materials of greater Bahrain was also completed and highlighted the major causes of decay on the traditional fabric in general. The report proposed conservation strategies for the Siyadi Mosque, Bayt Siyadi (better known as Siyadi Majlis), and for the urban rehabilitation of Muharraq overall.

Conservation, Restoration and Presentation of Monuments and Archaeological Sites of the Islamic Period by Ronald Lewcock (Lewcock, 1981/1982): This report re-evaluates conservation activities carried out at Bayt Sh. Isa Bin Ali Al-Khalifa, Bayt Siyadi, Bayt Sh. Hamad and Bayt Sh. Abdulla, as well as conservation work initiated in Muharraq in 1978. Regarding the rehabilitation of the historic settlement of Muharraq, the report offered crucial recommendations for the conservation of the three heritage sites.

Conservation for the Monuments of the State of Bahrain by Ronald Lewcock and Richard Hughes (Lewcock & Hughes, 1983): This report focuses on the ongoing conservation activities taking place at Qal'at 'Arād, Qal'at al-Bahrain and the Burial Mounds of Saar, and recommends that Bayt Sh. Abdullah and Bayt Sh. Hamed be listed as high priorities for urgent conservation attention due to inadequate conservation in the past.

• see Historical/ Anthropological Research above

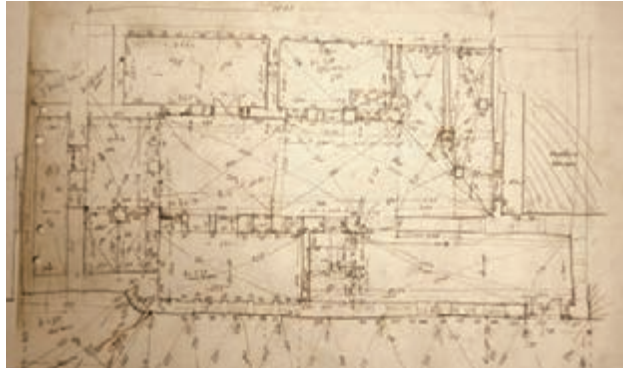
• For summaries of the state of conservation reports please refer to Chapter 3 Site Analysis and Action Plans (2009-2013)

Field Visit to Archaeological and Heritage Sites in Bahrain, (Shaer, 2007) : This report is based on a brief 10-day site inspection of Bahrain's major archaeological and heritage sites. Within the focus area of Muharraq, Shaer inspected Sh. Isa Bin Ali Al Khalifa House and *Bayt Siyadi* (better known as the *Siyadi Majlis*), and concluded that short sightedness in terms of conservation was the major problem affecting the site. In the report, she recommends that an appropriate management system be established to guide and support any future conservation activities. The report further recommends the use of traditional materials and techniques in conservation activities, and the training and education skilled labourers as well as conservation specialists.

Finally, the site administration team and researchers consulted in Bahrain and abroad have worked consistently throughout the preparation of the nomination dossier to locate and archive photographs and video material relevant to the architecture and urban environment of the pearling era. Material from the private archives of property owners and other individuals from the local community is being scanned at the time of writing. A photography competition initiated by the Ministry of Culture and Information boosted public interest and also helped gather historic photographs shedding light on Muharraq's architectural and urban past.

Future architectural and urban research

Future research will aim to deepen knowledge of key themes related to the pearling testimony. The priority of ongoing architectural research is to monitor the physical state of conservation of the properties and to investigate different conservation techniques further to continuously improve the standard of restoration and conservation. A structural and material analysis for each property will provide specifications of conservation and maintenance policies. The Site Administration Unit is responsible for ensuring that the restoration process is fully documented, and that the state



Architectural survey drawing, 2008



Architectural survey of a secondary protection element



• see Strategy 7 Education and Awareness Raising

Urban field investigation, 2009



Urban study of the buffer zone, 2009

• see *Historical/ Anthropological Research* above

of conservation is assessed and documented at regular intervals following the completion of the restoration interventions.

Future construction and conservation works in the urban buffer zone will equally be documented. Further surveys of significant historic buildings in the buffer zone are needed, to gather additional information, especially on the interior of these private buildings. Opportunities for such research will depend on the interest of the individual property owners and their cooperation with regards to survey access.

The management system will promote the ongoing sourcing and collection of further historic photographs, documents and memories related to the architectural and urban heritage of the testimony of the pearling economy, and to Muharraq in general. Further analysis of the extent to which the pearling economy shaped the architectural and urban environment of its time will be an additional priority.

The crucial role of future generations of Bahrain in generating ongoing heritage debate and research on architectural and urban themes is acknowledged. To this end, the management system intends to encourage national educational institutions to incorporate topics such as architectural heritage conservation and world heritage management into their curricula. This will introduce a deeper understanding and acceptance of the importance of architectural and urban heritage into everyday life in Bahrain. At the same time, it will provide a continuous supply of conservation specialists for the protection and preservation of the testimony of the pearling economy.

6.1.4 Archaeological Research

The testimony of the pearling economy is not an archaeological heritage site per se, but it includes properties of archaeological value. These consist in particular of the three destroyed fortification wings of Qal'at Bū Māhir, parts of the foundations of which are preserved in the ground, as well as the archaeological traces of Fakhro House and 'Amārat Yousif Abdurrahman Fakhro. But archaeological remains throughout historic Muharraq are of value for tracing and understanding the past urban development and traditional face of the historic settlement. All these features are therefore given consideration in the current and future management of the site.

The Ministry of Culture and Information's Sector of Culture and National Heritage comprises a Directorate for Archaeology. However, due to the number of archaeological sites currently under study in Bahrain and the workforce of archaeological excavation teams required by these the Site Administration Unit often seeks assistance from international archaeologists and excavation teams.

The excavation phase has mostly been completed with the presentation of the nomination dossier. The main objective of the archaeological 'digs' was to uncover the foundations and foundation walls of former buildings to gain an appreciation of their earlier appearance and construction phases and their use and modification during the pearling era. The second objective was to locate valuable historic artefacts that strengthen the site's association with the pearling economy or reveal alternative previous uses. In addition, some excavations were aimed at evaluating and analysing the founding substrata and soil composition to gain more precise information of historic land reclamation phases. Archaeological activities also helped to provide a dating framework, using both the artefactual record and information collated by other members of the conservation team, such as aerial photographs, historic records and personal testimonies. The findings of archaeological research were therefore crucial for planning the restoration and other conservation aspects of the object under study.

The excavation works included the archiving of finds and the creation of a database in which the findings are registered, photographed, and related to stratigraphic and contextual data to allow for further analysis and study. Some of the archaeological findings will in the future be exhibited on site to enrich the interpretation facilities of the testimony of the pearling economy.

The archaeological work comprises four phases: the preparation of the excavations; the actual fieldwork; post-excavation work initiated immediately after completion of the excavation work; and the compilation of a report.

Archaeological research undertaken during preparation of the nomination file

International archaeological teams excavated and are currently in the process of excavating the archaeological features of 'Amārat Yousif Abdurrahman Fakhro, and Qal'at Bū Māhir. All three excavations revealed the former footprints of the collapsed portions of the properties, and traces of their evolution and use over the past decades and centuries. The first excavation of Qal'at Bū Māhir was carried out in 1979 under the supervision of the Department of Archaeology within the Ministry of Education (Bumatia & Albin Khalil, p.48), but unfortunately, the excavating team's strategies and findings are summarised merely in a brief one-page report.

Two additional excavations were carried out during the preparation of the nomination file, both by teams consisting mainly of local archaeologists. These were an investigation adjacent to the Siyadi Shops and the excavation of the Fakhro House. Reports of the excavations described above will be incorporated into the archives of the testimony of the pearling economy and will be made accessible to the public from late 2010.

Future archaeological research

At present, very limited future archaeological research is planned in the core properties, but excavations may be possible in the buffer zone if construction projects provide opportunities for prior archaeological inquiry. The aim of these excavations would be to achieve a better understanding of the early urban structures of Muharraq settlement and its expansion during the pearling era. They would include the excavation of test trenches in the central courtyards of Murad House and Badr Ghulum House to investigate and define the exact position of the historic water reservoirs, and the system of pipes and hoses that ensured the water supply. These excavations will be carried out during conservation works in the properties planned for the second half of 2010.



The *mdbusah* (date juice press) in 'Amārat Yousif Abdurrahman Fakhro



Surveying with the Total Station



A local informant telling about the site's past



Documenting the finds

6.2 DOCUMENTATION

Comprehensive documentation of researched information and management-related data is a key concern of the site management of the testimony of the pearling economy. The complex nature of the serial site means it generates an extremely diverse range of documents and data. These include historic documents such as written materials, photographs and films, maps and drawings, artefacts and archaeological findings, and legal documents related to the pearling era and the testimony of the pearling economy, and contemporary data such as audio and visual materials and digital information. Plans to make the various documents and data publicly available through a wide range of methods, means and facilities add another layer to this complexity.

Successful management of the site requires that the different types of data are documented comprehensively and filed accessibly for the interdisciplinary team of professionals working within the management system. A stringent regime of documentation is the basis for evaluating and monitoring of both the site's state of conservation and the progress of the management system.

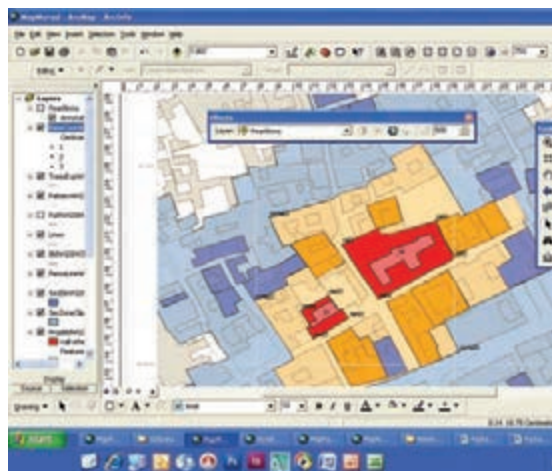
The historical, anthropological and scientific information generated by the different research fields described in this strategy is of central importance for gaining a comprehensive picture of the pearling economy and its human system. Presented on and offsite within the interpretation facilities, it conveys the narrative of pearling to visitors to the site and its facilities. The prerequisite for the development of these facilities is that all information researched by the different task groups and professionals is thoroughly documented, analysed, evaluated and synthesised in reports. It is also indispensable for informed decision making in the conservation and management of the site. The management system additionally intends to make the research outcomes available to researchers and heritage professionals for use in future research activities.

Administrative and technical information generated by the management process must also be documented and filed in a way that can be easily accessed by all authorised persons involved in the management of the heritage site. For internal archiving and management purposes, all original and copied data is stored in physical archives in the Ministry of Culture and Information and administered by the Site Administration Unit. As far as possible, all data is digitalised to store it manageably and accessibly in a digital archive.

To this end, the project maintains a Geographic Information System (GIS) database, a valuable tool for the easy exchange, long-term storage and processing of information. An expert employed for this purpose in 2009 has begun setting up the system, which will be operational from mid-2010 onward. In addition to geographical, map-based information, the GIS database will contain the wide range of other data described above. Trained members of the site administration team will continuously feed information into the database, which will be entirely or partly accessible to all persons involved in the management of the site. In the future, parts of the GIS database will be made publicly available in the archive of the Visitor Centre and Experience, and possibly on the testimony of the pearling economy website.

A number of methods, means and facilities will make much of this information available to the public. Bilingual (Arabic and English) exhibitions and interpretation means are planned in several of the properties, in the Visitor and Experience Centre, the Bū Māhir Interpretive Centre, and on interpretive panels onsite and in the buffer zone.

A bilingual audio guide will be available to visitors and is a useful tool for presenting oral history. Offsite facilities containing documentation include the testimony of the pearling economy's bilingual website and publications such as exhibition catalogues and newsletters. A public library and archive dedicated to the pearling heritage is planned for inclusion in the Visitor and Experience Centre, and will be a repository for the output from the management system's research activities and external documents. It will contain not only books and periodicals, but also audio and visual materials and computers for accessing the digital archive. For this purpose, the Site Administration Unit is expanding its stock of new and antiquarian books and other publications related to the pearling history and heritage.



GIS for the pearling testimony

7

Education and Awareness Raising

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7 EDUCATION AND AWARENESS RAISING

OBJECTIVE 7: Raise understanding and appreciation of the Outstanding Universal Value of the pearling testimony through educational use of the site.

Boosting public awareness of the significance of the testimony of the pearling economy and the values of its cultural and natural elements will foster both an increased, broad appreciation of the site and also a willingness to contribute to its preservation. However, any activities carried out as part of awareness raising must not harm or endanger the site's heritage assets.

The management system's educational and awareness-raising programmes and activities aim to provide a better understanding of the pearling heritage for site visitors from both the local and the international communities.

All interpretation facilities, on and off site, and all publications and promotional and informational material and activities, contribute to the management system's educational mission.

In addition to informal educational activities and services, the management system provides formal education through training programmes and teaching materials for use in educational institutions, as described in *Strategy 10 Resource Management*.

7.1 THE MESSAGES

The management system's educational endeavours aim to raise awareness about a number of issues. Highest priority is given to explaining the heritage site in all its layers in order to spread knowledge about the history of pearling in Bahrain and to increase understanding of its importance for national identity. A second priority is to raise visitor awareness of the fragility of the site, including the physical assets, the socio-cultural structures and the ecological system of the oyster beds. The messages also communicate the need for heritage preservation and the associated benefits. The educational mission for natural heritage conservation in addition incorporates awareness raising in regard to environmental sustainability in general.

An inscription on the World Heritage List furthermore would provide the opportunity to communicate the concept of UNESCO World Heritage to the public. The site's Visitor and Experience Centre will incorporate a dedicated space for hosting a permanent exhibition expanding on the significance and implications of World Heritage Status.

Kuwaiti youth experiencing the shared heritage: pearl diving in Bahrain in 2009



The UNESCO World Heritage concept furthermore encourages the celebration and strengthening of local cultural distinctiveness and global cultural diversity. Following this concept, the messages will contribute to strengthening the local identity while at the same time creating interest in other cultures and tolerance towards them. The site's educational material and services will point out cultural interdependencies, such as the way migration due to pearling has contributed to shaping Bahraini society, thus promoting the idea of humanity's shared heritage.

7.2 RESPONSIBILITIES AND LIABILITIES

The entity responsible for facilitating, planning and providing educational activities and services is the Site Administration Unit within the Sector of Culture and National Heritage, Ministry of Culture and Information. In carrying out this role, the unit consults and involves those subcommittees of the administrative structure most relevant to the needs of each initiative. Typically, this is the Subcommittee for Tourism Development and Promotion as many educational activities relate to tourism promotion of the site. Another important partner within the Sector for Culture and National Heritage of the Ministry of Culture and Information is the Educational Department. The Site Administration Unit also encourages participation by individuals and organisations from the wider community and cooperation with schools and universities.

The site will be available to other organisations wishing to host educational activities. However, these must be approved by the Site Administration Unit, and the latter is responsible for communicating to organisers the rules and conditions governing each event. The unit will also supervise preparations for such events and will monitor them to ensure no material damage occurs to the property or the audience, and that the site is not otherwise negatively affected. Liability in the case of harm to the property or participants lies with the organiser of the event, who will pay for any necessary repairs by specialists according to the specifications of the Ministry of Culture and Information.

Any commercial activity, including the taking of photographs for commercial purposes, must be approved by the Ministry of Culture and Information.

The planned Arab Regional Centre for World Heritage (ARC-WH) in Bahrain will play a major role in raising awareness of UNESCO World Heritage-related issues by hosting national and international seminars, workshops, conferences and training courses.

7.3 CULTURAL ACTIVITIES AND COMMUNITY EVENTS

Community events and cultural activities related to the history and heritage of pearling, especially ones that promote the continuity of cultural traditions, make an important contribution to strengthening the local community's sense of cultural distinctiveness and pride. They have the potential to stimulate a sense of responsibility and enthusiasm for participating in heritage conservation. Community events also offer an effective forum for gathering knowledge and memories of the pearling era. Enhancing the site's appeal with a calendar of changing events will furthermore ensure that the site plays a vital role in the life of the local community, and maintains the interest of the wider Bahraini and regional populations.



Cultural event in
Muharraq, 2009

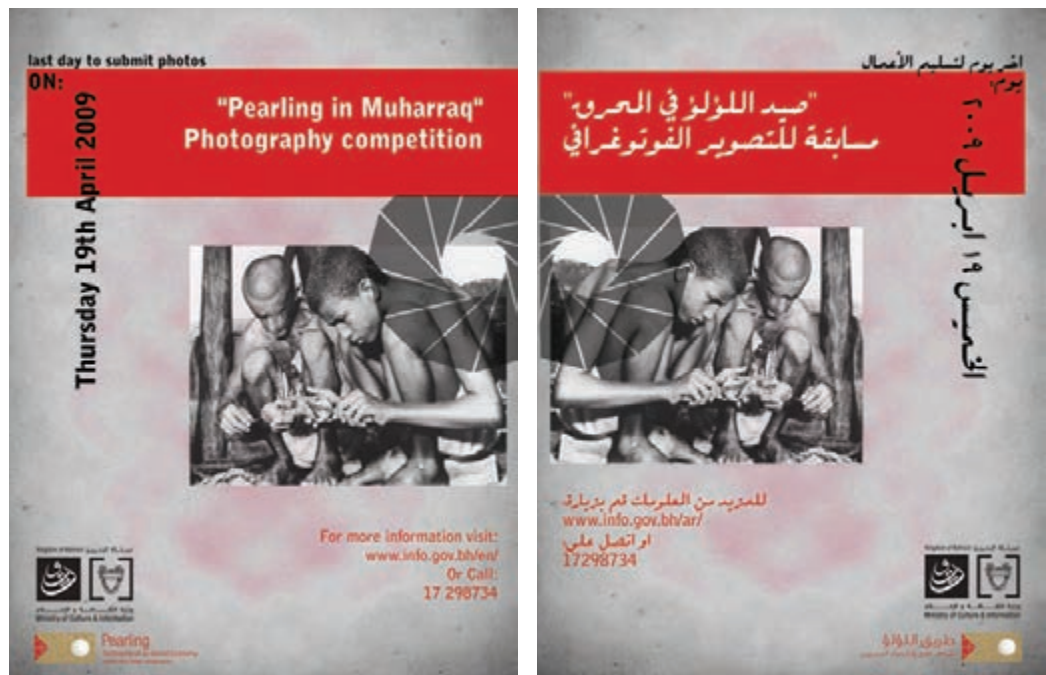
7.3.1 Activities during the preparation of the nomination

During the initial phase of the implementation in 2009, and in preparation of the nomination, the Sector for Culture and National Heritage staged several events directly related to the testimony of the pearling economy.

In spring, 2009, a public photo competition titled “Pearling in Muharraq” invited residents across Bahrain to contribute historic photographs from private collections and contemporary photos of artistic value depicting an aspect of the pearling heritage, such as Muharraq’s traditional architecture, the diverse professions, maritime activities, and pearl jewellery. Beyond the aim of raising awareness, the competition’s mission was to gather contemporary and historic illustrations of Bahrain’s pearling heritage for use on the site and within its interpretation facilities. It also served as a first assessment of the local community’s perception of their pearling heritage. Entries were exhibited to the public for two weeks at the Ministry of Culture and Information, and judged by the votes of visitors. The three winners were awarded cash prizes and a year’s free entrance to the National Museum.

In a second initiative in the spring of 2009, the Site Administration Unit together with the Educational Department of the Sector for Culture and National Heritage conducted a research competition, “Pearl Diving Heritage”, at Bahraini schools. The result was nearly 150 research papers contributed from all different school levels on topics

English and Arabic poster announcing the public photography competition ‘Pearling in Muharraq’



such as pearl varieties, traditional pearl collection the tools and vessels used by pearlers and boat builders, and the different roles that made up the pearling economy. A jury of local pearling heritage experts evaluated the papers. The winners from each of the three different school levels (primary, intermediate and secondary) won laptop computers. As with the photo competition, this initiative aimed to educate about Bahrain’s pearling past and heritage, at the same time as it assessed the level of knowledge among the local students.

In addition, in May, 2009, the Ministry of Culture and Information, in conjunction with the Italian Embassy, organised a public lecture at the National Museum of Bahrain, “A trail through the timeless elegance of pearls”, in which art historian Prof. Dr. Marzia Cataldi Gallo discussed the depiction of pearls in classic European paintings. In a second talk, archaeologist Prof. Dr. Robert Carter described how pearling had shaped societies in Bahrain and the Gulf, with an overview of 7000 years. The event was part of a cooperation between the Ministry of Culture and Information and the Italian Embassy designed to bring an exhibition of classic European paintings depicting Bahraini pearls to Manama in 2010.

In other initiatives, the Educational Department of the Sector for Culture and National Heritage has produced children's colouring books that illustrate the different pearling related themes represented in the testimony of the pearling economy.

A Bahrain-wide PR campaign highlighting the importance of the country's pearling heritage and the site that testifies to it accompanied the nomination.

7.3.2 Activities for families

The management system explicitly sets out to attract, among others, families to the heritage site, particularly those from Bahrain and the wider GCC region. Activities that will target families once the conservation measures have been implemented will include:

- bi-annual pearling festivals at the beginning and the end of the former pearling season, including re-enactments of traditional departure and welcome ceremonies on the Bū Māhir Seashore and other cultural and community events throughout the site over several days
- regular moderated boat excursions to the oyster beds with activities such as oyster opening
- regular performances of the pearling songs by local dūr (community and music centres)
- participation in the yearly national day of open monuments



Public performance of pearling songs, Muharraq 2009

7.3.3 Activities for children and youth

Education of the younger generations is vital for achieving sustainable heritage management. Events and activities directed at children and youth will therefore include the following:

- hands-on, interactive indoor and outdoor experiences such as role-plays during guided walking tours; “pearl-search games” equivalent to treasure hunts along the “Pearling Pathway” and on boats
- Regular readings of pearling stories on site
- on-site workshops to foster better understanding of the history of pearling and to facilitate an exchange of memories between the old and young generations
- research and art competitions
- interactive educational media for children at the site’s Visitor and Experience Centre, including a film documenting the history of pearling
- educational and entertainment material available in exhibitions, such as colouring books, questionnaires and games related to the specific topic of each accessible property
- children’s section on the webpage of the testimony of the pearling economy



Colouring book for children (Ministry of Culture and Information)



7.3.4 Activities targeted at an adult audience

Besides awareness raising through the communication channels listed in the Stakeholder Involvement Strategy, a continuous programme of regular cultural and community activities directed at adults will be elaborated and facilitated by the Site Administration Unit. This will include:

- public lectures and presentations by researchers
- temporal exhibitions (e.g. of historic photographs and artefacts of the pearling era gathered from the local community; pearls in European paintings; local art)
- art workshops including photography, sculpture, filmmaking, and painting
- pearl diving events
- certified pearl diving courses

- oyster bed cleaning events (involving diving)
- ceremonies accompanying the opening of restored properties or other events related to the testimony of the pearling economy

7.3.5 Corporate and private events

Beyond the activities and events described above, several properties and visitor facilities of the site will be equipped to host special events initiated by other organisations.

Sponsors are given the right to use the heritage site for special events such as dinners, receptions and press conferences. Individuals will also be able to hire rooms for special events.



Student work from the research competition "Pearl Diving Heritage", 2009

• see also Strategy 6 Research and Documentation

7.4 COOPERATION WITH SCHOOLS AND UNIVERSITIES

The management system includes the involvement of schools and universities at various levels and in various ways related to the testimony of the pearling economy for educational purposes. But it also envisages educational institutions contributing their own valuable expertise to enhancing the site administration's activities. These activities can include:

- lecture series in local schools and universities about the pearling heritage (including the UNESCO associated schools in Bahrain)
- production and dissemination of educational resource material for students and teachers (eg. short stories about the pearling heritage for Arabic and English classes; exercise sheets to be filled out during site visits of school classes)
- encouraging regular school visits to the site
- involvement of students in the implementation of the Management Plan through cooperative study projects
- research competitions related to the pearling heritage
- internship offers in different intervention fields of the management system
- organisation of summer workshops for international students
- scholarships for research related to the testimony of the pearling economy
- offering publication grants to researchers

8

Support for Cultural Traditions

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8 SUPPORT FOR CULTURAL TRADITIONS

OBJECTIVE 8: Foster the continuity of cultural traditions related to the testimony of the pearling economy.

Pearling, the collection and trade of pearls, is a cultural tradition that sustained the society of Muharraq and Bahrain up until the 1930s. The way of life that characterised the pearling era has been abandoned and the society has undergone rapid and significant changes. Nonetheless, a strong collective memory of the pearling era persists and Bahrainis today continue to take pride in a tradition that shaped their cultural identity and which still nurtures Bahrain's self-conception. An expression of this is the survival of a variety of cultural practices rooted in the pearling era and associated directly with its economy. This living legacy is fundamental to a lively and illustrative interpretation and presentation of the testimony of the pearling economy and a strong tool for communicating its Outstanding Universal Value. Furthermore, these ongoing cultural practices foster appreciation of the physical assets associated with them, thereby contributing to the promotion of the testimony of the pearling economy and to raising awareness of its values. The management system therefore supports the continuation of a range of surviving cultural practices which embody present day associations and memories related to the sites.

8.1 PEARLING ARTS

Oral traditions and performing arts related to pearling remain an integral part of contemporary Bahraini culture. The management system undertakes and facilitates further research and documentation of the oral traditions of pearling, such as music and stories, as well as associated dances and performances, and it incorporates their documentation and live events into the presentation and interpretation of the testimony of the pearling economy.

8.1.1 Songs and Dances

An essential element of the intangible pearling heritage is music. Rhythmic songs related to pearling activities together with clapping, percussion and dance accompanied the different activities of the working day on board the pearling dhows, and marked different stages of the pearl collection season. This tradition is ongoing. Men of all generations gather nowadays at so-called *dūr* (community music houses, singular *dār*) or *majālis* to practice the pearling songs for entertainment. *Dūr* are traditional places of music performance and some, predominantly in Muharraq, have a certain emphasis on songs of the pearling era. Here, the musical heritage of pearling is still passed from generation to generation and with it the knowledge related to pearl diving encapsulated in the lyrics of the songs. Each group ideally consists of at least 30 men, but many existing *dūr* are significantly smaller. They also vary in the quality and professionalism of their performances. Most performances are non-commercial and are not accessible to the public. However, various groups perform at private or public events throughout Bahrain.

Pearling songs performances in an historic photograph and in 2008 in *Dār Janāa* (right)



The Sector of Culture and National Heritage, Ministry of Culture and Information, has been supporting a number of *dār* with annual subsidies, mainly to cover their rental expenses. It regularly hires them for cultural events and also facilitates their performances abroad. The Sector of Culture currently supports 18 such centres, seven of which are located in Muharraq. Four of the latter are purely dedicated to the practice of pearling-related music.

One of them, *Dār Janaa*, is located on the “Pearling Pathway” within the heritage site’s buffer zone. The Ministry of Culture and Information has supported this *dār* for the past 20 years. In return, *Dār Janaa* has cooperated with the Ministry of Culture and Information by occasionally admitting spectators to their musical reunions. The site administration plans to maintain and extend cooperation with *Dār Janaa* and other groups with the aim of making pearling music more accessible to the public. It will do this by supporting and facilitating regular public performances and opening them to visitors to the heritage site.

Other genres of pearling songs and dances, all associated with different festivals and ceremonies related to pearling activities (see below), are given equal consideration within the management system.



Dār Janaa, exterior view in the urban buffer zone

8.1.2 Festivals and ceremonies

Festivals and ceremonies involving music and dance traditionally marked special stages of the pearl collection season, or accompanied pearling-related events during the off-season, such as the inauguration and launch of new or repaired boats.

The most important celebrations were the festivals at the beginning and the end of the pearling season each year: the departure (*al-rakbah*) and the return (*al-quffāl*). The entire population assembled at the seashore for these occasions: to farewell the pearling fleet and then to eagerly welcome it home. The women sang special songs to mark these occasions, children dressed in costumes, while drums accompanied the scene. The festivals marked the annual four-month-long separation of families, one that could tragically turn out to be final if crew members did not return.

In remembrance of these formerly very significant dates, the administration of the testimony of the pearling economy will organise public cultural events on site each year. They will be held on the traditional dates, and will include the re-enactment of the traditional festival activities at Bū Māhir Seashore.

8.1.3 Poems, stories and sayings

Additional oral traditions are poems, stories and sayings related to the pearling era, all of which have been internalised by the society to the extent that they are quite commonly referred to today. They range from fantastic legends and tales to momentous historic pearling events, such as the “the year of



“Pearls of wisdom”

the sinking", dated to 1925, when a tremendous storm destroyed much of the pearling fleet. These illustrative, often amusing, occasionally frightening oral records (and sometimes their creative embellishments) are living expressions of the importance of pearling to the society. While continuation of their oral transmission cannot be influenced directly, and so lies beyond the scope of the management system's conservation efforts, their documentation and their integration into live events will enrich the pearling narrative at an emotional and creative level.

8.2 PEARL COLLECTION

Pearl collection from Bahrain's oyster beds has never ceased entirely, but these days is carried out by only a handful of individuals. Today's pearl divers use no more equipment than goggles and snorkels. One local commercial diving operation, R&R WLL, has recently started offering training in both scuba- and skin-diving combined with an educational program on Bahrain's pearling history and heritage. The firm occasionally takes divers out to the oyster beds, including to the nominated ones.

Also on the increase, according to the local pearl merchant Abdulrazzaq al-Mahmood is the practice by fishermen trying to compensate for a decreased fish yield of wading through the shallow coastal waters in search of pearl oysters. A few tour operators occasionally offer similar activities.

Finally, the Muharraq Governorate, in remembrance of the pearling past has for several years organised a public annual pearl diving festival involving diving activities and cultural events.

These developments aside, pearl diving is not in any sense widely or generally available to the local public or to tourists, and the economic potential of commercial exploitation of the oyster beds is totally unrealised. Local pearl merchants claim that the demand for natural Bahraini pearls exceeds their availability on the local market, at present supplied by the re-importation of Bahraini pearls previously sold overseas, the recycling of

pearl jewellery, and the negligible yield from the few active pearl divers. No specific regulations for the extraction of oysters exist, and national legislation prohibiting the trade, cultivation or import of cultured pearls strengthens the economic potential of the oyster beds in Bahrain.

The management system therefore endeavours to institutionalise diving activities for both commercial and tourism purposes. It fosters the continuation of the pearl collection tradition by facilitating environmentally sustainable commercial exploitation and by making the activities more accessible for the public. Regular special events will include visitor excursions to the oyster beds involving the observation of diving activities and the opening of oysters, as well as diving and oyster collection for certified divers. To this end, the site administration will facilitate the training of pearl divers and the equipment of boats with diving and interpretation facilities. The above-mentioned diving company is cooperating with the Ministry of Culture and Information to establish these activities, which will be based on the results of a comprehensive study that is currently under development. Strict security standards for both visitor

Historic photo of
pearl diving
(from public photo competition 2009)



Pearl diving in Bahrain , 2009



and site safety will be defined and observed. Beyond this initiative, the provision of permanent visitor facilities offering diving activities in the buffer zone of Hayr Shtayyah is considered for the future.



Pearl in an oyster

8.3 ARTISANSHIP

The management system supports the continuation and transmission of surviving knowledge and skills of artisanship related to the pearling economy and its testimony. This will include the facilitation of local souvenir production involving traditional handicrafts with a focus on the traditions listed below.

8.3.1 Jewellery making

The traditional knowledge of pearl jewellery crafting, including processes such as pearl refinery and drilling, is still available and applied in Bahrain. To support these activities and make them more accessible to the public, the site administration will encourage the production and sale of pearl jewellery on site. Visitors to the site will be offered the chance to observe the delicate process of pearl jewellery manufacture with traditional instruments, and to commission jewellery to be made with



Tawwash weighing pearls
(from public photo competition
2009)



Pearl driller

a pearl they have obtained from either an oyster opening session during an excursion to the marine properties, or in a dive to the oyster beds.

8.3.3 Architectural construction techniques

The restoration and maintenance of the architectural properties requires the reactivation of knowledge and skills of traditional construction techniques. To develop the required labour force and to keep the tradition alive, the management system's architectural conservation measures include training programmes in which the traditional knowledge, currently conserved with an older generation of construction masters, will be passed on to younger generations.

• see Strategy 5 Physical Conservation and Development

Boat model in the past



Boat model build by Mubarak
Khamis Mubarak, 2009





Traditional boat building
in Muharraq, 2009

8.3.2 Boat construction

Few traditional pearling dhows (boats) are still built in Bahrain using authentic materials and techniques. When they are, it is for educational or display purposes rather than for use in pearling. The testimony of the pearling economy will include a display of a traditional dhow - or else a reconstruction of one. The Ministry of Culture and Information is also exploring the possibility of supporting the survival of traditional boat construction practices by cooperating with the few remaining boat builders (*gallāli*) who are masters of this art, and to make it accessible to visitors to the site.

8.4 COMMERCIAL USES

The management system intends to strengthen the commercial character of the market area (*sūq*) of the site and the buffer zone. Thus, under the system, architectural development in those areas reinforces commercial use by creating and maintaining commercial spaces. With the same aim, abandoned traditional shops and warehouses in the site or the buffer zone are restored and their commercial uses reactivated.

The Ministry of Culture and Information will also, where necessary, support existing businesses deemed beneficial to the site. At present, a coffee shop within one of the properties ('Amārat Ali Rashid Fakhro I) has been identified as having a commercial function worth supporting. This coffee shop has been supplying the 'amārah (traditional warehouse) and the adjacent market area for decades, and survives in its authentic location dating back to the late pearling era. With its local clientele and traditional setting, the



Traditional boat building
in the past

coffee shop offers a scene reminiscent of the pearling era, one that the management system intends to preserve with a subsidy to balance the rent rises expected to follow completion of the restoration measures.

Khalifa Abdulla Mohamed Al Salem
in front of the Bu Khalaf Coffee
Shop, 1938



Bu Khalaf Coffee Shop, 2009



9

Tourism Development and Promotion Strategy

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9. TOURISM DEVELOPMENT AND PROMOTION STRATEGY

OBJECTIVE 9: Promote site visits and use of the serial site's facilities nationally, regionally and internationally.

The management system aims to encourage tourist visits to the testimony of the pearling economy by promoting the heritage values of the site locally, within the region and internationally.

Tourism plays a major role in raising awareness of the need to protect heritage; it also generates income for the heritage site and the local community. The strategy envisages that the resulting economic benefits will contribute towards sustaining the preservation of the testimony of the pearling economy and its maritime properties, and also towards upgrading the surrounding historic district of Muharraq.

Appropriate management of tourism activity will be essential to avoid or minimise any threat or hazard its impact poses to social or ecological structures, to the heritage assets of the site, or to the visitors who make use of its facilities.

The tourism development and promotion strategy for the testimony of the pearling economy examines these issues, and also details its pivotal link to Bahrain's national tourism strategy.



Dhows approaching
Bū Māhir Seashore

9.1 TOURISM DEVELOPMENT

Link to the national tourism strategy

The National Economic Strategy identifies tourism as a key player in reshaping the economic outlook of Bahrain, in line with the country's Economic Vision 2030. The government recognises that Bahrain's cultural assets offer an anchor for the tourism industry, one capable of attracting two categories of international visitors: international tourists and regional families; and regional and global participants in meetings and conferences. The strategy aims to attract cultural tourists from both demographics looking for an authentic Arabian Gulf experience or a short break with high cultural value.

To this end, Bahrain has prioritised the protection of several major historical and archaeological sites and plans to position itself as a cultural destination through an international marketing and promotion campaign. A program for the preservation of cultural heritage in Bahrain includes – besides the testimony of the pearling economy - the World Heritage Site “Qal’at al-Bahrain, the ancient Capital and Harbor of Dilmun”, the Burial Mounds of Dilmun and Tylos, and the traditional markets of Manama and Muharraq .

The objectives of the national tourism strategy include:

- Maximising the tourism sector’s contribution to GDP growth and creating more medium/high skilled jobs for Bahrainis while being frugal with scarce resources, land, and capital
- Focusing on developments that benefit a majority of the Bahraini population and ensuring that developments that do not do so naturally are adjusted to maximise their benefit
- Building on the country’s natural advantages, including its rich history and unique natural environment to develop an authentic Bahraini experience
- Preserving and showcasing Bahrain’s heritage for the benefit of both Bahrainis and visitors

The testimony of the pearling economy is a key element in Bahrain’s tourism product development and has been identified as a lighthouse project within the national tourism strategy. The aim is to develop a distinctive tourism product that differentiates Bahrain from its regional competitors through a focus on heritage sites, traditional industries, product authenticity, and the natural environment.

In line with the national tourism strategy, the management system aims to achieve a socially, ecologically and economically sustainable tourism that benefits both the preservation and maintenance of the site and the local community.

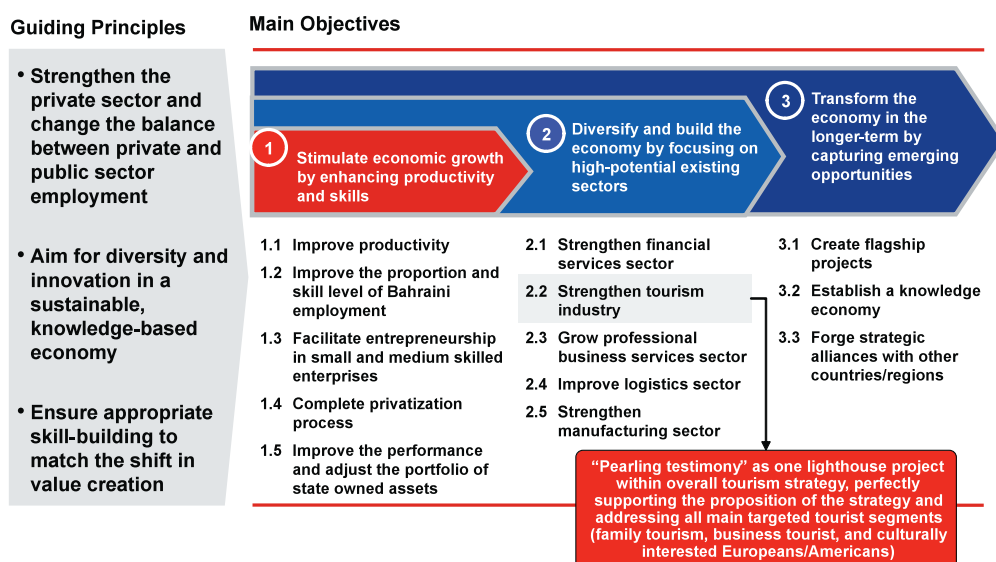


Illustration 1:
The National Economic Strategy

Source: Economic Development Board

All tourism activities must be consistent with the strategic management objectives. Preservation and conservation of the site take priority over its use for tourism. Negative impacts on the heritage or the local community must be avoided or minimised.

9.2 MARKETING AND PROMOTION

This section analyses the market and its impact on marketing and promotion activities.

9.2.1 Market analysis

The current situation on site

No official data are available for current visits to either the oyster beds or the historic commercial and residential areas of Muharraq that comprise the heritage site and its buffer zone. It is clear, however, that tourist visits are minimal: the absence of dedicated facilities means the pearling heritage is virtually inaccessible.

Tourism attractions in the region

Each regional destination has developed different “sales pitches” and brands to attract tourists. Dubai, for instance, has focused its product development on business, while Oman promotes its natural resources such as wadis, deserts, beaches, and mountains. Bahrain has lacked a strong tourism-related pitch up to this point, relying instead on business-related travel as the main generator of visitor traffic. Significant traffic also comes from short term visits from Saudi Arabia.

Heritage sites and tourism attractions in Bahrain

Bahrain's 5,000 years of documented history, linked heritage sites and surviving cultural identity invite development of a “sales pitch” no other location in the Gulf can replicate.

9.2.2 Market projection

7.8 million Foreign nationals arrived in Bahrain in 2007 (Ministry of Culture and Information, 2007). Of these, an estimated 2 to 3 million were tourists (defined as visitors staying in 4 or 5 star hotels, serviced apartments, or with friends and family, or as day tourists). The majority of visitors are regional visitors, with the biggest bulk driving into Bahrain via the causeway from Saudi Arabia. Most of this latter travel is not related to arts, culture, and heritage.

Illustration 2 shows the origin of tourists in the years 2000 to 2009.

Data describing the seasonality of total annual visits to Bahrain reveal a relatively steady overall pattern throughout the year, with variations among different visitor groups. Visits to outdoor activities occur less from June to September, when the local climate is extremely hot and humid (Central Informatics Organisation, 2006).

Illustration 3 shows the number of visitor to the World Heritage Site “Qal’at al-Bahrain, the ancient Capital and Harbor of Dilmun” and to Bahrain National Museum.

Promotion of Bahrain's cultural assets is expected to increase regional and European visitors. There is also an expectation that the recent trade agreement with China will see increased visitor numbers from north Asia. The tourism strategy also envisages growth in visits from family and friends of the expatriate population from South Asia and Southeast Asia, and increasingly from cruise passengers following the addition of Bahrain as a scheduled ship stop.

Upon inscription to the UNESCO World Heritage List, it is anticipated that the testimony of the pearling economy will target and increasingly attract international visitors interested in cultural and natural heritage, and motivate visitors to other GCC destinations to extend their stay in the region with a visit to Bahrain.

Arrivals by Nationality	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
GCC Nationals	2915964	3256966	3401049	3524337	3742806	3929765	4761048	4937984	3982608	2524371	34452527
Other Arabs	8003	14836	17577	15402	18042	16518	21306	18512	15077	9414	145273
Indians	9328	18201	26524	23833	23117	20901	23269	19050	14451	10960	178674
Pakistanis	3784	5041	12401	9984	6082	5705	7759	6556	4350	2558	61662
Phillipinos	4306	4532	4875	4415	5760	5263	5848	5418	2957	1877	43374
Asians	1978	4231	7260	7329	6720	5930	7143	8126	5261	2644	53978
Africans	518	673	834	1078	1288	1496	1421	1379	1128	953	9815
Europeans	104479	116615	130478	144809	165991	166879	213777	227303	175572	124126	1445903
Americans	41594	36732	32697	30569	29476	28895	39097	44129	36706	25684	319895
Australians & Newzealanders	142	386	766	655	765	1000	1141	1088	587	241	6530
Other Nationalities	2328	4078	7266	6592	5392	4190	4758	4579	3220	2994	42403
Total	3092424	3462291	3641727	3769003	4005439	4186542	5086567	5274124	4241917	2705822	36760034

Source: Tourism Sector, Ministry of Culture and Information, Visitor statistics and estimates 2009

Illustration 2

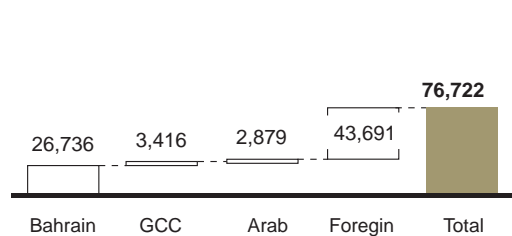
9.2.3 Estimated visitor numbers and patterns

The projected growth in visitor numbers to the testimony of the pearling economy (Illustration 4) is a conservative estimate.

Some 2-3 million tourists visit Bahrain each year. Once it is fully operational, the site is expected to attract up to 200,000 international and regional visitors and 150,000 local residents to its properties.

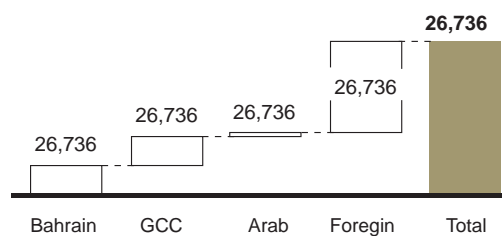
Bahrain fort visitor statistics 2008

Number of visitors



Bahrain museum visitor average 2009

Number of visitors



Source: Ministry of Culture and Information, Visitor statistics and estimates 2009

Illustration 3

Illustration 4 shows the total estimated yearly number of visits to the testimony of the pearling economy. The numbers are projected to rise with additional events and attractions being offered in future years.

Estimate of annual visits to the testimony of the pearling economy Year 2011-2015 (Rounded)

	Year growth	2011	2012	2013	2014	2015
Muharraq resident	5%	100,000	105,000	110,250	115,762	121,550
Residents outside Muharraq	5%	42,500	44,625	46,856	49,199	51,659
School groups (ages 5-18)	0%	7,200	7,200	7,200	7,200	7,200
Cruise ship passengers	5%	5,000	5,250	5,512	5,788	6,077
Saudi Arabia visitors	5%	42,000	44,100	46,305	48,620	51,051
Other leisure visitors to Bahrain	5%	150,000	157,500	165,375	173,643	182,325
Business-related travelers	10%	20,000	22,000	24,200	26,620	29,282
Total		366,700	385,675	405,698	426,833	449,146

Illustration4

Illustration 5 projects the incremental patterns of both visits and spend by tourists triggered by the testimony of the pearling economy.

Total annual visitors to the pearling testimony Visitors (000)

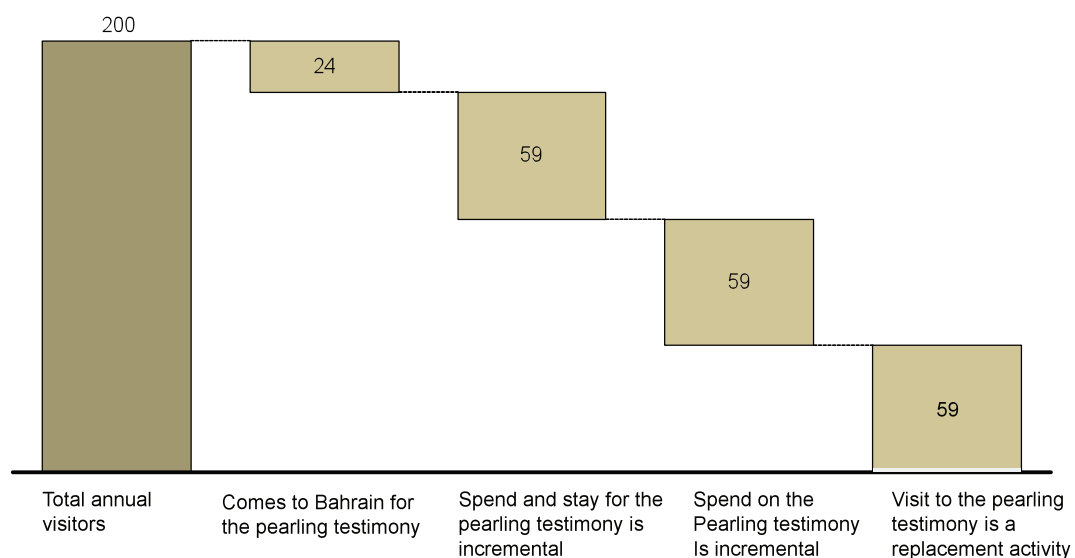


Illustration 5

Source: Team analysis



Boat excursion, 2009

9.2.4 Target groups

The tourism strategy promotes the testimony of the pearling economy as a weekend or city break to local, regional and international visitors including families, new segments of expatriates and locals in the region, tourists visiting nearby destinations, and stopover tourists in transit to other international destinations through Bahrain International Airport.

The site is also expected to attract tourists with niche interests such as traditional architecture, as well as pearl and diving enthusiasts.

Cruise boat operators, tour programmers, local school and university groups and the wider Bahrain community are also important target groups.

How to cater for the different needs, expectations, schedules and behaviors of each of these visitor groups in the development of the heritage site requires further investigation. The same applies to other target groups integral to facilitating successful tourism development, including tourist operators and service providers, social club programmers, local merchants, the media and commercial and institutional tenants on the site.

The following table gives an overview of targeted visitor segments and facilitating target groups, their needs and the action the site administration envisages them taking.

Target audiences: needs and desired behaviour

Target audience	Target audience needs	Desired action
Primary targets		
Residents of Bahrain and Muharraq	Leisure Shopping Knowledge and understanding	Multiple short length visits
School groups (ages 10-14)	Knowledge and understanding Meeting school curriculum requirements	Short length visits Return with families
Cruise ship passengers and other tour travelers	Leisure	Short length visits
Leisure visitors to Bahrain	Experience Knowledge and understanding	Short length visits
Business travelers to other regional destination within a short travel distance	Experience Leisure	Detour to Bahrain and short length visit to the heritage site
Meeting, conference, and event attendees	Experience Leisure	Short length visits
Regional “visiting friends and relative (VFR)” travelers	Leisure Shopping	Short length visits
Facilitating target groups		
Tourism industry service providers including travel and tour operators, taxi services, tour bus operators, and cruise ship schedulers and programmers	Schedules of special events and exhibitions High quality visitor services Joint marketing High quality interactions with site staff Collaboration in product development	Collaborate with site administration in developing and marketing the site
Seniors/social club programmers	Safe, low cost, and comfortable activities for members	Include the heritage site in their regular schedule of activities
Local merchants and service providers	Increased foot traffic	Improve product and service offerings Maintain local services rather than focus only on tourist traffic Welcome new merchants and service providers
Media	Story ideas Special events and exhibits information Information about development	Inform target groups of changes on the site Inform audiences about events on site Marketing partnerships
Commercial and institutional tenants on site	Increased traffic Understanding of themes and other marketing possibilities	Invest in leasehold improvements

9.2.5 Visitor attraction components

The management system aims to complement the cultural and natural heritage aspects of the pearling site with a leisure and entertainment component. The testimony of the pearling economy will offer tourists a mix of sightseeing, heritage education, shopping and local color. It aims at a safe, authentic experience across a range of activities with plenty of opportunities for picture taking.

1- Culture tourism: the heritage site will cater primarily to cultural tourists, presenting the story of the pearling economy within authentic historic buildings and locations with the aid of multi-media presentations and exhibitions.

2- Nature based tourism/adventure tourism: the oyster beds provide the opportunity to offer scuba diving and boat excursions.

3- Events Tourism: the theme of pearling and the diverse nature of the site offer opportunities for cultural, community and sportive events such as festivals and competitions for every age group.

4- Leisure, entertainment and life style: attractions such as overnight accommodation in an historic building, coffee shops, restaurants, shopping facilities, handicrafts and aquariums will complement the site's heritage and cultural assets.

Facilities for families will include a child-focused experience area within the site's Visitor and Experience Centre.

• see Strategy 7 Education and Awareness Raising

9.2.6 The product

The tourism product incorporates the properties, the connecting urban pathway, and supporting facilities and services. It also includes on- and off-site facilities such as books, the internet and television offering remote access to the experience.

The multi-faceted nature of the product and the wide range of stakeholders and activities involved requires overall co-ordination. To achieve a coherent product the heritage Site's Administration Unit within the Ministry of Culture and Information will act as actor, guide, facilitator and advisor in developing the relevant guidelines, strategies and legislation.

• see Strategy 4 Interpretation and Presentation for descriptions of these facilities and their management

Unique selling position

The testimony of the pearling economy is a unique, living heritage site. This unique character is what makes it so compelling to its target audience: nowhere else can articulate the pearling history of the world's most important pearling region on the basis of authentic historic evidence.

Requirements for a successful product

A successful product requires an overarching branding strategy with a consistent message for the target audience through advertising, publications, special events and the properties themselves.

To optimise promotion of the site and to encourage second visits it is essential to:

- develop promotional material to whet target audiences' appetites to visit the testimony of the pearling economy
- keep the product fresh with new activities, events, and announcements
- ensure the visitor experience is comfortable, safe, healthy, and clean
- maintain a policy of fair prices
- ensure the experience is perceived as high value

- train front line staff to answer site specific inquiries and act as ambassadors for Muharraq and Bahrain
- ensure the community remains on-site with a sense of ownership and involvement

The product's characteristics

The tourism strategy aims to offer a rich educational and entertainment experience through a compelling storyline. The product will be dynamic, authentic, and offered at human scale. A positive on-site visitor experience requires:

- An urban link connecting the individual properties (the "Pearling Pathway") that is logical, clean, accessible, secure, well marked and well-lit
- Buildings that tell a story and evoke a sense of history
- Public spaces that are clean, convenient, comfortable, secure, and accessible
- Public facilities such as street furniture, parking, restrooms, information booths and green spaces that enhance the visit
- Interpretation that both informs and connects with the audience
- Special events that turn the visit into an experience
- Shopping and food services to extend the visit and satisfy the visitor's other needs
- Site staff that is friendly, accessible, plentiful, knowledgeable, and multilingual
- Access points to the site that are secure, accessible, easy to locate and connect with other services

The off-site experience requires:

- Outreach to bring the heritage site into the visitor's home
- Opportunities for marketing partners to use the heritage site for events or as a backdrop for advertising

Visitor scenarios

The testimony of the pearling economy will appeal to four main types of on-site visitors. The following scenarios suggest the different ways visitors will use the heritage area and their different needs, taking into account:

- Visitor characteristics
- The experience or "product" sought
- Average length of stay
- Main access point
- Primary mode of transportation into the area

Scenario 1 — A visitor from a cruise ship

Martha arrives on a cruise boat for a short layover in Bahrain. She is a senior in reasonable health, but is not interested in experiences involving high level physical activity. Martha has chosen to visit the testimony of the pearling economy as part of a four hour tour of Muharraq with a group of 20. The cruise boat program scheduler has organised transportation to and from the site, a meal and shopping, and has a local guide ready to lead the

tour. The tour time is split into three segments: two hours on site, an hour for a meal, and an hour at pearl and other shops. First, Martha's bus drops them off at the Museum of the Pearl. In this impressive historic building, antique jewelry is displayed alongside the story of the grand pearl merchant's life. The local guide leads the tour group along a section of the "Pearling Pathway", with visits to several historic houses that illustrate the lives of the characters involved in the pearling industry in days past. Martha finds the way is well marked, easy to walk, and has many places to sit and rest. She feels secure in the area and notices a lot of other interesting aspects of Muharraq she would like to explore on a return visit. After arriving at the Visitor and Experience Centre, located within the traditional market of Muharraq, the tour group has lunch at the cafeteria. Individual members are now free to explore the pearling narrative further at the Visitor and Experience Centre, and to browse the adjacent pearl and souvenir shops. As the tour ends, the group re-boards the bus waiting outside the visitor center to return to the cruise boat.

Scenario 2 — A school group

Abdullah is one of 60 ten-year-old pupils participating in a five-hour, weekday school excursion to the testimony of the pearling economy. He has been studying Bahraini history at school and this is an opportunity to witness first-hand what he has so far learned only through books and films. Buses transport Abdullah, his school friends and accompanying teachers to the Visitor and Experience Centre at the midpoint of the heritage site. Here the children are introduced to the pearling narrative in the Centre's discovery facility. The teachers and students split up into several groups. Each group receives a "treasure hunt kit" and is directed to a different section of the site, traveling on foot or in shuttle buses. At each property, students explore the different aspects of the pearling narrative and fill in answers to the questionnaire included in the kit. En route, they stop at one of the public green spaces to rest and to eat their lunch. The tour concludes back at the Visitor and Experience Centre where buses are waiting to take Abdullah and his classmate back to school.

Scenario 3 — A business visitor

Klaus is 45 and a first-time visitor to Bahrain from Cologne, Germany. He has been in the capital, Manama, for three days attending a series of business meetings and has decided to add an extra day to his visit to see the sights. He needs a good walk after being sedentary for so many days. In his hotel in Manama he finds a brochure about the testimony of the pearling economy. His taxi drops him off at the National Museum, where he takes the boat shuttle to the pearling heritage site. The boat departs at the time indicated in the brochure, the autumn weather is fine, and the short ride to Muharraq island puts him in a holiday mood. At the Bū Māhir Interpretation Centre next to Bū Māhir Fort, Klaus, finds the staff is friendly and knowledgeable about the pearling history and the surrounding historic area. They are eager to assist him plan a walk with interesting stops and offer him an audio guide and printed material to assist his tour.

Klaus wants the freedom to wander. He accepts the printed material, but heads towards the other sites of the testimony of the pearling economy with no real destination in mind. As he follows the clearly signed pathway he is content to sit on the public benches provided to watch people go by, taking in the different sights and smells. Using the one ticket he bought to enter the small exhibition at the Bū Māhir Interpretation Centre by the seashore, he can dip into all the properties to pick up a story about the pearling era here and there. When he is hungry, he decides to eat at one of the local cafés. Here he sees many more local residents than people who look like tourists, and likes the feeling that he is part of a living area. He finds that he has hardly looked at the guidebook, yet has soaked up the ambience of the area and some of the pearling narrative through the interpretive signs he has stopped to read and some of the exhibits he has stopped in to look at. He knows that the next time he comes to Manama he will visit the pearling testimony again and will definitely book an additional night in the guesthouse in one of those beautiful, spacious, historic houses. After three inspiring hours, Klaus emerges from the small alleyways to the closest central street and flags down a taxi to take him back to his hotel.

Scenario 4 — A family visit

Salman and Fatima and their two young children live in Manama. It is 9am on Saturday and the children are already clamouring for an outing. The couple has several options: they can take the children to the shopping mall, go bowling, or visit a cultural attraction. As it is a fine day and not too hot, they choose the Bū Māhir Seashore of the pearling heritage site. This activity always excites the children and has the added benefit of being outdoors. An added attraction is that the newspaper has announced a new exhibition has opened there.

The family gets into the car and Salman drives to a parking lot on the southern tip of Muharraq where he knows there is always space. At the site, the children run off to the beach and the play area, while Salman and Fatima visit the new exhibition at the Bū Māhir Interpretation Centre. Like most children, it doesn't take them long to get hungry, so the family takes a seat in the café with its beautiful view across the water to the Manama skyline, with the profile of Bū Māhir Fort in the foreground. When their son points out a boat in the harbour that looks like an old-fashioned pearling dhow, Fatima relates what she has read about it in the interpretation leaflets. Refreshed, the family is ready to head off to do their weekly chores. The beach and that area of the testimony of the pearling economy are now on their short list of favorite family activities - and they visit often.

9.2.7 Marketing and Promotion Activities

Responsibilities

The promotion of the testimony of the pearling economy as a tourist attraction follows the overall marketing and promotion strategy of the tourism sector of the Ministry of Culture and Information. The testimony of the pearling economy is an integral part of the Kingdom of Bahrain cultural heritage and tourism product and the national branding strategy. The Tourism Marketing Board, in cooperation with the Sector for Culture and National Heritage, undertakes the responsibility of promoting the heritage site as tourist attraction through a dedicated program.

The table below indicates the general division of responsibilities for marketing and community relations.

Division of marketing and community relations

	Tourism Marketing Board	Site Administration Unit
Media	International	Local and community
Travel consumer shows	International	Local consumer shows
Cruise boat and tour company programmers	Head offices	Local offices
MICE location managers	Corporate and Bahrain corporate offices	Muharraq groups
Film shoots	Permits and licenses	Day-of-shoot arrangements
Facilities rentals and local marketing	NA	All
Government	International	
Leisure travelers	International	NA
Marketing partnerships, sponsorships, fundraising	All	NA
Community stakeholders	NA	All
Publications, guide books, audio guides	Large runs	Small and single purpose
Media buys (including internet, multimedia, mass advertising)	All	NA
Community special events	NA	All
National special events	All	Day-of-event staging

Illustration 7

Activities during the preparation of the nomination file

During the preparation of the nomination documents and the initial phases of the implementation of the management system, promotion of the site was initiated at the government level through information spreading and broad stakeholder involvement. A promotional brochure and poster highlighting the value of the heritage site and the benefits of its future protection and promotion was developed. The site was also promoted in the media and presented to officials in neighbouring countries. Brand development was initiated by creating a corporate design.

A number of activities aimed at raising awareness of the pearling heritage and local memory were carried out, such as a public photo competition and a research competition at local schools.

Preparation of community workshops in the buffer zone was initiated to inform local residents and property owners of the conservation measures, their implications and benefits, and to consult with them regarding prospective changes in their neighbourhood.

• see Strategy 7 Education and Awareness Raising

Future activities

Reaching out to the different target groups within the tourism market and the local community effectively will require a marketing funnel analysis. A detailed marketing and promotional plan will also be developed to ensure each different target group receives the appropriate brand message. This will involve marketing and promotional activities such as brand development, international roadshows, and hosting press trips.

9.2.8 Promotion channels

The heritage site's website is a crucial port for building ongoing relationships with the various target groups. It will provide for consumer feedback in order to inspire new concepts for product development and improve existing ones.

In order to attract specific target groups such as cultural tourists interested in traditional architecture, pearl enthusiasts and the international diving community, specialist literature and media will have to be investigated in detail. Proposals for package tours will be made to international tour operators and organisations with special interests in these fields.

Discussions are underway with the national carrier, Gulf Air, on ways to assist the tourism sector to attract tourists transiting through Bahrain International Airport to extend their stay to visit the country's sites.

9.3 TOURISM – LOCAL OPPORTUNITIES AND CHALLENGES

Promoting tourism to the heritage site and use of its facilities by locals will produce three main outcomes, each involving opportunities and challenges:

- Economic outlook for the site's surrounding neighbourhoods and Bahrain's national economy
- Socio-cultural outlook for the population living in and around the site
- Environmental outlook for the site

9.3.1 The local economy

Implementation of the management system will create jobs directly, with priority given to Bahrainis and especially to Muharraqis; the spillover effects to the national economy will create additional jobs indirectly.

The pearling Testimony's total annual contribution to gross domestic product (GDP), once all its components are open to the public, is estimated at 5 million BD.

Development of the heritage site has the potential to attract new residents, businesses and investment to the

• see Strategy 10 Resource Management for more details on the economic impact

Promotional Brochure, Ministry of
Culture and Information, 2009



site's surrounding areas, but is also likely to bring higher property prices and gentrification. The management system tackles the risk of local families being forced out of the area by giving the local community a voice in the decision-making process.

9.3.2 The local environment

Environmentally sustainable tourism means that tourists leave as little a footprint as possible and that the natural assets of the site survive unharmed.

A plan to prevent littering and vandalism of the heritage site and the surrounding area will be put in place. More significantly, implementation of the conservation measures will have a positive impact on the urban environment of Muharraq, with the public streetscape and open spaces to be upgraded, greened and better maintained.

The potential environmental impact on the more fragile ecosystem of the oyster beds will require constant monitoring. A comprehensive environmental impact assessment will be carried out before any visitor facilities are created in the site's maritime zone. Littering and other pollution, over-exploitation of the oyster beds through pearl diving, and physical harm to the coral reefs must all be avoided; monitoring stations, patrols and clean-up initiatives will all play a role here. The increased attention tourism will bring the oyster beds means it is likely to contribute significantly to their long-term protection.

The site administration also anticipates that operation of the site will help promote environmental awareness among both the local population and visiting tourists.

9.3.3 The local society

Developing and promoting the pearling testimony offers the local community of Muharraq a number of opportunities.

Development of the testimony of the pearling economy will be a catalyst for the redevelopment and regeneration of all of Muharraq, at the same time as promoting the preservation of historical evidence for the unique narrative of Bahrain's pearling heritage.

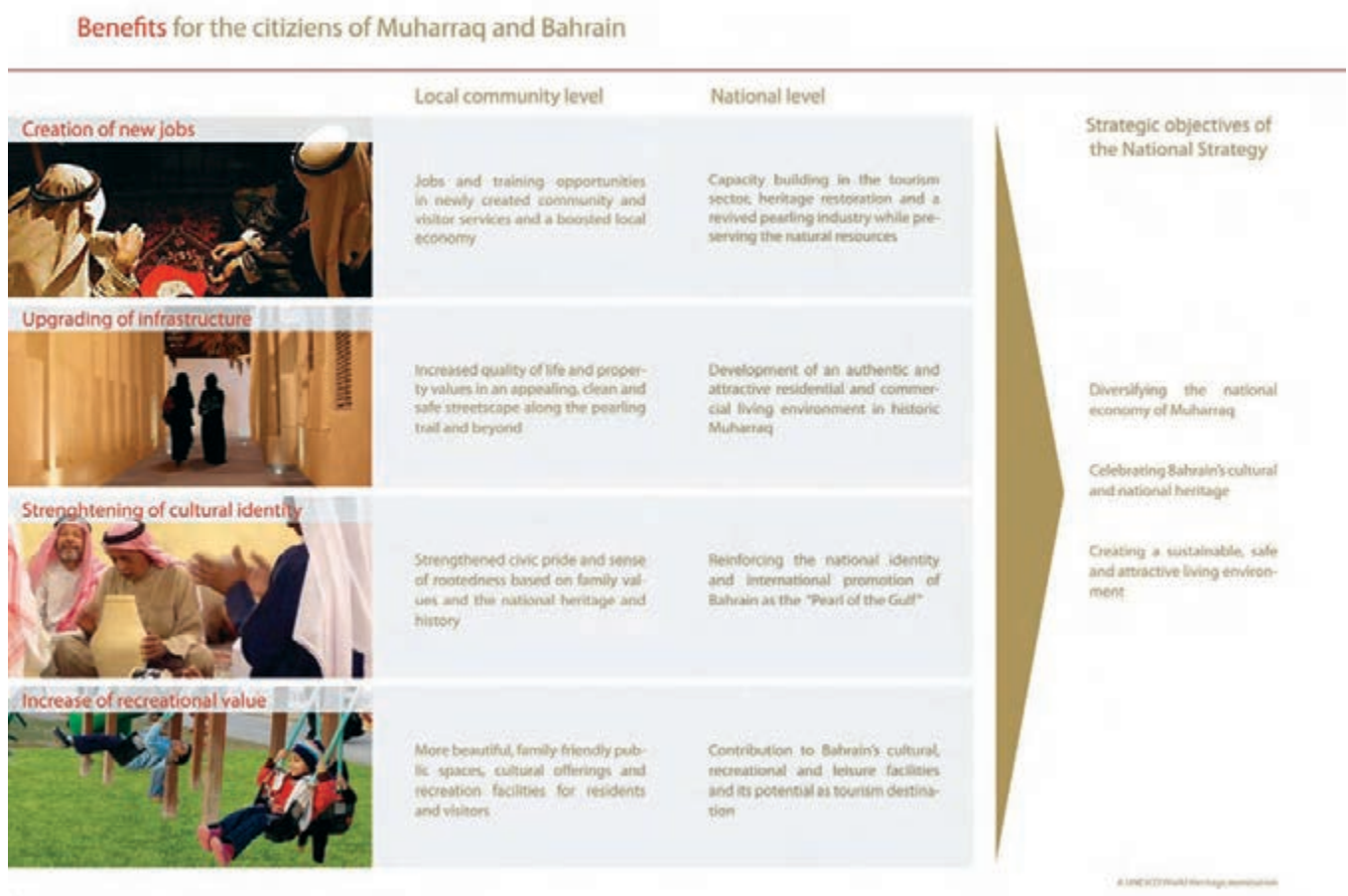
Bahraini society and culture have changed significantly since the late 1930s, the decade that saw both the discovery of oil and the end of the pearling industry that shaped its character for thousands of years. This rapid change has gradually eroded Bahrainis' sense of identity and connection with their heritage. The pearling heritage site in this context constitutes an opportunity for Bahrainis to reconnect with their heritage and strengthen their cultural identity.

Challenges posed by the tourism development include the risk that culturally insensitive visitor behavior in a conservative residential area will disrupt the social fabric of the local community. The tourism management strategies address this issue.

9.4 TOURISM MANAGEMENT

An sustainable tourism management system is required to ensure a high-quality visitor experience and to mitigate any potential threats to the site. Priorities are the safety and integrity of the site regarding its heritage assets, the socio-cultural fabric and the facilities, and also the safety and satisfaction of visitors.

The tourism management strategy is based on the principle of Limits of Acceptable Change (LAC), under which



limits are set not just to visitor numbers but also to the impact visitors have on the various components of the site. At the time of launching, a baseline survey will be carried out to document the condition of the site and its facilities and to determine quality standards. Subsequent surveys will be conducted regularly to ensure these standards are maintained.

Based on the opportunities and challenges identified above, the Limits of Acceptable Change covering the three areas of concern are defined as follows and addressed throughout the tourism management described below:

LAC for the properties of the pearling testimony defines the limits of acceptable visitor traffic beyond which the physical assets of the heritage site or its facilities are damaged. Potential issues are the fragility of the historic buildings and Muharraq's narrow lanes.

LAC for the local environment defines the limit of visitor traffic beyond which the local ecosystem is negatively affected. This relates mainly to the oyster beds and the promotion of nature-based tourism.

LAC for the local society considers both hosts and guests. It defines the limit beyond which the visitor experience is compromised because of issues such as overcrowding; alternately, the limit beyond which local residents perceive tourism as a disturbance due, for instance, to a lack of cultural sensitivity on the part of visitors.

9.4.1 Management authority

The governing entity for the tourism strategy of the management system is the Subcommittee for Tourism Development and Promotion. This entity oversees the implementation of the management system in terms of tourism development and its promotion locally, regionally and internationally. The Subcommittee is the author of the Tourism Development and Promotion Strategy. Members of the Subcommittee include representatives of the Site Administration Unit within the Sector for Culture and National Heritage, Ministry of Culture and Information; the Tourism Sector within the same ministry; and members of the Economic Planning and Development Department of the Economic Development Board. Representatives from the local residential and business community and from the tourism industry participate in the workings of the subcommittee in an advisory role. All aspects of tourism development related to the oyster beds require close cooperation with the Subcommittee for Maritime Heritage and its advisors. The site's Steering Committee is responsible for overall decisions related to the tourism and promotion strategies.

• see Strategy 1 Administrative Structure and Procedures

9.4.2 Socio-cultural tourism management

Community involvement

Recognising that the urban zone surrounding the heritage site is a living residential quarter with a thriving population, facilities should serve visitors and local residents alike. Involving the local community as much as possible in the management system's activities and decision making, and maximising the local economic benefit, creates a positive perception of tourism and prevents any discomfort among locals and/or visitors.

Community-run tourism projects that promote the testimony of the pearling economy are encouraged. Such projects include but are not limited to a guest house, coffee shops, souvenir shops and related industries such as handicrafts and traditional foods.

• see Strategy 3 Stakeholder Involvement

Traditional atmosphere of the neighborhood

The neighbourhood surrounding the pearling testimony is conservative by Bahraini standards and has received few visitors in the past. A sudden influx of 200,000 tourists to the site annually has the potential to impinge on the local population. Careful management of the projected number of visitors from Bahrain, the region and abroad will be needed to minimise this impact. Measures to educate foreign tourists in aspects of awareness and sensitivity regarding the local culture of Muharraq Island and to avoid overcrowding at individual points of the heritage site will be implemented. They will include regulatory signage and information provided by site personnel. Visitors will be advised to dress in a culturally sensitive manner, for example, and accessories such as shawls will be available for sale.

In the religious month of Ramadan, during which the consumption of food or drinks is prohibited in public, instructions for appropriate behaviour will be rigorously observed.



Resident of the buffer zone

PR campaign

A PR campaign to improve local sentiment towards tourism in general and the efforts of conserving the testimony of the pearling economy in particular has commenced.

The campaign aims to overcome some negativity among Bahrainis regarding working in the tourism industry due to negative connotations associated with alcohol and nightclubs. It has to be clear to the local residents that the heritage site will not promote or introduce alcohol and nightclub tourism. Two parallel PR campaigns are underway to address this issue: the first to increase awareness of the nature and value of the pearling heritage in Bahrain through a variety of community events; the second initiated by the Tourism Sector aimed at enhancing the perception of tourism as a viable economic sector. The aim of the latter is to encourage locals to work in a tourism industry that corresponds to their religious and cultural values.

• see Strategy 7 Education and Awareness Raising

9.4.3 Endeavors towards environmental sustainability

In addition to protecting the site's environment in the urban and maritime context, the site administration intends to declare the pearling testimony an "Environmentally Friendly Heritage Site". This will entail using environmentally friendly architectural techniques, energy saving technology, waste recycling, the use of ecological materials in locally produced items offered on the site, and initiating public clean-up campaigns to raising awareness.

9.4.4 Visitor flow management

For the safety of the site and its visitors, and to help ensure a pleasant on-site experience, visitors will be directed and distributed among the different components of the testimony of the pearling economy to avoid overcrowding.

Based on the earlier considerations regarding the Limits of Acceptable Change to the pearling testimony, the tourism strategy considers the following measures:

Access and transportation

Limited availability of public transport in Bahrain means visitors will most often arrive at the site in private cars, taxis, coaches or shuttle boats. The management system provides the necessary infrastructure in terms of parking and drop-off facilities at the site's major access points. Shuttle services will co-ordinate visitor flows to and from these major access points and within the site.

The physical carrying capacity of the narrow streets of the historic neighbourhoods and the historic properties is a particular concern. With the exception of the maritime zone, the heritage site is located in a "living area" which cannot and should not be gated or isolated with the aim of controlling access. However, limiting the number of visitors to the properties at any one time will have to be considered. The schedule of guided tours will be coordinated accordingly. Large tour groups, for example, will be received at the Visitor and Experience Centre or one of the other access hubs and distributed throughout the site via guided walking tours and shuttle services.

A pre-booking system for groups will be developed as part of a visitor distribution concept.

Orientation and guidance

Visitors exploring the heritage site independently will require clear directions for navigating the pathway connecting the different properties. This will be tackled with directional signage and high quality site maps which will be available at each property. Tour and audio guides will also be readily available.



Existing signage in the buffer zone

9.4.5 Site safety

None of the tourism activities shall have a negative impact on the heritage assets and their Outstanding Universal Value. High priority is therefore given to protective measures for safeguarding the site's integrity and authenticity.

Restricted access

The public character of most of the buffer zone means it is not possible to control or limit access. However, restricted access to the heritage properties themselves may be necessary to prevent damage to the physical structure of the buildings and their interiors. This measure will also enhance the visitor experience.

To this end, a physical carrying capacity based on the principle of Limits of Acceptable Change described above will be set for each of the historic properties in accordance with their structural load bearing strength, room sizes and types of exhibits. The specified number of visitors will be admitted at intervals controlled by the front line personnel on duty at the property during opening hours. Signs posted at the properties will indicate the maximum number of people allowed inside at one time. A maximum number of participants will also be applied to guided walking tours.

Access to the oyster beds will be limited automatically by restrictions on the number of people admitted on board the excursion or shuttle boats.

Surveyed access

A site manager will always be on duty during opening hours at each of the accessible properties. In addition, CCTV systems will be installed where necessary to prevent vandalism or the theft of exhibits.

Crews on board the oyster bed excursion boats will be trained to observe visitors, prevent littering and other visitor behaviour that threatens the marine ecosystem. The patrolling system for the marine protected areas will also monitor independent visits to the oyster beds.

Awareness of fragility

Damage can occur due to a lack of understanding of the fragility of the site. The site administration will ensure visitors are fully informed of the risks to the heritage site and its facilities.

Fire protection

Visitor traffic within the historic properties may increase the risk of fire. All historic properties will be equipped with adequate fire protection systems and clearly marked emergency exits.

9.4.6 Visitor safety

Visitor safety is crucial for the successful operation of facilities at the site as a tourist attraction. All potential risks to the health of visitors must be mitigated.

Safety arrangements

All accessible indoor and outdoor areas of the site and its facilities must be designed and maintained to prevent accidents and injuries. This includes the provision of pedestrian-safe surfaces, stairs and railings, and safe electrical installation. Safe pedestrian crossings will also be provided at points where the "Pearling Pathway" crosses streets with heavy vehicular traffic.

As the management system promotes family tourism, additional precautions for children's safety will be required throughout the site, including appropriately designed safety railings on stairs and elevated accessible areas.

Special safety arrangements will be necessary to ensure visitor safety and comfort on board shuttle and

excursion boats and during diving activities. Measures will include appropriately trained boat and diving crews, sufficient life-boats and life-jackets, and a rescue service system.

The site personnel will be trained to be attentive to visitor behaviour in the safety context and to assist in case of accidents.

Raising awareness of hazards

All other potential risks to visitor health and wellbeing, and the need for care at all times, must be communicated effectively. Regulatory signage and instruction through tour guides and front line personnel will bring safety concerns to the attention of visitors.

These include the demarcation of areas where visitors have to take special care, and precautions against heat exhaustion and sunstroke. Drinks and headaddresses will be readily available throughout the site.

9.4.7 Monitoring

The impact of tourism on the site's heritage assets and facilities, on the local community and on visitor satisfaction must be monitored continuously, and strategies adjusted if necessary.

• see Strategy 1 Administrative Structure and Procedures

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10 RESOURCE MANAGEMENT

Objective 10: Optimise the serial site's contribution to the local and national economies through sustainable use of resources.

The first part of the resource management strategy details the financial resources of the management system for the testimony of the pearling economy. It provides estimates for the cost of the conservation measures and of operating the site's facilities, and the revenue sources for funding these. The strategy also estimates the economic impact of the conservation endeavours on Muharraq and its wider contribution to the national economy.

The second part outlines the human resources required within the management system and the activities required to build capacities among the personnel.

10.1 FUNDING REQUIREMENTS

• see *Strategy for Interpretation and Presentation*

The cost of implementing the major restoration and conservation activities from 2009 to 2011 is estimated at 12.6 million Bahraini Dinar. This covers the main restoration works in the urban part of the heritage site and the provision of interpretation and presentation facilities as described in this management plan. The management systems budget will then be reduced to reflect the cost of maintaining the nominated properties and the provided facilities.

The real cost of the interventions up to 2011 is far greater than 12.6 million Bahrain Dinar, an estimate that takes into account the expected contribution of resources by partners to the management system.

The budget required for the following years will depend on the scope of activities planned. A major investment, for example, will be required to carry out the planned construction of permanent visitor facilities in the oyster beds to complement the urban part of the testimony of the pearling economy. In the long term, the management system intends to provide facilities at the site and operate them on a close to break-even basis. It is anticipated that the operation of the facilities will cover most of their ongoing maintenance costs. The altruistic nature of the Ministry of Culture and Information's mission in terms of heritage protection, community services, culture and education means, however, that investments significantly exceed their expected direct financial returns. As a result, the pearling testimony will require a permanent budget for its ongoing administration and maintenance. The amount required is estimated at around 300,000 Bahraini Dinar a year. This figure rises in the years after the completion of the initial restoration of the architectural properties, as they will require an increasing level of maintenance. Apart from the constant administrative and operational costs, special projects will require an additional project budget from governmental or private funds.

• see 10.8 On going of the heritage site, below

Additional costs could potentially arise from compensation claims by the owners of real estate affected by the conservation activities, particularly by heritage protection in the urban buffer zone. These costs, however, are difficult to estimate, and would be counterbalanced by various compensation schemes and by contributions from other involved governmental authorities.

10.2 FINANCIAL RESOURCES

The diverse character of the site and the broad scope of the management system's intervention fields by necessity involve many stakeholders. This, together with the attractiveness of the pearling theme, means the testimony of the pearling economy and its facilities and services will appeal to a wide range of investors, thus offering numerous funding opportunities.

10.2.1 Governmental funds

Heritage conservation and the promotion of culture is the responsibility of the Ministry of Culture and Information, which allocates administrative budgets for this purpose every two years. From 2011-12, the site administration of the pearling testimony will receive a standard biennial allocation of an estimated 300,000 Bahraini Dinar to cover the ongoing cost of maintaining and administering the heritage site. The standard allocation for 2011-12 will however be set at half of this figure, as it is anticipated that many costs will still be covered by the initial investment of 12.6 million Bahraini Dinar, and that heritage maintenance needs immediately following the major restoration will be low. Future standard allocations may also be reduced if all the possible revenue sources described in this strategy are harnessed. This potential outcome has not, however, been taken into account in the conservative estimates contained in this document.

The site administration uses shared services within the Ministry of Culture and Information, cooperating in particular with the Tourism Marketing Board of the Ministry's Tourism Sector, and the Archeological and Educational Departments within the Sector for Culture and National Heritage.

Significant contributions of resources, although no direct funds, come from other ministries and government agencies. The Public Commission for the Protection of Marine Resources, Environment and Wildlife Environment (PCPMREW) contributes resources for the protection and research of the maritime properties. The Ministry of Municipalities and Agriculture Affairs and the Ministry of Works will join forces in providing labour and services for the urban works related to the pearling testimony in Muharraq. Furthermore, buildings and plots have been bought by the Ministry of Municipalities and Agriculture Affairs to be developed according to the management system's urban master plan and/or ownership has been transferred to the Ministry of Culture and Information. The Ministry of Works implements most of the urban upgrading works and contributes funds within the limits of the standard budget allocated for this purpose.

10.2.2 Public-private partnerships

There are a number of opportunities for public-private partnerships in the management system.

One crucial form of such partnerships in this heritage site is the cooperation of the owners of the nominated properties in making their buildings partly accessible to the public and/or by contributing funds or other resources towards their conservation. Similar cooperation occurs with property owners in the urban buffer zone.

In addition to the above mentioned, the majority of services and facilities onsite will be operated by the private sector.

10.2.3 Sponsorships

Sponsorships allow private organisations to establish a close association with the heritage site and its management system by providing financial or personnel resources towards the conservation measures. Sponsorships could take the form of buying naming rights.

The Shaikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research, in one example, is contributing by financing the restoration and conservation of two architectural properties, and by providing spaces within these buildings for interpretation facilities produced by the site administration and related to the pearling narrative.

10.2.4 Marketing partnerships

Marketing partnerships may include corporate promotions in the form of displays, advertising or sampling of goods. In these cases, the Ministry of Culture and Information acts as landlord and charges the partner a fee for

a short-term activity within the heritage site or its facilities. Such mutually beneficial cooperation will become increasingly relevant to the management system as the site's prestige grows.

10.2.5 Fundraising

The Royal Court has generously offered to donate the 12.6 million Bahraini Dinar needed to cover the bulk of the costs of the conservation works from 2009 to 2011.

Fundraising for additional financial resources may range from specific one-off projects to general appeals to the community. The appeal to the donor in fundraising efforts will be based for the most part on community-building with an altruistic aspect, rather than focusing on a direct financial return on investment.

Another potential future source of funds, particularly on designation of World Heritage status, is international co-financing. Possible donors include international associations for urban and marine conservation.

The Ministry of Culture and Information is also considering the possibility of setting up a Pearl Foundation as a non-governmental organisation designed to raise funds for the heritage site from private donors and provide advice to its management. The foundation would investigate possibilities for international cooperation with other pearling-related sites and communities.

10.3 ALLOCATION OF FUNDS

The allocation of the funds available to the Site Administration Unit for the major initial conservation works up to 2011 is scheduled as follows: 0.85 million BD in 2009; 7.16 million BD in 2010; and 4.59 million BD in 2011.

The table below, indicates the percentage costs of the different intervention fields.

Type of intervention	Percentage of total budget
UNESCO World Heritage Nomination	1.2
Administration and management	5.3
Establishment of connecting urban pathway in the urban buffer zone	20
New interpretative centres / visitor experience	32
Restoration of properties and provision of interpretation facilities	25.5
Secondary infrastructure in buffer zone and architectural properties	3
Research and scientific analysis	10
Education and cultural activities	3
<i>Source: Ministry of Culture and Information</i>	

10.4 POTENTIAL REVENUE SOURCES FROM VISITOR FACILITIES

This section outlines the sources of revenue available through the operation of onsite facilities and services.

The facilities and services of the testimony of the pearling economy are operated as a not-for-profit business, meaning that operationally the site administration aims to minimise an operational deficit rather than maximise

net revenue. The objective of financial sustainability in this sense is to run the facilities and services on a close to break-even basis, with stable minimum core funding from the administering entity, the Ministry of Culture and Information.

10.4.1 Admission fees

Given that the heritage site is part of a thriving residential and commercial area, it is not possible or even desirable to gate the area and charge admission to the heritage site. This is even more the case because a goal of the management system is to increase the number of local visitors and to integrate the heritage site into the living city of Muharraq. Instead, the focus must be on ancillary products and services. Most visitors will be charged a small admission fee of 1 Bahraini Dinar for a single ticket providing access to all the properties and the permanent exhibitions within the publicly accessible urban properties. Visitors that fall under the site's fee reduction scheme, as described in *Strategy 4 Interpretation and Presentation*, will be charged at a lower rate.

10.4.2 Ancillary products and services

The following projections for income generation from ancillary products and services are based on the properties that generate income for the Ministry of Culture and Information. These are either properties that belong to the Ministry of Culture and Information, or properties where agreements have been reached with the owners that any income generated remains with the Ministry in return for the maintenance of the property. These are referred to below as income-generating properties. In other cases, the income generated remains with the owner of the property. One such example is the Visitor and Experience Centre, where the owner of the plot has donated his property. The income generated from the facility, after deduction of maintenance and administration costs, will therefore benefit the owner and will not remain with the Ministry.

The possibilities for generating income onsite fall into two main categories: product sales and services.

Product sales

Merchandising: The sale of pearling related merchandise onsite.

Special events/exhibitions: The Ministry of Culture and Information will occasionally organise special onsite events that allow for the charging of admissions fees.

Food services: Some of the income-generating properties will offer catering facilities. If as envisaged private companies operate these facilities, the management system will derive revenue from rentals.

Service revenues

Educational and outreach programmes: These consist of teaching materials such as videos, teacher guides, and television and radio programming, as well as training courses, e.g. for the tourism industry. Most of these services will however be offered free-of-charge.

Consulting: The site administration will develop a wealth of expertise in the coming years which will be of value to clients representing other cultural attractions.

Short-term room rentals: Some of the income-generating properties will be suitable for rental for community, private or corporate events.

Tour guides: Personal and group tours.

Publications: Printed, electronic, audio - using multimedia, web-based, television, and radio.

Printed and audio guides: Rental and advertising sales income.

Onsite advertising: Banners, poster and signs.

The site administration will produce and offer the above-described merchandise and services; in the future these are likely to be produced at least partly by third-parties, perhaps under license.

10.4.3 Income-generating spaces of the heritage site

Table 1 shows the allocation of space the revenue projections for the heritage site are based on.

Allocation of income-generating space – Table 1

	Square metres
Sales	100
Exhibitions	600
Catering	200
Available for short-term rental	200
Total	1100

The following estimated utilisation of the facilities (Table 2) is based on this space configuration. The assumptions are relatively conservative.

Estimated utilisation – Table 2

Space	Estimated utilisation
Sales areas	Operated by private sector lessee on a percentage rent basis
Exhibition spaces	Operated by the site administration under the single admission charge of 1 Bahraini Dinar
Spaces available for short-term rental	Facility is made available free-of-charge to municipal and community groups and organisations Nominal rental per use charged for not-for-profit groups and organisations Market rental of 50 Bahraini Dinar per use charged for private sector organisations Mix of uses is 50% community; 25% staff; 25% private Spaces for rental used 50% of available time
Catering	May be operated by private sector lessee on a percentage rent basis

10.4.4 Brands

A connection with the testimony of the pearling economy will be of increasing value to third parties as the heritage site builds both its reputation and equity in its brand. Partners may then participate in that equity to benefit both parties. The types of possible agreements envisaged may include the following, for which, however, policies have not been developed yet:

Licensing: Licensing involves a third party obtaining permission from the Ministry of Culture and Information to sell its products within a defined market area. The licensee pays a royalty fee for this right.

Naming rights: This is the right to name, for example, a facility or event at the site, in exchange for financial considerations. For companies, this is a form of advertising.

To be prudent, provisions for licensing have not been included as there is no intellectual property that is easily trademarked or proprietary. However, this may be reconsidered in the future if the site administration develops a consumer-oriented mascot or graphic image attached to the heritage site, a line of special products such as pearl jewelry, a proprietary expertise, or an extraordinary event related to testimony of the pearling economy.

Given the status of UNESCO World Heritage, the site administration will investigate the possibility of selling naming rights for certain onsite facilities. Any decision will need to take into consideration the image the Ministry of Culture and Information wishes to promote for the heritage site. To be prudent, no provision has been allocated for naming rights in the financial projections.

10.4.5 Partnerships

The management system will benefit from a close relationship with private and governmental organisations. Those relationships can take a number of different forms including sponsorships, marketing partnerships, and fundraising, as described above.

10.5 PROJECTED OPERATING NET INCOME

This section outlines the estimated operating cost of facilities within the income generating properties. It includes estimates of operating revenue and expenses, excluding capital costs and sponsorships, fundraising and marketing partnerships. The projection of revenues and expenses is conservative. Table 3, below, shows which potential revenue streams have been taken into account for the projections.

**Potential revenue streams taken into account in
projections – Table 3**

	Included in revenue projects?	Reason for exclusion
Revenue generating properties		
Product sales		
Merchandising	Yes	—
Special events/exhibitions	Yes	—
Food services	Yes	—
Service revenues		
Educational programs	No	Part of educational mandate
Research	No	No research personnel available in short term
Outreach	No	Used to generate public interest rather than revenue
Consulting	No	Not yet set up for consulting
Short term room rentals	Yes	—
Tour guides	Yes	—
Publications	Yes	—
Printed and audio guides	Yes	—
Onsite advertising	No	Requires policy to allow or not allow
Brands		
Licensing	No	No products or services to offer at this stage and branding value as yet very low
Naming rights	No	Requires policy to allow or not allow
Partnerships		
Sponsorships	No	Requires separate investigation
Marketing partnerships	No	Requires separate investigation
Government support	No	Residual amount
Joint venture partnerships	No	More suited to capital raising
Fundraising	No	More suited to capital raising

10.5.1 Visitor estimates

It is estimated that up to an estimated 200,000 international and regional travellers and 150,000 local residents will visit the testimony of the pearling economy each year in the coming years. There is no allowance in the projections for an uniform increase in visitors to Bahrain due to the new activities of the Tourism Marketing Board; instead they incorporate the expectation of 0% growth in visits by school groups, 10% in business-related travel, and a 5% rise per annum in visits by all other groups.

• see Strategy 9 Tourism Development and Promotion for details on visitor estimates

10.5.2 Estimate of use of facilities and services

The average estimated use of facilities at the income-generating properties is calculated in Table 4, below, and shows the different participation rates of the different projected visitor groups. Please note that the following visitor numbers reflect the estimates to the income generating properties only.

Estimate of annual visits to the income-generating properties

Table 4 (Rounded)

	Participation Rate	2011	2012	2013	2014	2015
Muharraq residents	25%	25,000	26,250	27,563	28,941	30,388
Residents outside Muharraq	20%	8,500	8,925	9,371	9,840	10,332
School groups	25%	1,800	1,800	1,800	1,800	1,800
Cruise ship passengers	25%	1,250	1,313	1,378	1,447	1,519
Visitors from Saudi Arabia	20%	8,400	8,820	9,261	9,724	10,210
Other leisure visitors	25%	37,500	39,375	41,344	43,411	45,581
Business-related	20%	4,000	4,400	4,840	5,324	5,856
Total		86,450	90,883	95,557	100,486	105,687

10.5.3 Estimate of revenues from income-generating properties

Following on from estimated visits to the income-generating properties, likely revenue from sales of food, giftware, exhibit admissions and other sources is projected on a per-head average sale basis. The per-head average sales are blended to take into account the anticipated different sales levels of different visitors. For instance, sales of merchandise to school children are expected to be lower than those to cruise-ship passengers.

For the purpose of the following calculations, it is also assumed that the gift shop and food services are operated by the site administration rather than by a private operator. As a result, the revenue projections show total sales instead of a percentage-rent, which would be more typical if the Ministry of Culture and Information acted as a landlord for private operators.

The projections also assume that not all visitors to the properties will participate in all activities. For instance, while student visitors are not expected to rent an audio guide (the teacher acts as the guide), casual visitors are assumed more likely to do so. Table 5, below, shows per-head average sales and participation rates.

Average sales per visitor – Table 5 (All types of visitors)

	Blended per-head revenue (BD)	Blended participation rate
Product sales		
Admission fee to permanent exhibitions	1	60%
Merchandising (net of cost of goods sold)	3	10%
Special events	3	5%
Food services (net of cost of goods sold)	5	15%
Service revenues		
Tour guides	2	5%
Shuttle services	1	20%
Printed and audio guides	3	15%

Total sales for years 2011 to 2015 are shown in table 6 below.

Estimate of sales (Rounded, Bahraini Dinar) - Table 5

	2011	2012	2013	2014	2015
Total visitors	86,450	90,883	95,557	100,486	105,687
Admission fee (exhibitions)	51,870	54,530	57,334	60,292	63,412
Merchandising	25,935	27,265	28,667	30,146	31,706
Special events	12,968	13,632	14,333	15,073	15,853
Food services	64,838	68,162	71,667	75,365	79,265
Tour guides	8,645	9,088	9,556	10,049	10,569
Shuttle services	17,290	18,177	19,111	20,097	21,137
Printed and audio guides	38,903	40,897	43,000	45,219	47,559
Total	220,448	231,750	243,669	256,240	269,502

10.5.4 Space rentals

The income-generating properties incorporate spaces available for short-term rental. As a community resource, however, these rooms are available to community groups free-of-charge. Table 7, below, shows the potential revenue from this source.

Revenue from space rentals – Table 7 (Based on 365-day operation, rounded)

	Total days available for rent	Utilisation by rent payers	Days rented	Cost of use (BD)	Total (BD)
Spaces available for rental	91	50%	45	50	2,250
Temporal exhibitions	46	25%	13	0	0
Total					2,250

10.5.5 Total revenues

Total revenues from the different sources are shown in Table 8, below. Please note that the revenue projections include only the properties that will generate income for the site administration within the Ministry of Culture and Information. To be very conservative, no allocation is included for revenue raised through fundraising, marketing partnerships, sponsorship deals, licensing, onsite advertising or government grants. They are expected to be non-zero, however, given the attractive nature of the pearling theme and site.

Total revenues – Table 8 (Bahraini Dinar)

Source	2011	2012	2013	2014	2015
Services and facilities	220,448	231,750	243,669	256,240	269,502
Space rentals	2,250	2,363	2,481	2,605	2,735
Naming rights	0	0	0	0	0
Sponsorships	0	0	0	0	0
Marketing partnerships	0	0	0	0	0
Government support	0	0	0	0	0
Fundraising	0	0	0	0	0
Total	222,698	234,113	246,150	258,845	272,237

10.6 OPERATING COSTS FOR FACILITIES AND SERVICES

This section reviews the main costs associated with operating visitor facilities within the income-generating properties. These costs are based on the following assumptions:

- The accessible properties are open every day, year round
- Security for public space and streets in the urban buffer zone is provided by the municipal police force
- Clean-up and garbage removal in the urban buffer zone is provided by the municipality

10.6.1 Site Personnel

The estimated cost of site personnel for the income-generating properties is based on the following assumptions:

- The properties are open 365 days a year, 10 hours a day, with the exception of facilities with catering services, which do not close for a lunch break and are open 12 hours a day.
- The properties include catering services, merchandise sales (assumed to be operated by the site administration), exhibition spaces, and other spaces available for rental for events
- 24-hour security in the properties
- Based on a 40-hour working week
- All frontline personnel, and catering , maintenance and security personnel are paid at the same level (400 Bahraini Dinar a month, or 4,800 Bahraini Dinar a year)

Personnel expenses within the different properties for a typical year are shown in Table 9, below.

Site personnel costs for typical year – Table 9

Income generating property	Number of shifts per day	Number of days staffed	Number of on duty per shift	Salary (BD)	Total (BD)
Bū Māhir Interpretation Centre and Qal'at Bū Māhir: exhibition, café, merchandise, space rental	1.5	7	6	4,800	43,200
Al-Ghūs House: exhibition, merchandise	1.25	7	1	4,800	6,000
Badr Ghulum House: exhibition, refreshments, merchandise, space rental	1.5	7	2	4,800	14,400
Al-Jalahma House: exhibition, merchandise	1.25	7	1	4,800	6,000
Fakhro House: exhibition, merchandise	1.25	7	1	4,800	6,000
Murad Majlis: exhibition	1.25	7	1	4,800	6,000
'Amārat Ali Rashid Fakhro (I): exhibition, merchandise	1.25	7	1	4,800	6,000
Nūkhidhah House: exhibition, merchandise	1.25	7	1	4,800	6,000
Siyadi Majlis: exhibition, café, merchandise, space rental	1.5	7	4	4,800	28,800
Al-Alawi House: exhibition, merchandise, space rental	1.25	7	4	4,800	24,000
Services					
Tour guides	1.25	7	2	4,800	12,000
Shuttle services	1.3	7	2	4,800	12,480
Total salaries					170,880

In addition, the site administration expects to enlist a corps of docents and other volunteers to act as guides and frontline personnel.

10.6.2 Additional operating expenses

In addition to salaries, the operation of the facilities involves costs for cleaning, maintenance and utilities such as water and electricity. The estimate of 75,000 Bahraini Dinar for these costs is based on the experience of the Ministry of Culture and Information in similar cases. Another cost is the property Badr Ghulum House, which the Ministry of Culture and Information rents for 400 Bahraini Dinar a month.

10.6.3 Total operating expenses

Total operating expenses are shown in Table 10, below. An annual increase of 5% a year is assumed.

Total expenses – Table 10 (Bahraini Dinar, rounded)

Source	2011	2012	2013	2014	2015
Rent (Badr Ghulum House)	4,800	5,040	5,292	5,557	5,834
Salaries	170,880	179,424	188,395	197,815	207,706
Cleaning, maintenance, operational costs	75,000	78,750	82,688	86,822	91,163
Total operating costs	250,680	263,214	276,375	290,193	304,703

10.7 NET FINANCIAL SITUATION OF FACILITIES AND SERVICES

Table 11, below, shows the net financial situation following on from the scenarios outlined above. It shows a relatively small operating deficit. The facilities and services at the heritage site can accordingly be operated on close to a break-even basis.

Projected revenue and operational costs – Table 11 (Bahraini Dinar)

	2011	2012	2013	2014	2015
Revenue	222,698	234,113	246,150	258,845	272,237
Expenses	250,680	263,214	276,375	290,193	304,703
Total gross revenue	-27,983	-29,101	-30,224	-31,348	-32,466

10.8 ONGOING COSTS OF THE HERITAGE SITE

The mission of the Ministry of Culture and Information to administer and maintain the testimony of the pearling economy brings with it additional ongoing costs, based on the following assumptions:

- All administrative and supervisory personnel paid at the same level (600 Bahraini Dinar a month, 7,200 Bahraini Dinar a year)
- All professional personnel paid at the same level (1,350 Bahraini Dinar a month, 16,200 Bahraini Dinar a year)
- All interns paid at the same level (400 Bahraini Dinar a month, 4,800 Bahraini Dinar a year)

10.8.1 Personnel of the Site Administration Unit

Personnel expenses for employees of the Ministry of Culture and Information within the Site Administration Unit for a typical year are shown in Table 12, below. Please note that the long-term composition of the Site Administration Unit, as shown here, differs from its composition during the initial major conservation works up to 2011, as listed in section 10.11 *Human Resources*, below.

Site administration personnel costs for a typical year – Table 12

(Bahraini Dinar rounded)

Function	Number of shifts per day	Number of days staffed	Number of on duty per shift	Salary (BD)	Total (BD)
Heritage manager	1	5	1	16,200	16,200
Assistant to management	1	5	1	7,200	7,200
Restoration and conservation advisor (50%)	0.5	5	1	16,200	8,100
Environmental heritage advisor (50%)	0.5	5	1	16,200	8,100
Urban site manager	1	5	1	7,200	7,200
Marine site manager	1	5	1	7,200	7,200
Archivist	1	5	1	7,200	7,200
Promotion and marketing specialist (50%)	0.5	5	1	16,200	8,100
Accountant	1	5	1	7,200	7,200
Translator	0.5	5	1	7,200	7,200
Interns	1	5	1	4,200	4,200
Salaries total					87,900

10.8.2 Projected costs of site administration and maintenance

In addition to salaries, the administration and maintenance of the heritage site involves expenses in several intervention fields. The following cost estimates are based on the experience of the Ministry of Culture and Information in comparable sites and take into account the following assumptions:

The maintenance of the architectural properties is allocated 100,000 Bahrain Dinar, with an annual increment of 15% to meet increasing conservation needs following the initial restoration. In 2011, the cost of maintenance is estimated to be half that figure, as the restoration of many properties will only just have been completed.

The maintenance of public space and heritage assets in the urban buffer zone is a responsibility the Ministry of Culture and Information shares with other Ministries and governmental bodies. An amount of 20,000 Bahrain Dinar has been allocated for this purpose, with an annual increment of 10% from 2011. Again, the allocation in 2011-12 is only half that sum. Any extensive restoration of historic buildings in the urban buffer zone will require separate project budgets or external funding. Public green space maintenance in the urban buffer zone is the responsibility of the municipality.

The site administration will use shared Ministry of Culture and Information services (such as management, accounting, human resources, real estate, legal, archeological research, heritage conservation). Other partners will also contribute significantly to various initiatives. Research has been allocated 20,000 Bahraini Dinar per year.

Marketing and promotion has been allocated 8,000 Bahraini Dinar per year. This figure will be doubled in 2011 when intensive promotion of the site will be necessary following completion of the extensive conservation works. Regional and international marketing will be undertaken in the main by the Tourism Marketing Board of the Tourism Sector within the Ministry of Culture and Information, while the Site Administration Unit will handle most local promotion. As a result of this division of responsibilities, the major expenses incurred will be labour, out-of-pocket expenses of special events (which in many cases will be community-organised), and small-run publications and promotions.

No revenue from educational programmes has been indicated, however there are costs associated with developing and mounting these. The largest part of those expenses is in staff costs. In addition, there will be development and production costs for curatorial, educational material, teacher training, exhibit design and mounting. No allocation has been made for television, radio, or multimedia production, considered to be special projects that require separate funding. Education and outreach will be funded with 16,500 Bahraini Dinar.

The Site Administration Unit intends to make scholarships available to researchers for both educational and research purposes. Two annual scholarships of six months are foreseen, and will include a stipend of 6,500 Bahraini Dinar and free lodging in the site administration's accommodation in Turabi House.

10.8.3 Total operating expenses

Total expenses generated by different items are shown in Table 13, below. An increase of 5% a year is assumed for all items, except for the maintenance of properties (15%) and the urban buffer zone (10%).

Projected costs of site administration – Table 13 (Bahraini Dinar rounded)

Source	Annual growth rate	2011	2012	2013	2014	2015
Salaries	5%	87,900	92,295	96,910	101,755	106,843
Maintenance of properties	15%	51,175	102,350	117,703	135,358	155,662
Maintenance in the urban buffer zone	10%	14,850	29,700	32,670	35,937	39,531
Research and documentation	5%	19,500	20,475	21,499	22,574	23,702
Marketing and community relations	5%	16,000	8,400	8,820	9,261	9,724
Education and outreach	5%	16,500	17,325	18,191	19,101	20,056
Scholarships	5%	13,000	13,650	14,333	15,049	15,802
Total administrative costs		218,925	284,195	310,125	339,035	371,319

10.9 NET FINANCIAL SITUATION

Table 14, below, shows the net financial position of maintaining the heritage site and operating facilities within the income-generating properties. It shows an average overall cost of around 300,000 Bahraini Dinar from 2011-14, increasing in subsequent years as the historic buildings require greater conservation. In 2011, this cost will be covered partly by the initial investment of 12.6 million Bahraini Dinar. With the exception of the salaries of Site Administration Unit personnel stationed there, these calculations do not include the anticipated balance sheet for the visitor facilities at the Visitor and Experience Centre: The Centre's administrative and operational costs will be met by the operation of the facilities, and any revenue raised will benefit the owner of the plot, rather than the Ministry of Culture and Information.

Projected revenue and operational costs – Table 14 (Bahraini Dinar)

	2011	2012	2013	2014	2015
Total gross revenues from facilities and services	-27,983	-29,101	-30,224	-31,348	-32,466
Administrative costs	218,925	284,195	310,125	339,035	371,319
Total costs	288,883	313,296	340,349	370,383	403,785

10.10 ECONOMIC BENEFIT

This section looks at the economic impact of the management system of the testimony of the pearling economy on Muharraq, and on Bahrain overall.

10.10.1 Benefit for the urban buffer zone and adjacent neighborhoods in Muharraq

The redevelopment of the urban buffer zone as a cultural touchstone sends a strong, positive message to potential new residents, visitors, businesses, and investors about the importance of the history and quality of life available in Muharraq. This will lead to increased investment in the vicinity of the properties and surrounding quarters. In addition to physical improvements in the direct and wider surroundings of the urban properties of the pearling testimony, the new legal and administrative framework for the site will control investments in terms of compatibility with the desired urban development. These will contribute to the improvement of living conditions in Muharraq and also to improved investment conditions. Property prices in the project area and beyond are expected to increase over the coming years.

Furthermore, the site administration will encourage the employment of Muharraq residents on the site, wherever new jobs are created.

10.10.2 Benefit for the national economy

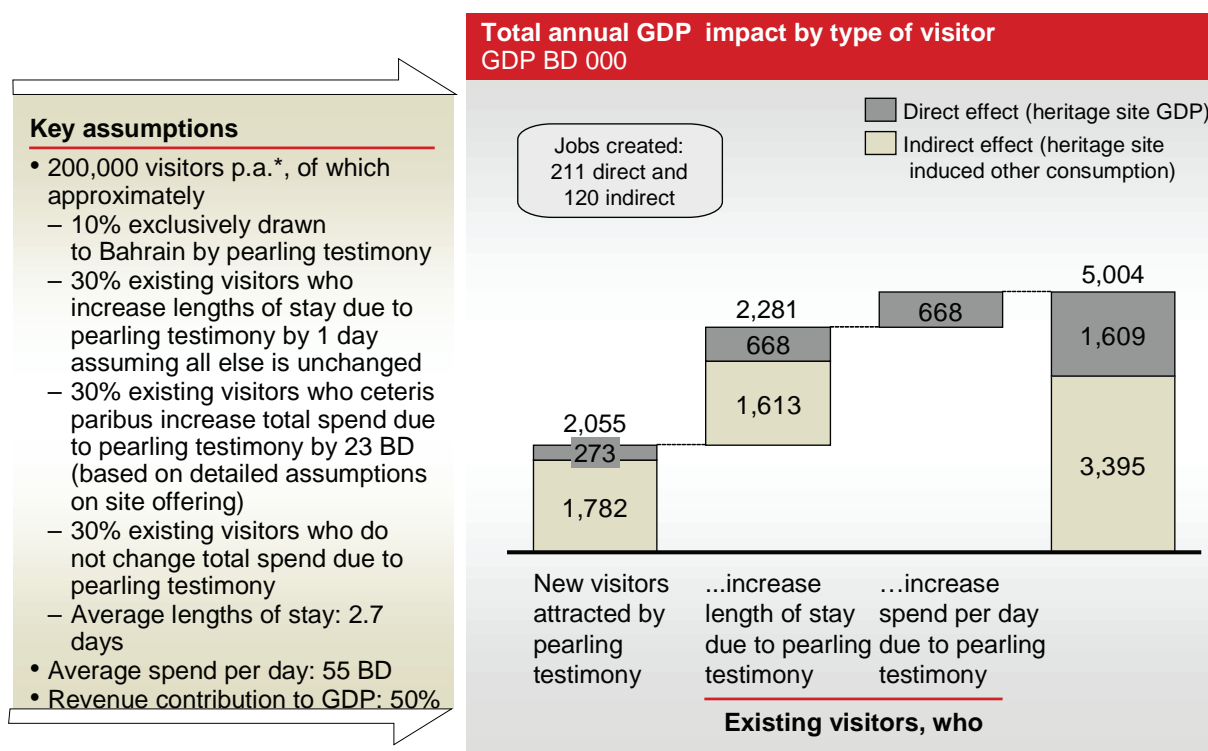
The initial investment of 12.6 million Bahraini Dinar for conserving and promoting the testimony of pearling economy will create jobs for Bahrainis and have a significant positive economic impact on both the local surrounding areas and the wider Bahraini economy.

This positive impact will be driven by the following factors: the attraction of more tourists to Bahrain; an increase in the length of stay of current tourists to Bahrain; and the provision of more leisure options for potential visitors residing in Bahrain. The team that prepared this document analysed the impact on Bahrain using a comprehensive cost-revenue model from three different fronts:

- Economic impact created directly by the heritage site
- Economic impact on the surrounding neighbourhood (Muharraq) and small businesses (note: no estimate for the increase in property value through this development has been included in the calculations)
- Economic impact on Bahrain through an increase in tourism to the country overall because of the pearling testimony

Currently, tourism-related receipts account for 7% of national gross domestic product (GDP), a figure projected to increase to 10% by 2014 (Oxford Business Group, 2007, pp. 153-154). Tourism accounts for 10% of employment (41,000 jobs), and is also expected to rise significantly, to 13.6%, or 62,000 jobs, by 2017.

Based on these estimates, the pearling testimony has the potential to contribute approximately 5 million Bahraini Dinar per year to Bahrain's GDP and to create more than 300 jobs (analysis by Subcommittee for Tourism Development and Promotion). This estimate includes the direct and indirect effects of the site. The site itself will directly provide approximately 30-40 jobs for Bahrainis from the Muharraq region (analysis by Subcommittee for Tourism Development and Promotion). The site will have an additional indirect impact on Bahrain's economy by increasing the number of tourists who pass through the historic settlement of Muharraq, and by increasing the tourism in Bahrain overall. These calculations are based on the estimated 200,000 international and regional visitors a year that are expected to visit the testimony of the pearling economy in the coming five years, and disregard the roughly 150,000 projected local visitors.



Direct and indirect effects of pearling heritage are assumed to contribute almost 5 Bahraini Dinar million p.a. to Bahraini GDP and create 331 jobs.

Source: Subcommittee for Tourism Development and Promotion; Economic planning and development team of Economic Development Board

10.10.3 Breakdown of economic impact

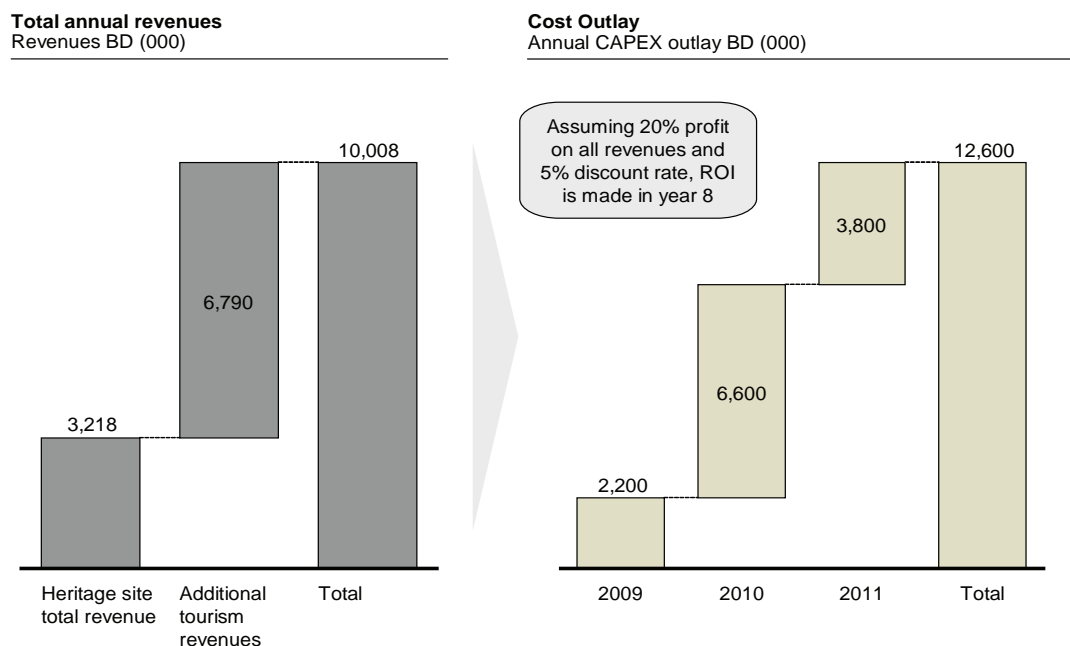
Given the 200,000 visitor estimate, total economic revenues consist of revenue from the heritage site itself, revenue generated in the historic settlement of Muharraq from the tourism draw, and incremental tourism revenue within Bahrain for drawing more people. For this calculation, it has been assumed that by 2010 the site will be functioning at about 50% capacity, and at close to 100% capacity by 2011.

Annual revenue estimates for 2011 are 7 to 11 million Bahraini Dinar (based on comprehensive revenue analysis).

- Direct pearling heritage site revenues: 7 to 11 million BD
- Surrounding Muharraq area revenues: 3 to 4.5 million BD
- Incremental tourism revenues to rest of Bahrain: 4 to 6 million BD

10.10.4 Break-even from total economy perspective

From the perspective of the national economy, a return on the initial investment of 12.6 million Bahraini Dinar for the conservation and promotion of the testimony of the pearling economy until 2011 is expected from year 8 onwards. (Please note: This calculation is based on the assumption that 2.2 million Bahraini Dinar of the overall budget of 12.6 million were spend in 2009, 6.6 million in 2010 and 3.8 million in 2011.)



Break-even for testimony of the pearling economy from total economy perspective reached in year 8.

Source: Subcommittee for Tourism Development and Promotion; Economic planning and development team of Economic Development Board

10.10.5 Maximising the economic benefit for the local community

The site and its surrounding area will generate a significant number of jobs. To ensure that local residents are able to succeed in taking advantage of those opportunities, various initiatives are foreseen. Community-run tourism projects will be supported within the management system. They will include but not be limited to the guest house, coffee and souvenir shops and related industries such as handcrafts and traditional food. Planned supportive measures include entrepreneurship and business management training, the possible provision of micro-credit to local, small-medium sized enterprises (SMEs), and the possible sale of arts, crafts and refreshments at various points within the urban buffer zone. The site also provides various opportunities for local craftspeople to sell their work. Projects will also be undertaken to stimulate traditional crafts, including training in traditional craftsmanship, such as architectural conservation techniques and jewellery design and manufacturing. Some regional and international organisations have been earmarked to provide micro credit for SMEs.

The promotion of working in the tourism industry to encourage willingness to work in a field that at present suffers from some negative connotations of tourism being associated with alcohol and night clubs, is also important.

	Initiatives	Potential partners
Specific pearling heritage knowledge	<ul style="list-style-type: none"> Heritage protection and management training (for site managers and potentially interns from Bahrain University) Pearl diver training and qualification Tour guide training Hospitality and hotel management training 	<ul style="list-style-type: none"> Tamkeen, local pearling community, Bahrain Institute of Hospitality and Retail, academics with heritage background
SME support	<ul style="list-style-type: none"> Provide micro-loans to local SMEs Entrepreneurship/business management training Support established local SMEs to make full use of new opportunities – e.g., through workshops 	<ul style="list-style-type: none"> Bahrain Development Bank, UNDP
Develop Crafts and traditional industries	<ul style="list-style-type: none"> Facilitate training in local crafts Facilitate training in traditional jewellery making involving pearls 	<ul style="list-style-type: none"> Tamkeen, The Craft Centre, local jewelers
Awareness campaign	<ul style="list-style-type: none"> Run PR campaign highlighting the importance of pearling and the site in particular to encourage local pride in the site and its history Pearling heritage lecture series to public; focus on local universities Build on planned national awareness campaign to make tourism jobs culturally acceptable, in the context of the testimony of the pearling economy; concentrate campaign around site itself 	<ul style="list-style-type: none"> Ministry of Education, University of Bahrain, academics with pearling background

Suggested initiatives to facilitate job creation for Bahrainis.

Source: Subcommittee for Tourism Development and Promotion; Economic planning and development team of Economic Development Board

10.11 HUMAN RESOURCES

This section provides an overview of the workforce required within the management system, and of measures to build capacities.

10.11.1 Personnel

Types of personnel

Given the diversity of the site and the scope of activities undertaken for its conservation and promotion, professionals from a range of very different fields and all levels of expertise are required. These include:

architectural conservation, civil engineering and construction, urban planning and design, archaeology, maritime resource and heritage protection, historical and anthropological sciences, heritage management, exhibition design and museum pedagogy, tourism and economic development, public relations and community involvement, gastronomy, knowledge management and archiving, promotion and marketing, scuba diving, various traditional crafts, and visitor attendance.

These human resources, whether employees, interns, consultants or volunteers, are recruited from the private national and international market, through cooperative partnerships with other ministries, agencies or companies, and most importantly from the local community.

Site administration team and site personnel

The site administration relies partly on resources from within the Ministry of Culture and Information for translation, public relations, marketing, educational activities, accounting, human resources management and legal advice, as well as for core activities such as architectural conservation and archaeology.

The site administration team within the Sector of Culture and National Heritage of the Ministry of Culture and Information under the coordination of the Counsellor for Heritage Management and UNESCO Affairs during the preparation of the management plan consisted of an interdisciplinary team of national and international professionals, which extended as the implementation of site conservation activities started.

After completion of the first implementation phase, the size of the site administration team is expected to be reduced and refocused towards both the operation of facilities and on monitoring and maintaining the site. Simultaneously, the site personnel required will increase.

• Please refer to the Management Flow Chart in Chapter 3 Site Analysis and Action Plans (2009-2013) for the scheduling of personnel appointed throughout the first implementation phase, as listed below.

Site Administration Team (Ministry of Culture and Information)	Onsite Personnel	Consulting and outsourcing
<ul style="list-style-type: none">• Head of the Site Administration Unit• Head of protection, conservation and monitoring• Head of management, promotion and research• Heritage management specialist• Assistant to management• Restoration and rehabilitation manager• New construction and urban design manager• Urban site manager• Marine site manager• Interpretation and content designer• Archivist/ GIS expert• Specialist for promotion and marketing (50%)• Specialist for environmental heritage (50%)• Accountant• Translator	<ul style="list-style-type: none">• Property maintenance• Property managers and exhibition personnel• Shuttle drivers• Shuttle boat drivers• Tour guides• Excursion boat captain• Excursion boat staff (including divers)	<ul style="list-style-type: none">• Architects and civil engineers• Urban planners and designers• Archeologists• Interior designers• Anthropological researchers• Historians• Environmentalists• Museum pedagogues• Economic experts• Graphic designers• Corporate designers (incl. web design)• Jewellery designers and manufacturers• Translators and editors• Cleaning services• Gastronomy• Merchandising• Security services
<ul style="list-style-type: none">• Interns	<ul style="list-style-type: none">• Interns	
<ul style="list-style-type: none">• Volunteers	<ul style="list-style-type: none">• Volunteers	
Other resources within the Ministry of Culture and Information		
Translation, public relations, marketing, tourism, educational activities, accounting, human resources department, legal advice, architectural conservation experts, archaeologists		
Municipal Services		
Waste removal, maintenance of public space, security in public space		

10.11.2 Capacity building

Training and workshops for employees and partners

It is important to achieve and maintain high quality performance by every individual entrusted with a responsibility within the management system. To this end, regular training courses and workshops will be offered to employees of the site administration and all other personnel, including volunteers. Decision makers and those carrying out the conservation interventions and other activities are not the only personnel who require re-training and regular updating about insight. This applies equally to so-called “multipliers”, people who disseminate information about the testimony of the pearling economy to others. For this purpose, training courses and workshops led by specialists will be organised for teachers, tour guides and members of the tourism industry who deal with the site.

The tourism sector has initiated discussion with Tamkeen (a semi-autonomous, independent authority formulating strategic and operational plans which aim to enhance the overall prosperity of Bahrain through investments in Bahraini employability, job creation and social support) about providing training in the fields of tour guiding and jewellery design. Some regional and international organisations have been earmarked to provide training. The mandate of the planned Arab Regional Centre for World Heritage (ARC-WH) in Bahrain will also include training services.

During the preparation of this document, members of the Site Administration Unit team attended training courses and workshops in computer software, the history of pearling in Bahrain and the Gulf region, architectural conservation techniques, architectural terminology, architectural and urban surveying, documentation of oral history, Geographic Information Systems (GIS) and Arabic language.

Training for architectural conservation

As traditional construction techniques have fallen into disuse, the available craftsmen and construction workers familiar with those techniques do not meet the demand generated by the restoration of the architectural properties. The management system will therefore facilitate onsite training in this field.

Training for tour guides

The purpose of offering tour guides regular training courses and workshops is to maintain a high-quality performance by keeping them up-to-date about new research results and to ensure they have a comprehensive understanding of the pearling testimony and its values. Individual guides may have specialist knowledge about certain aspects of the pearling heritage. Some might focus on environmental issues; others on certain anthropological aspects. As well as building knowledge of the pearling testimony, courses and workshops will also offer training in rhetorical, pedagogical and interpersonal skills. All guides will additionally be trained to attend to physically-challenged visitors.

Training for skin- and scuba-diving

A specialist tour guide, to accompany boat excursions to the heritage site's maritime properties, will be trained within a training scheme for pearl diving tours. Young Bahrainis in particular will learn skin- and scuba-diving techniques. They will receive an international certificate upon completion of the training which will include relevant knowledge on the ecological processes of the oyster beds, their values in context of World Heritage, and their monitoring procedures.

Training for jewellery design and manufacturing

An initiative that aims to see the onsite production and sale of Bahraini pearl jewellery will provide training in design and manufacturing in that field.

Chapter 3

Site Analysis And Action Plans (2009-13)

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CHAPTER 3: SITE ANALYSIS AND ACTION PLANS (2009-13)

This final chapter outlines the implementation level of the management system. It describes the interventions carried out at all properties of the site and in their buffer zone. For each property and its buffer zone this chapter gives a detailed description, an analysis, a statement of objectives, policies and an action plan.

The single properties are described and their cultural significance, including their attributes of Outstanding Universal Value and important features identified, which are to be preserved or enhanced. The analysis points out the individual strengths the properties come with and the opportunities they offer within the management system. It also describes for each the threats and constraints which have to be taken into account and tackled. This includes the description of the state of conservation in terms of physical condition. The analysis also identifies the stakeholders who will play a role in every single case. Derived from the analysis and according to the overall strategic objectives of the management system, site specific policies are formulated which are then translated into interventions which are outlined within an action plan.

The action plans outline the interventions planned for the timeframe of 2009 to 2013. They are drafted as charts which include information on the financial resources. For monitoring and evaluation purposes, they indicate a timeframe and verification source for each intervention.

The first column identifies with a keyword which of the ten strategic objectives each intervention contributes to.

Objective 1: Administration (1)

Objective 2: Statutory protection (2)

Objective 3: Stakeholder involvement (3)

Objective 4: Interpretation and presentation (4)

Objective 5: Physical conservation and development (5)

Objective 6: Research and documentation (6)

Objective 7: Education and awareness raising (7)

Objective 8: Cultural traditions (8)

Objective 9: Tourism and promotion (9)

Objective 10: Resource management (10)

The aspired outcome - the goal of the intervention - is formulated as an indicator.

The next column gives a source where data can be found to verify if the indicator has been realised. During the implementation process, consideration has to be given to the verification means so that the necessary data is documented and accessibly stored. Together with the column which determines the timeframe of the intervention, respectively the planned date of completion, it can be used for monitoring and evaluating to ascertain that the intervention was timely and successfully implemented. The following columns describe the action(s) required to achieve the indicator and lists the actors who will be responsible for planning and implementing as well as the partners who will be involved.

No.	OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
	Why?	What?	How long? Deadline?	Where to check?	How?	Who?	Who to work with?	Who pays?
Number of intervention	Which strategic objective does the intervention contribute to?	What is the aspired outcome of the intervention?	How long will the implementation take? When will the intervention be completed?	Where to find the data in order to verify the implementation as expressed in the indicator.	Which action will be carried out?	Who will carry out the action?	Who will be the key partners for the implementation?	Which is the funding source?
Abbreviations of actors and partners – full name of actors and partners								

The action plans are a planning framework, which during implementation needs to be further detailed and if necessary adjusted.

1 INTERVENTIONS IN THE PROPERTIES AND IN THE BUFFER ZONE

The following property specific analyses are based on the surveys and assessments carried out by the Ministry of Culture and Information in 2008 and 2009. For further information on the serial properties, their anthropological and historical aspects, the identification of their Outstanding Universal Value, as well as integrity and authenticity statements please refer to the *Nomination File*.

• see Chapter 2 Management Strategies, Strategy 6 Research and Documentation

The policies for each serial property outline interventions towards the management system's strategic objectives and are based on the principles set out in the respective strategies of *Chapter 2 Management Strategies*. Please particularly refer to the conservation and development principles defined in *Strategy 5 Physical Conservation and Development*. That strategy also introduces the different architectural styles referred to in this chapter and provides environmental background information on the oyster beds. For a clarification of technical terminology such as local architectural terms, please refer to the annexed *Glossary*. Please refer to the Annex of the Nomination Dossier for the complete set of architectural survey drawings and maps.

• see Chapter 2 Management Strategies, particularly Strategy Physical Conservation and Development

• see the Glossary for architectural terminology and the Annex of the Nomination Dossier for the complete set of survey drawings and maps

1.1 Oyster Beds

	Hayr Shtayyah	Hayr Bū 'Amāmah	Hayr Bū-l-Thāmah
Number of serial property	3	2	1
Central coordinates of the property	50°48.55.83"E 26°36'40.896"N	50°48'13.14"E 26°48'27.036"N	50°54'42.84"E 26°47'25.44"N
Distance to northern shore of Muharraq	~ 44 km	~ 60 km	~ 67 km
Area	24, 569 600 hectares	4, 854 770 hectares	5, 659 130 hectares

1.1.1 Hayr Shtayyah

Hayr Shtayyah is located around 24 nautical miles (which corresponds to around 44 kilometres) off the northern shores of Muharraq Island. During the survey conducted in 2008 the boundaries of the maritime properties were determined and it was found that Hayr Shtayyah covers an area of 24,569 600 hectares. The internal, very shallow parts of the oyster bed are barren of oysters and have therefore not been included in the property.

• see Chapter 2 Management Strategies, Strategy 6 Research and Documentation

The water depth of Hayr Shtayyah ranges from 8.0 to 12.0 meters, which makes it one of the shallowest of all Bahraini oyster beds, the *hayrāt*. The bed topography can best be described as a dome-like structure with the shallowest water-depth of around 8 meters in the centre and an increasing water-depth towards the surrounding underwater plain. The survey conducted in 2008 recorded that the density of oysters was higher in the deeper, exterior parts of the bed. Parts of the centre itself do not contain oysters and, therefore, have not been included as part of the property but have rather been designated as an inner buffer zone. Literature reviews show that for this particularity, the area of Hayr Shtayyah, was in the past considered a conglomerate of six separately named oyster beds, arranged in a circular form in the lower parts of the dome-shaped formation.

• see Chapter 2 Management Strategies, Strategy 2 Statutory Heritage Protection

• see Nomination File, Description of the proposed properties and their narratives

The buffer zone of Hayr Shtayyah

Hayr Shtayyah is surrounded by an exterior circular buffer zone of minimum 5 kilometres width which extends further to the north to constitute a shared buffer zone with the beds of Hayr Bū 'Amāmah and Hayr Bū-l-Thāmah. The shallower inner buffer zone has a surface area of almost 2,719 hectares and covers part of the central dome shape formation with a rather barren hard substrate without any occurrence of oysters. But other species such as fish and scattered stony corals do occur there. The water depth of the outer buffer is increased in comparison to the oyster bed itself. Here, oysters can only be found scattered in very low densities, while in sandy areas they do not occur at all.

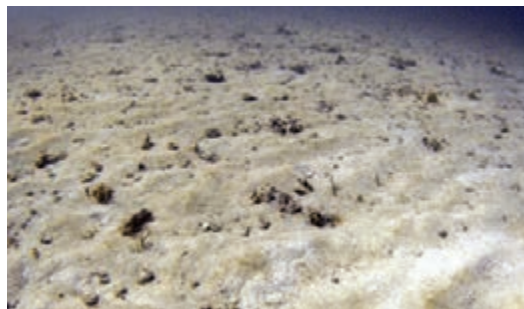
Tabarah with corals and sponges



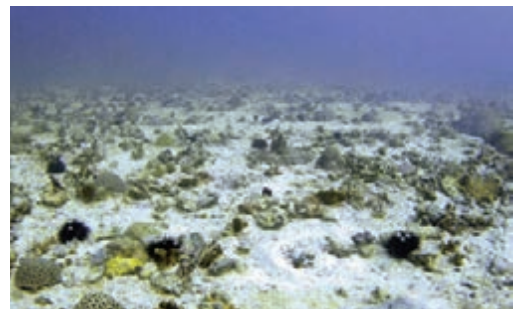
Cultural significance of Hayr Shtayyah

During the pearling era Hayr Shtayyah was the most frequented of all Bahraini oyster beds due to its relative proximity to the Bahraini shore and its shallower and, therefore, warmer water which made dives easier. Especially during the cooler beginning (May) and ending (September) of the pearling season, the water temperature in Hayr Shtayyah ranged 3°C above the other pearl banks' average temperatures (25°C rather than 22°C). This made a big difference for the divers, who spent up to two hours at a time in the water. This made Hayr Shtayyah a prime location for the first and final weeks of diving during the pearling season. Its shallowness, furthermore, allows for good visibility, as the incidence of light decreases with an increasing water depth. On calm days in Hayr Shtayyah it is possible for divers to spot good diving locations from aboard the boat. Lastly, Hayr Shtayyah

left: Sandy buffer zone of Hayr Shtayyah



right: General view of Hayr Shtayyah



left: Inner buffer zone of Hayr Shtayyah



right: Stony coral



was popular for its particular oyster formations. Rather than evenly spread across the seabed, the oysters often clung to one another and accumulated in clusters, called *tabrah* (plural *tabāri*). This made their collection easier and quicker, and the *tabāri* were furthermore believed to frequently contain pearls. Hayr Shtayyah's shallowness, comparably high water temperatures, and formation of oysters in clusters made it an oyster bed of easier dives; these are therefore, considered the attributes contributing to the Outstanding Universal Value of the serial site.

Present state of conservation of Hayr Shtayyah

The survey conducted in November 2008 in preparation of this nomination showed that its attributes of Outstanding Universal Value are well preserved and that Hayr Shtayyah is in good environmental condition. The density of pearl oysters varied from 4-30 oysters per square meter based on sample test counting at several stations. In terms of the existence of other species, apart from the pearl oyster *Radiata pinctada*, the hard substrate of the seabed is rich in: fish, echinoderms, molluscs, corals and sponges. The survey identified a good horizontal visibility ranging from 10 and 12 meters and a salinity rate of 43 ppt.

1.1.2 Hayr Bū 'Amāmah

Hayr Bū 'Amāmah is located around 60 kilometres to the northwest of Muharraq Island. The property consists of 4, 854 770 hectares. Its water depth is very constant at an intermediate level of around 15 metres. The seabed is characterized by a hard and even surface with very little sand except in some depressions where coarse sand has accumulated. The pearl oyster density identified during surveys in the 1980s ranged from 4-20 oysters per square metre. The total number of oysters on the bed was estimated 482 million. The surveyors further noted that the fauna of Hayr Bū 'Amāmah was fairly rich with a large variety of organisms on the seabed which seemed to indicate further life underneath.

The buffer zone of Hayr Bū 'Amāmah

Hayr Bū 'Amāmah has an exterior, circular buffer zone, which is shared with Hayr Bū-l-Thāmah and Hayr Shtayyah. The zone of minimum 5 kilometres width has a water depth between 20 and more than 35 metres. The seabed is heterogeneous and varies from sandy and rocky grounds, with occurrence of other species such as corals but few or no oysters.

Cultural significance of Hayr Bū 'Amāmah



left: General view of Hayr Bū 'Amāmah

right: Pearl oyster

Hayr Bū 'Amāmah, together with Hayr Bū-l-Thāmah, is one of the most famous and most quoted oyster beds. Hayr Bū 'Amāmah was probably the most popular bed during the main season and was heavily frequented by pearling dhows from a variety of places around the Arabian Gulf. Although the banks density of oysters is average compared to other pearl banks, it has an extremely high ratio of pearls per amount of oysters and therefore promised the divers good finds. Pearl ratios documented by the Bahraini Centre for Studies and

Feather star



Marine buffer zone with algae



Sea star *Pentaceraster mammilatus*



Research during their test collections in the 1980s were up to 10.2 %, but 72% of the pearls ranged within the smallest two categories up to 2 mm in diameter (Nayar & al-Rumaidh, 1993). The high pearl ratio and the variety of other animal species on the seabed, which remind of the many risks and challenges the divers faced underwater, are the attributes that reflect the Outstanding Universal Value.

Present state of conservation of Hayr Bū 'Amāmah

The preservation of the oyster bed's attributes of Outstanding Universal Value was asserted during the survey in 2008. The oyster density of 4-20 per square metre was confirmed and several species of sea anemones, various echinoderms such as sea urchins, sea stars and feather starts as well as a variety of fishes, molluscs, corals and sponges were identified. The horizontal visibility in the plains of the bed ranges around 10 metres distance.

1.1.3 Hayr Bū-l-Thāmah

Of the three oyster beds proposed for nomination, Hayr Bū-l-Thāmah is the furthest offshore and the deepest located at around 67 kilometres distance from the northern shores of Muharraq Island. With a surface of 5 659 130 hectares it ranges between Hayr Shtayyah and Hayr Bū 'Amāmah. It is however considerably deeper than the other two with an average water depth of around 20 metres. Apart from the coral structures, the seabed appears as hard and even surfaced with some rocky structures visible at irregular intervals. Not only oysters, but also corals, starfish, gorgonians, parrot fishes and

carangids populate the hard substrate. Occasionally, amphipods and extremely small crabs were observed as living on the shells. And in rare cases, small gastropods were also seen attached to the oysters. Most of the seabed and the oysters are covered with a thin film of fine sand. Hayr Bū-l-Thāmah is often described as the most interesting bed with regard to its species diversity and variety of living corals. In 2007 Hayr Bū-l-Thāmah was declared as a marine protected area by Ministerial decree No. (8). It has since been subject to an increased level of scrutiny in control of fishing and especially trawling activities; although, the designation as a marine protected area was initially not so much aimed at the oyster bed but at the very diverse and well preserved active coral reef Bū-l-Thāmah of the same name in its vicinity. The density of pearl oysters ranged from 4-20 per square metre. The survey in the 80s, on the basis of a wider sample of testing, extrapolated that the total number of oysters on Hayr Bū-l-Thāmah is around 428.5 million. It is therefore estimated to be the oyster bed with the highest density of oysters (Nayar & Al-Rumaidh, 1993, p. 106) in the central Arabian Gulf. Although it has a higher density than Hayr Bū 'Amāmah the ratio of pearls per amount of oysters was found slightly less.

The buffer zone of Hayr Bū-l-Thāmah

Hayr Bū-l-Thāmah is surrounded by a circular buffer zone, which is shared with the beds Hayr Bū 'Amāmah and Hayr Bū-l-Thāmah. The buffer zone has a width of 5 kilometres and its water depth ranges from 20 to more than 40 metres. Oysters are only scattered in the southern parts and hardly at all in the deeper and sandier northern parts.



left: Pearl oysters in Hayr Bū-l-Thāmah covered with fine layer of sand

right: Sea anemone and clown fish

Cultural significance of Hayr Bū-l-Thāmah

In spite of the lower ratio of pearls found in Hayr Bū-l-Thāmah, this oyster bed was more often mentioned by informants during the anthropological research of the maritime heritage than Hayr Bū 'Amāmah with its bigger ratio of pearl findings. This is due to the fact that Hayr Bū-l-Thāmah has the reputation of bearing particularly big and beautiful pearls, called *danāt* (singular: *danah*). During the pearling season the dhows would have therefore often sailed to Hayr Bū-l-Thāmah as soon as the temperature and physical fitness of the divers allowed, in the hopes of obtaining an extraordinary yield. The comparative survey conducted by Nayar and al-Rumaidh indeed confirms a 50% higher ratio of pearl finds above 5 mm diameter (Nayar & Al-Rumaidh, 1993, p. 159). The central attributes, reflecting the Outstanding Universal Value, are therefore its high density of oysters and the high ratio of large pearls.

Present state of conservation of Hayr Bū-l-Thāmah

The survey in 2008 found the oyster bed in excellent environmental condition. The oyster density of 4-20 per square metre was confirmed along with the oyster bed's biodiversity in other species. Although the water quality is excellent, the visibility at Hayr Bū-l-Thāmah is limited compared to the others with only around 7 metres distance. This could result from the additional water depth and the accordingly stronger current but also perhaps the movements of its rich animal population.



left: starfish

right: Sea urchin *Heterocentrotus*

left: stony coral

right: Sea anemone

Factors affecting the oyster beds

Factor	Caused by	Potential Impact	Severity of potential impact
Commercial use	illegal trawl fishing	destruction of the seabed and marine life	major
Development pressure	dredging for sand	silt settlement impacts the living conditions for oysters	medium
Tourism	uncontrolled pearl diving and oyster collecting	few tour operators offer pearl diving activities mostly for tourists	minor

• For further information on these factors or potential threats to the oyster beds please refer to Chapter 2 Management Strategies, 5 Physical Conservation and Development.

• see Chapter 2 Management Strategies, Strategy 5 Physical Conservation and Development

Policies for the nominated oyster beds

Administration (1) and Stakeholder involvement (3)

During the preparation of this nomination in 2008 and the first implementation year 2009, the Ministry of Culture and Information, under the lead of its environmental advisor, focused on establishing relationships and initiating negotiations with all relevant stakeholders in view of jointly developing and implementing a protection scheme for the three nominated oyster beds. In order to facilitate this process, these negotiations were mostly done bilaterally. As a result, memoranda of understanding were reached affirming the partners' commitment to cooperate in establishing a protective scheme and implementing future conservation measures within the frame of the Subcommittee for Marine Heritage Protection.

Statutory protection (2)

A priority of ongoing and upcoming activities is focused on working towards the appropriate legal protection of the oyster beds, which is done in close cooperation with the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW).

The oysters beds are currently only partly protected as the decree for their protection as marine protected areas following Decree (2) 1995 with respect to the Protection of Wildlife in combination with Legislative Decree No. 21 of 1996 in Respect with the Environment (*Amiri Decree*) and Decree (20) 2002 with respect to the Regulation of Fishing and Exploitation of Marine Resources is still in process. As the boundaries have been finalised in the framework of the preparation of the nomination, and most relevant surveys have been conducted, the official proclamation is expected to take place in the course of 2010.

If future pearl diving activities (both commercial and touristic pearl oyster collection) reach a significant scale in the future, the management system will provide for the development of pearl collection regulations and their enforcement under the umbrella of the statutory protection of the oyster beds. The Directorate of Marine Resources, which administers the fisheries of Bahrain, will be a crucial partner for developing and enforcing such regulations.

The Ministry of Culture and Information will continue cooperation with the Bahrain Petroleum Company (BAPCO) in 2010 to follow up on matters related to oil and gas exploration and drilling activities in the administrative Block-1 that encompasses the territorial waters north of the main island of Bahrain. The environmental plans aimed at minimizing any potential environmental risk to the nominated oyster beds that may result from such activities will be jointly reviewed. The execution of an agreed environmental plan will be coordinated with the *Occidental Petroleum Corporation* which at present is the operating company in Block-1. To this aim a Memorandum of Understanding between the National Oil and Gas Authority (NOGA) and the Ministry of Culture and Information is anticipated. This memorandum will outline the process that shall be adopted for oil and gas exploration as well as potential exploitation in the buffer zone. Accordingly exploitation techniques in the properties will be restricted and guidelines apply for the environmental soundness of exploration techniques. Specific guidelines for the buffer zone of the oyster beds will be based on the currently applicable Exploration and Production

Sharing Agreement between the National Oil and Gas Authority and Occidental of Bahrain (offshore), LLC in respect of Offshore Bahrain, Block 1, July 2008, Article 1, Health, safety and environmental compliance; Appendix G: Environmental standards and practices and safety guidelines.

Patrolling of the maritime properties, in view of the strict enforcement of current and future legislation, shall be increased from 2010 onwards in cooperation with both the Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) and the Bahrain Coast Guard. In early 2010, the details of this new patrolling scheme will have to be jointly defined and mechanism created for effective reporting to the PCPMREW and the Subcommittee for Marine Heritage.

• see annexed CD

Research and documentation (6)

A priority task during 2009 was gathering base line data of the oyster beds. The Ministry of Culture and Information, in cooperation with its partners, assessed previous studies and surveyed the oyster beds, defined the boundaries of the properties and their protective zones and assessed their environmental condition. Hand in hand with the development of the legal framework, the management system will focus on targeted research activities in order to better understand the ecosystems and to identify factors that support or endanger the attributes of Outstanding Universal Value of each oyster bed. This means that a target for environmental research is to identify the causes of the oyster beds' different schemes of oyster formation and pearl production. Therefore, the specific target for Hayr Shtayyah will be to identify reasons for the formation of oysters in clusters, in Hayr Bū 'Amāmah the reasons for its particularly active pearl growth, and in Hayr Bū-l-Thāmah the causes of its high density of oysters and high ratio of large pearls. While research into the wide field of oyster settlement and pearl production is certainly a long-term endeavour, the main target within the years to come is to develop a detailed system for monitoring the state of conservation of the properties, taking into full consideration the attributes of Outstanding Universal Value but equally the general environmental condition of the oyster beds. The Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) is a partner equally important for developing a scheme for monitoring the state of environmental condition. This requires comprehensive field research to be carried out in 2010 in which the current cooperation will be continued with scientific advice, equipment and human resources contributed by the PCPMREW. Further partners will be the Bahrain Centre for Studies and Research (BCSR) and other research institutes. The BCSR has, since 2008, been involved in regards to its previous comprehensive survey conducted in the 1980s and has provided recommendations for future conservation activities. A research team established and recruited in 2010 from these partners will be in charge of planning, supervising and conducting the long-term monitoring scheme under the auspices of the Subcommittee for Marine Heritage. In order to support the field surveys and installation of monitoring stations in the three maritime properties the Subcommittee for Marine Heritage plans to install a platform on stilts in the central buffer zone of the nearest oyster bed, Hayr Shtayyah. The Bahrain Defence Forces may possibly become a partner in this endeavour by temporarily providing a platform. Regular biannual surveying of the monitoring stations will start in 2011.

• see also Chapter 2 Management Strategies, Strategy 6 Research and Documentation

As the maritime tourism activities as well as the site's on-land visitor facilities will encompass interpretation of the maritime heritage, another activity in 2010 and beyond will be related to the historical and anthropological research. The site administration will investigate further into the maritime heritage's related topics, while priority will be given to further interviews with the former pearl divers and captains (*nūwākhdhah*) who are today of quite advanced age.

An important part of the research activities throughout 2010 and 2011 will be the environmental impact assessment of such permanent visitor and research facilities and other maritime tourism activities in the oyster beds.

Interpretation and presentation (4) and Cultural traditions (8)

In view of providing regular boat excursions from the Bū Māhir Seashore for visitors and commencing the pearl collection activities from 2012 onwards, the Ministry of Culture and Information has commissioned a development plan for these activities; including, the training and certification of pearl divers, of which a lack has been identified. Cooperation with the local commercial diving school and possibly other tourism operators is

SITE ANALYSIS AND ACTION PLANS (2009-13)

Diver counting oysters in a quadrat



envisaged to continue for this endeavour.

Tourism and promotion (9)

In a later implementation phase of the management system, more developed visitor facilities are considered to be installed within the central buffer zone of Hayr Shtayyah which will be planned throughout the first implementation phase until 2013. Structures on stilts would not negatively impact the seabed provided that pollution from discharges etc. is avoided. These facilities would allow for easy access by tourist pearl divers to the

shallowest oyster bed that requires the least diving skills. They would also serve as a base for occasional tourism excursion to the more distanced oyster beds Hayr Bū 'Amāmah which, with its colourful variety of species, is a fascinating place for scuba divers. Particularly Hayr Bū-l-Thāmah is very attractive with its beautiful living corals.

Action plan for the three oyster beds

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	SMH is established and administers the conservation of the maritime properties.	May 2009, ongoing	Meeting minutes (SAU archive)	Coordination with all partners	SAU	PCPMREW, NOGA (BAPCO), Mol (Directorate of Coast Guard), BCSR	-
Administration (1)	A permanent patrolling system is in place for the oyster beds.	By mid 2010, ongoing	Reports to the SMH (SAU archive)	Facilitate increased patrolling of the oyster beds	SAU, SMH	PCPMREW (Directorate of Fisheries), Mol (Coast Guard Directorate)	Special project budget/ shared resources of partners
Administration (1)	The state of conservation of the oyster beds is assessed regularly.	From 2011, ongoing	State of conservation reports (SAU archive)	Commission a survey of the monitoring stations biannually and comprehensive surveys every 5 years	SAU, SMH	PCPMREW (Directorate of Fisheries), Mol (Coast Guard Directorate)	Special project budget/ shared resources of partners
Statutory Protection (2)	An agreement has been reached with PCPMREW to designate the oyster beds as protected areas.	January 2010	Agreement (SAU archive)	Discuss the protective status, boundaries of the protected areas and their buffer zones	MoCI (Sector for Culture and National Heritage), PCPMREW (Directorate for the Protection of Marine Resources)	-	-

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Statutory Protection (2)	The oyster beds are designated as protected areas.	By September 2010	Official government gazette	Declare the oyster beds marine protected areas according to Decree (2) 1995 with respect to the Protection of Wildlife	PCPMREW (Directorate for the Protection of Marine Resources)	-	-
Interpretation and Presentation (4)	Regular boat excursions to the oyster beds are offered to visitors.	From 2011, ongoing	Visitor records (tour operator), site inspection	Develop boat excursion programme, appoint a tour operator	SAU, SMH	Private tour operator	Special project budget/ private sponsor
Research and Documentation (6)	An team for environmental research is established within the SMH.	By mid 2010, ongoing	Research team reports (SAU archive)	Recruit and appoint specialists among the partners	SAU, SMH	PCPMREW (Directorate for the Protection of Marine Resources), BCSR, academic institutions	Special project budget/ shared resources of partners
Research and Documentation (6)	Comprehensive base line data about the state of conservation of the oyster beds has been gathered.	By end 2010	Survey reports (SAU archive)	Commission a comprehensive field survey on the properties and their buffer zones	SAU, SMH	PCPMREW (Directorate of Fisheries), BCSR	Special project budget/ shared resources of partners
Research and Documentation (6)	A permanent platform has been installed in the marine buffer zone.	Summer 2010, ongoing	Contract for hiring or purchasing platform (SAU archive), site inspection	Install a platform in the buffer zone of Hayr Shtayyah	SAU, SMH	Bahrain Defence Forces	Special project budget/ shared resources of partners
Research and Documentation (6)	An impact assessment of future visitor facilities has been carried out.	By end 2013	Environmental impact assessment reports (SAU archive)	Assess potential impacts of planned permanent visitor facilities in the buffer zone of Hayr Shtayyah	Environmental research team (SMH)	PCPMREW (Directorate for the Protection of Marine Resources), BCSR, academic institutions	Special project budget/ shared resources of partners/ private sponsor
Research and Documentation (6)	Historical and anthropological data about the oyster beds has been gathered.	By end 2011	Historical/ anthropological report (SAU archive)	Commission historical and anthropological research of the nominated oyster beds	SAU	Local community	Special project budget/ operational budget - MoCI

SITE ANALYSIS AND ACTION PLANS (2009-13)

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Education and Awareness Raising (7)	On-land interpretation facilities related to the oyster beds are in place.	End 2012, ongoing	Visitor records (archive of the Visitor and Experience Centre), site inspection	Implement interpretation facilities in the Visitor and Experience Centre	SAU and consultants	-	Special project budget/ private sponsor
Tourism and Promotion (9) and Cultural Traditions (8)	Regular pearl diving activities are offered to visitors.	From 2012	Visitor records (diving operator), site inspection	Develop a diving tour programme and appoint a private diving operator	SAU, SMH	Private diving operator	Special project budget/ private sponsor
Resource Management (10)	Divers are trained and certified for pearl collection activities in the oyster beds.	By end 2011	Programme report and copies or certificates for divers (SAU archive)	Develop a training programme and appoint a private diving trainer	SAU, SMH	Private diving operator	Special project budget/ private sponsor

SMH – Subcommittee for Marine Heritage

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

PCPMREW – Public Commission for the Protection of Marine Resources, Environment and Wildlife

NOGA – National Oil and Gas Authority

BAPCO – Bahrain Petroleum Company

BCSR – Bahrain Centre for Studies and Research

1.2 THE SEASHORE PROPERTY

The seashore property is strategically located at the southern most tip of Muharraq, formerly on a secluded tidal island south of *Hālat* Bū Māhir which was joined to the main island, Muharraq, in the second half of the 20th century through land reclamation. Through the adjacent deep-water channel, ships could approach the property which was, therefore, of importance to the pearling fleets and the arrival and departure of people and goods to and from Muharraq. It is today the only authentic stretch of coastline of Muharraq Island.



The seashore property site map

The seashore property (property number 4) no longer serves the same function as it once did during the pearling era, although its accessibility to boats remains significant to the National Coast Guard base located adjacent to this stretch of land. The property consists of natural and architectural elements, both contributing to the Outstanding Universal Value of the serial site: the natural beach and adjacent waters of the Bū Māhir Seashore (property number 4a) and the remains of Qal'at Bū Māhir (property number 4b), which are analyzed separately in the following.

1.2.1 Bū Māhir Seashore

Name of the property	Bū Māhir Seashore
Number of serial property	4 (a)
Street address	c/o Coast Guard Base Muharraq, Sh. Khalifa al-Kabeer Highway
Central coordinate	50°36'47.916"E 26°14'26.952"N
Total property area	20,228 m ²

Bū Māhir Seashore covers an area of 2 hectares on land and water, which includes the authentic *sīf* (the beach limits at high tide), the *qirāḥ* (beach uncovered at low tide), a traditional *haddrah* (fish trap), and parts of the western deep waters where boats used to anchor. The land parts cover most of the original island of Bū Māhir. The property limits to the north are defined by the adjacent Coast Guard facility.



Bū Māhir Seashore with the *haddrah*

During the pearling era, the seashore was a point of transition for the departing and arriving pearling fleets at the beginning and ending of the more than four months of *ghūṣ al-kabīr* (the main pearl collecting season). Until the end of the pearling era before large scale land reclamation started, shallow coastal reefs surrounded Muharraq making Bū Māhir the only location that allowed boats to approach the beach through its deeper waters. Bū Māhir Seashore was therefore the location where festivals were celebrated at the departure (*rakbah*) and return (*quffāl*) of the pearling season. Other activities that were carried out along the beach throughout the remainder of the year were boat constructions and maintenance, which were accompanied by beachfront celebrations. The beach played an important role in everyday life as a place for: children to play, recreation, fishing, the practice of folkloric beliefs, rituals and music, social gatherings and meals in open-air *majālis* (singular: *majlis* a communal sitting place). Lastly, the beach was the place where goods and visitors to Muharraq, including diplomats and traders, were received.

• For further details on the activities around the seashore please refer to the Nomination File, Description of the proposed properties and their narrative.

Contribution of Bū Māhir Seashore to the Outstanding Universal Value of the serial site

Being the only preserved natural stretch of coastline of Muharraq, Bū Māhir Seashore represents, within the serial nomination, the place where the above described coastal activities took place during the pearling era. The Bū Māhir Seashore also constitutes the authentic location where the departure and arrival festivities of the pearl collecting season took place.

The seashore's attributes that contribute to the Outstanding Universal Value of the serial site are the topography and geomorphology of its three components: the deep water parts which served as a harbour basin and the coastal and beach elements (*al-sif* and *al-qirāh*). Further attributes as sources of information are the material characteristics of the natural sandy beach and the setting at the sea.

Within the heritage site, the property physically and symbolically connects the maritime and urban properties and therefore plays an important role for site visits. With its scenic coastal location and view across the water bay and onto the modern skyline of Manama, it adds to the attractiveness of the site and lends itself as a recreational space.

Recommended future use of Bū Māhir Seashore as part of the pearling grand narrative

The gateway function of the seashore property connecting the oyster beds with the urban properties in Muharraq shall be protected and enhanced. The seashore needs to be accessed by visitors from both the land- and watersides, which demands the establishment of interpretation and presentation facilities.

Present state of conservation of Bū Māhir Seashore

The seashore's location within the National Coast Guard base explains the preservation of that only remaining stretch of authentic shoreline in Muharraq. Required boat access to the island has prevented the area from being reclaimed for development projects, thus preserving the natural beach and water basin to the south as well as the *haddrah*, which remains functional. However, this also means that the site has been inaccessible to the public for security reasons. The seabed within the limits of the proposed area is preserved with its authentic relief and natural condition and the landing of boats remaining possible.

To the north, the shallow sea has been reclaimed and Bū Māhir is no longer an island. Here, buildings and facilities of the Coast Guard affect the quality of the scenery. Beyond the public services area, the base is located next to a highway which re-divides the former island from the urban settlement.

The *sif* part, which also accommodates the remains of the fortress, Qal'at Bū Māhir, has maintained its visual connection to the sea and some vegetation has survived. However, the fortress has suffered from the addition of light structures for storage purposes and rubble has accumulated on the western side.

Factors affecting Bū Māhir Seashore

Factor	Caused by	Impact observed	Severity of impact
Change in Function	with the end of the pearling economy and installation of the Coast Guard the property lost its function as farewell and welcoming spot for pearling fleets	the site is merely used as informal storage	minor
Location	located within the National Coast Guard Base	currently the property is hardly accessible to public	major
Expansion of settlement	land reclamation to the north	the island location was lost	medium

Summary

Only minor interventions such as the cleaning and removal of surface coverings are required to improve the state

of the seashore, which is otherwise well preserved. Improvement in terms of public access and interpretation facilities are however urgently required.

Minor conservation interventions are required and public access needs to be facilitated.

1.2.2 Qal'at Bū Māhir

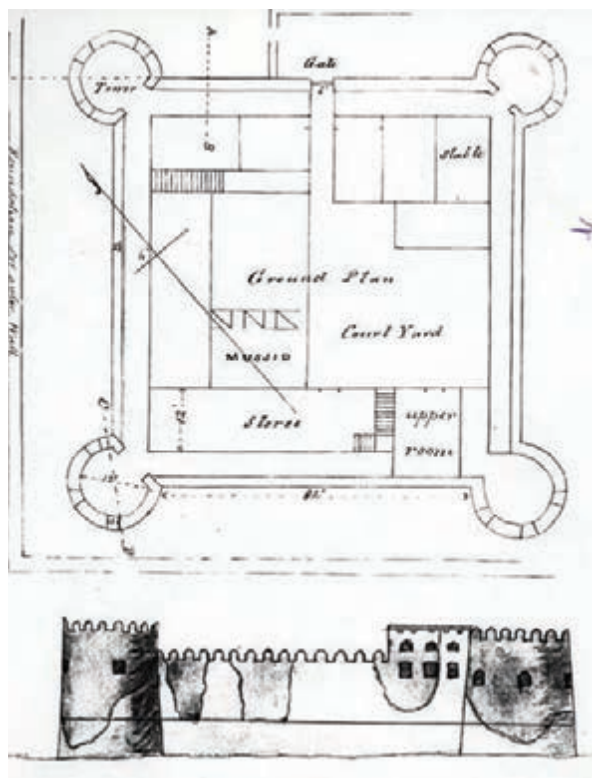
Name of the property	Qal'at Bū Māhir
Number of serial property	4 (b)
Street address	c/o Coast Guard Base Muharraq, Sh. Khalifa al-Kabeer Highway
Central coordinate	50°36'48.636"E 26°14'28.608"N
Plot area	238m ²
Total floor area	238m ²

The architectural element at the seashore property consists of the remains of Qal'at Bū Māhir, originally a four towered fort of square ground plan built as a defensive structure by the Portuguese in 1635 and renovated in the 19th century. The British Navy destroyed the greater part of the fort in 1868, leaving behind ruins of one side wing and one tower. The fort's upper parts are reconstructions from 1977-79. Qal'at Bū Māhir covers an area of 223 square metres. Foundations of the north-western tower and northern wing indicate their former location.

The fort's architecture resembles that of the Early Period. It is a single-storey structure of massive walls. The squatness of the remaining southern tower slightly tapers to the top, which rises higher than the appending defensive wing. Its top is accessible by a temporary, exposed timber staircase while at the ground level the tower is not accessible. On the interior wall, the tower shows a decorative frieze surrounding three openings and another horizontal frieze - approximately two meters high - further accentuating the horizontality. The tops of the surrounding walls are finished with decorative merlons. The three square openings of the tower open up a view to the adjacent sea.

The western defence wall attached to the tower facade is in the upper parts homogeneously structured by a row of five openings underlined by five equally spaced timber spouts. The defensive structure is topped off with decorative merlons of the same style as that of the tower. The wing contains three rectangular rooms of which the central one houses the remains of a kitchen facility (washroom). None of the rooms have openings for ventilation other than the entrance doors. The ceilings are constructed from traditional mangrove beams with a diagonal mesh of split bamboo with clay and earth toppings. The ceiling structure is painted in red and green.

In the adjacent areas, temporary constructions of the Coast Guard are



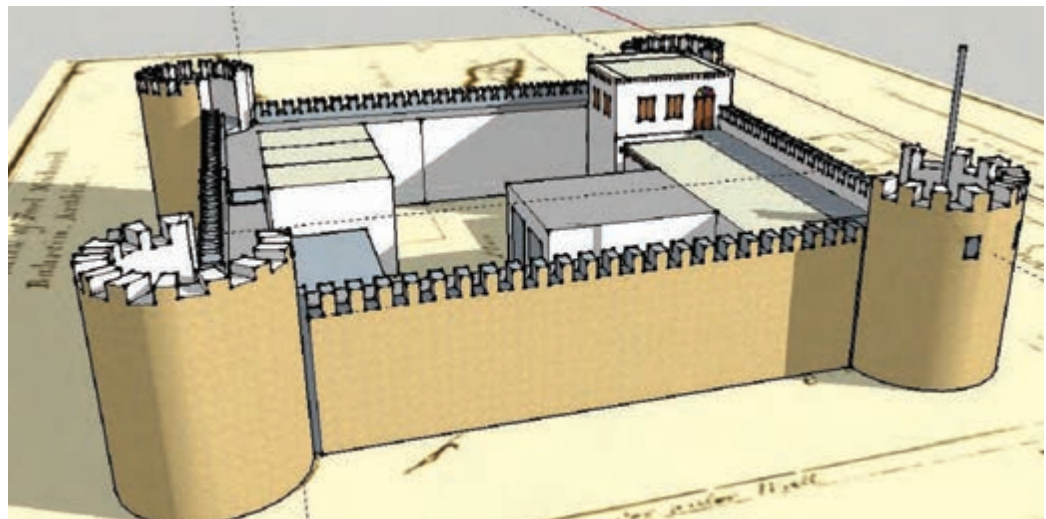
Plan and elevation of the original Qal'at Bū Māhir by Lieutenant Lovell, 1868
source: Yarwood, 1988

scattered, while to the east palm trees remind of the original vegetation at that site.

Contribution of Qal'at Bū Māhir to the Outstanding Universal Value of the serial site

Qal'at Bū Māhir is linked to the national history of Bahrain through historic events of political importance but its significance as testimony of the pearling economy consists in its capacity of defending the historic pearling capital, Muharraq, and protecting the arrival or departure of the pearling fleets in the adjacent harbour basin. The fort also protected the main water source of Muharraq City, an underwater sweet water spring located in the adjacent sea which nowadays is found active only sporadically. While the defence function ceased to play a role with the fort's destruction, it gained importance as a viewpoint during the *rakbah* and *quffal* festivals. Those awaiting the returning pearling fleets or bidding them farewell on their departures could climb the ruins to gain a better view. The fort is thus an important memory marker of these important pearling related events.

The attributes which reflect the fort's contribution to the Outstanding Universal Value of the serial site consist in the following sources of information related to location, setting, form and views: its exposed location at the southernmost tip of Muharraq and its function as architectural gateway to the pearling community; the view towards the sea and the fort's accessibility for spectators who from here can observe the boat traffic in the southern bay; and the structure's physical solidity and military appearance which stands witness of its former



A digital model of Qal'at Bū Māhir
source: Abdulla Sulaiti

defence function.

Present state of conservation of Qal'at Bū Māhir

The remains of Qal'at Bū Māhir had been in a state of dilapidation until the 1970s. The southern tower and the south-western wing were restored in the late 70s. During this time, an archaeological team excavated the northern tower and wall foundations and uncovered other important artefacts that shed further light on Qal'at Bū Māhir's long history.

However, the execution of past restoration and partial reconstruction shows some deficiencies which impact the state of conservation today. The use of modern cement and lack of an appropriate damp proof layer caused plaster and paint on the walls surfaces to flake. It still needs to be confirmed whether the decorative gypsum elements and the wall opening of the reconstruction indeed reflect the historical characteristics of the fortress. More recently the foundation wall of the northern tower has been incorporated into a temporary landscape design in a questionable attempt to beautify the property, which is scheduled to be reversed.

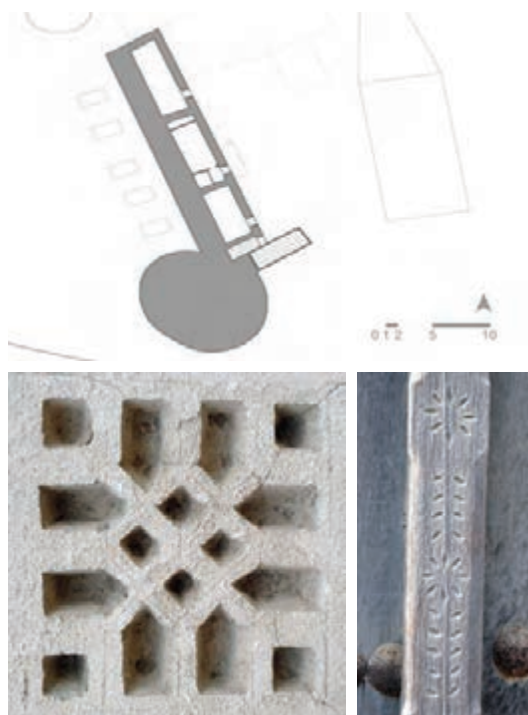
After restoration, the building was not in active use and therefore suffered from a lack of regular maintenance. Though the rooms are empty and unused, and therefore in a generally good state of conservation, the historic

doors do not function properly due to the piling up of dust and sand and the exterior shows signs of decay. Many of the reconstructed merlons are dilapidating. Some of the exterior spaces and surrounding land have been temporarily used as waste deposits for disused equipment. Temporary structures, a small workshop and dry pit have been built, and rubble has accumulated on the western side. Some archaeological findings of the late 1970s excavation were left exposed and unprotected, and show traces of impact from natural elements and the movement of people.

Currently, the property is inaccessible to public without prior arrangements between the Ministry of Interior and the Ministry of Culture and Information.

Factors affecting Qal'at Bū Māhir

Factor	Caused by	Impact observed	Severity of Impact
Use of inadequate materials	<ul style="list-style-type: none"> • After its destruction the fort was left in a state of disrepair for many years. • Inadequate materials were used in restoration 	<ul style="list-style-type: none"> • Potentially inauthentic elements added during reconstruction • Excessive deterioration of surface finishes on cement based plaster 	medium
Change in Function	<ul style="list-style-type: none"> • The fort lost its defence function • With the end of the pearling economy it lost its function as a farewell and welcoming spot for pearling fleets 	<ul style="list-style-type: none"> • The building is empty and lacks regular maintenance • The site is used for informal storage 	minor
Climate	<ul style="list-style-type: none"> • Harsh winds and humidity from the adjacent sea 	<ul style="list-style-type: none"> • Deterioration of exposed building material and finishes 	minor
Location	<ul style="list-style-type: none"> • Located within the limits of the National Coast Guard base 	<ul style="list-style-type: none"> • The property is currently inaccessible to public 	major
Expansion of settlement	<ul style="list-style-type: none"> • Land reclamation to the north 	<ul style="list-style-type: none"> • The island character was lost 	major



left: Groundplan of Qal'at Bū Māhir

right: Southern fortress tower

left: Incised gypsum decorative detail

middle: Wood carving on door

Summary

Although the state of conservation calls for improvement in terms of restoring the historic fabric and providing visitor access and interpretation, Qal'at Bū Māhir maintains its importance as a pearling related landmark.

Minor conservation intervention is required.

Conservation policies for the seashore property (Bū Māhir Seashore and Qal'at Bū Māhir)

Administration (1) and Stakeholder involvement (3)

While the fort is in the ownership of the Ministry of Culture and Information, the land is part of the Public Services and Utilities Area, which is under the main authority of the Ministry of Interior. The marine components are under the authority of the Public Commission for Environment, Marine Resources and Wildlife (PCEMRW). The Ministry of Interior and the Ministry of Culture and Information have agreed to incorporate the seashore property into the serial heritage site and make it accessible to visitors. Cooperation will continue in order to find a solution that meets both parties' needs particularly in terms of the Coast Guard privacy requirements. The Ministry of Culture and Information manages the seashore property under the lead of the Subcommittee for Bū Māhir Seashore. Upon completion of conservation works, and one property manager will be stationed at the site during opening hours and additional site personnel of about five staff members will be employed for the facility's operation. At least parts of the visitor facilities are foreseen to be operated in a public-private-partnership. The created spaces and facilities will be offered for rent for special and cooperate events. A permanent security service will be installed in cooperation with the local police particularly with the aim of ensuring privacy of the Coast Guard base.

Statutory protection (2)

Bū Māhir Seashore and Qal'at Bū Māhir have been designated national monuments under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The property will be made accessible for visitors and has been earmarked as a favoured starting point for the exploration of the serial site by visitors. A pedestrian connection to the urban parts in Muharraq and a boat connection to the offshore oyster beds will be established. This requires the construction of new visitor facilities which will isolate the former island from the surrounding Coast Guard base and simultaneously improve the scenery when approaching the property from the sea. The Bū Māhir Interpretive Centre will also host exhibitions and a catering facility with outdoor areas. With view to the property's function, as an arrival-transition point for visitors to the pearling testimony, the property requires a reception point which will offer visitor services such as informational materials (brochures, audio guides, etc). Interpretation facilities at the seashore will give an outlook to the other parts of the serial site, both the oyster beds and the urban properties, but will mostly focus on the traditional seashore activities, the history of Bū Māhir Seashore and Qal'at Bū Māhir. The interpretation will include staged live events featuring the music and dances related to traditional pearling festivities. On the northern land access to the property, within its buffer zone, an interpretive panel will be installed bringing the property to the attention of by-passers at all times. These will also include information on the oyster beds and indicate boat shuttle services to the maritime parts of the serial site.

Physical conservation and development (5)

In order to preserve the property and to align it with its anticipated function, the following physical conservation activities are foreseen:

Maintenance

The property and the facilities will be maintained by the Ministry of Culture and Information in consultation with the Subcommittee for Bū Māhir Seashore and in cooperation with the involved partners from the private sector who operate the visitor facilities. This includes the cleaning, monitoring and preservation of all physical assets.

• see Chapter 2 Management Strategies, Strategy 1 Administrative Structure and Procedures

Preservation

The elements in need of preservation and monitoring of their state of conservation are the material composition and topography of the beach (*al-sif and al-qirāh*), the traditional fish trap (*haddrah*), the water way connection to the maritime properties, the ample view onto the adjacent sea, and the historic fabric of Qal'at Bū Māhir including the access to its tower.

Restoration

The restoration of the natural beach, particularly *al-sif*, requires the removal of all temporary structures and added elements currently covering up parts of the sand surfaces. Maintenance of all historic fabric, archaeological finds and the traditional fish trap (*haddrah*) will include regular restoration works.

The restoration of Qal'at Bū Māhir includes the removal of all harmful additions and materials such as cement plaster.

Adaptation and new work

The above described use of the property and its planned accessibility to the public requires the construction of a separating element between the property and the Coast Guard, both in order to provide privacy to the Coast Guard and to improve the setting of the property. The location of the planned separating element corresponds to the on-land limits of the seashore property and has been agreed upon with the Ministry of Interior. It will host the scheduled visitor facilities of the Bū Māhir Interpretive Centre.

Access to the property is restricted to two entrances: one on the landside and one in the sea. In cooperation with the Ministry of Works and an appointed architect, a pedestrian crossing will be constructed across the northern highway, thus connecting the property within the Coast Guard base to the urban buffer zone and the urban properties. The crossing of the Coast Guard base to the north-east could be facilitated by a screened passage which evolves into a sea promenade before reaching the property. A creative solution incorporating the interpretation facilities is sought for and potential the enclosed spaces of this passage or bridge should be made as attractive and evocative as possible. A second very scenic access will be made by boat, which requires the construction of a pier that will at the same time be used for boat excursions to the oyster beds. The pier will be constructed outside of the property limits in order to reduce the visual impact to a minimum.

The designs of the new facilities have to comply with the overall design principles and must not in any way obstruct the incoming visitor's visual field of the seashore and fort. They may neither take away from the fort's importance and prominence. Any significant archaeological discovery must be taken into account in the design. The facilities will include an outdoors stage area that incorporates parts of the natural beach and a tribune to the west of the site. The existing vegetation to the east will be considered within the spatial layout and landscaping, and coordinated with the outdoor visitor spaces.

New works related to Qal'at Bū Māhir are mostly restricted to interior design and adaptation of the fort for its use as exhibition space, particularly the interior of the three surviving rooms and the stairs to the tower.

The completion of works is scheduled for mid 2011.

The following area programme is proposed for the seashore property:

- administrative office/reception point
- exhibition spaces
- sales area for merchandise
- café with outdoor terrace and garden area
- service area/kitchen
- outdoor stage area and tribune
- VIP room
- storage and delivery area
- sanitary facilities
- surveillance boat for site security
- promenade for pedestrian access and crossing into the land part of the buffer zone
- pier for boat access in the sea part of the buffer zone

• see Chapter 2 Management Strategies, Strategy 4 Interpretation and Presentation

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Technical infrastructure/installations that will need to be incorporated in the traditional fabric of Qal'at Bū Māhir and the new constructions are:

- air-conditioning system (appropriate systems to be investigated)
- universal access to focal areas
- specialised lighting layout with necessary electricity supply
- fire protection plan with appropriate fire fighting equipment and exit routes
- exterior and interior signage
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further anthropologist and historical research into the traditional activities at the seashore and the use and function of the fort.

The area of the former fort will, in early 2010, be explored for the potential uncovering of further archeological remains.

Cultural traditions (8)

Facilities are provided at the seashore property that can accommodate outdoor festivals and performances linked to the pearling narrative, particularly the *rakbah* and *quffāl*. The Ministry of Culture and Information will facilitate the annual celebration of these traditional festivals on their original dates in May and September. The first public festival is planned for summer 2011.

Tourism and promotion (9)

The property's accessibility by boat and close vicinity to the National Museum, located across the water bay in Manama, calls for the installation of boat shuttles to this and other visitor attractions and heritage sites located at the coast as well as the oyster beds; thus, promoting heritage and marine tourism.

Planned pedestrian connection of the Seashore property



Action plan for the Seashore Bū Māhir and Qal'at Bū Māhir

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	An agreement has been reached with the Mol to develop the property and make it accessible.	January 2010	Agreement document (SAU archive)	Negotiate the conditions for developing visitor facilities at the property with the Mol (Directorate of Coast Guard)	MoCI, Mol	-	-
Administration (1)	The SBMS is established and administers the conservation of Bū Māhir seashore.	February 2010, ongoing	Meeting minutes (SAU archive)	Coordination with all partners	SAU	PCPMREW, NOGA (BAPCO), Mol (Directorate of Coast Guard), BCSR	-
Administration (1)	A permanent management office is established at the property.	June 2011	Weekly reports of the property manager (SAU archive), site inspection	Establish a site management office in the Bū Māhir Interpretive Centre	SAU	-	Special project budget
Administration (1)	1 property manager and 5 staff members are working onsite.	June 2011	Employee contracts (SAU archive), site inspection	Employ a property manager and 5 frontline personnel at Bū Māhir Interpretive Centre	MoCI	-	Operational budget - MoCI
Administration (1)	A permanent site security service is installed.	June 2010	Site inspection, reports of the property manager (SAU archive)	Appoint security personnel	MoCI	Mol	Mol
Administration (1)	The state of conservation of Qal'at Bū Māhir is assessed regularly.	Biannually, from October 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of Qal'at Bū Māhir biannually	SAU	-	Operational budget - MoCI
Administration (1)	The state of conservation of Bū Māhir seashore is assessed regularly.	Every two years, from May 2010	State of conservation reports (SAU archive)	Commission a survey of the environmental condition of Bū Māhir Seashore every two years	SAU, SMH	PCPMREW	Special project budget/ shared resources of partners

SITE ANALYSIS AND ACTION PLANS (2009-13)

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Statutory Protection (2)	Qal'at Bu Mahir and Bū Māhir Seashore are designated as national monuments.	January 2010	Official government gazette	Register the properties with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	The Bū Māhir Interpretive Centre is operational.	By June 2011, ongoing	Visitor records (site archive), site inspection	Commission the construction and equipping of the Bū Māhir Interpretive Centre	SAU	Mol (Directorate of Coast Guard), SBMS, SAUH, SURPD, private sector tenants	Special project budget/ operational budget - MoCI
Physical Conservation and Development (5)	Qal'at Bū Māhir is restored and adapted for public use.	By March 2011	Conservation completion report (SAU archive), site inspection	Implementation of the conservation plan	SAU, consultants	SUAH and SURPD	Special project budget
Physical Conservation and Development (5)	Bū Māhir seashore including the <i>haḍḍrah</i> (fish trap) has been conserved.	By March 2011	Conservation completion report (SAU archive), site inspection	Facilitate the development and implementation of a conservation plan	SAU, SBMS	PCPMREW	Special project budget/ shared resources of partners
Physical Conservation and Development (5)	A pedestrian link is established across the Sh. Khalifa al-Kabeer Highway.	By March 2012	Construction report (SAU archive), site inspection	Commission the design and construction of a pedestrian bridge	SAU, SBMS	MoW	Special project budget/ shared resources of partners
Research and Documentation (6)	Historical and anthropological data about the seashore property are gathered.	By March 2011	Historical and anthropological report (SAU archive)	Facilitate historical and anthropological research of the nominated oyster beds	SAU, consultants	Local community	Special project budget/ operational budget - MoCI
Cultural Traditions (8)	Regular pearling festivals are held at the property.	Twice a year, from September 2011	Visitor records (site archive)	Prepare and organise public festivals at the traditional beginning and end of the pearling season	MoCI, SAU, consultants	Local community, private sector	Special project budget/ private sponsors/ operational budget - MoCI

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Tourism and Promotion (9)	A boat shuttle connection to Bahrain National Museum is operational.	By June 2011, ongoing	Site inspection (SAU archive)	Develop a boat shuttle system and appoint a private operator	SAU, consultants	Private operator	Special project budget
MoCI – Ministry of Culture and Information MoW – Ministry of Works PCPMREW – Public Commission for the Protection of Marine Resources, Environment and Wildlife SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SBMS – Subcommittee for Bū Māhir Seashore SMH – Subcommittee for Marine Heritage SUAH – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3 URBAN PROPERTIES

1.3.1 Al-Ghūṣ House - the house of the pearling profession

Name of the property	Al-Ghūṣ House
Number of serial property	5
Street address	Number 972, Road 1615, Block 216
Plot number	13571
Central coordinate	50°36'51.084"E 26°14'38.364"N
Plot area	211 m ²
Total floor area	130 m ²
Courtyard area	80 m ²

The al-Ghūṣ House was built within the Middle Period at the southernmost tip of al-Ḥālah Island. The house was formerly set right at the seashore on a route from Muharraḡ Sūḡ that served as a main connection to Qal'at Bū Māhir, which until the mid 20th century was located on a separate island just south of this location. It is a modest residential structure for the pearling society's low-income section, typically the crewmembers of the pearling dhow. The building is remembered in the neighbourhood as a place where goods were stored while waiting for the low tide during which it was possible to walk across a sandbank to Qal'at Bū Māhir. It is also known that the building has been used as a home, storage and after the pearling era as a local football club. The earliest known inhabitant lived in the house in 1920, since then the ownership has changed several times. The house's name was developed and attributed to the building when it was designated a national monument in 2010.

The al-Ghūṣ House is set within a densely built up residential area at an intersection of two vehicular roads with traditional urban pattern to the north and modern urban typology to the south. Only the southern and the eastern facades of the building are exposed and are rationally structured by homogenously distributed niches and an entrance way on each.

The flat roofed, single-storey building, has a typical residential *hūsh* (courtyard) layout with living complexes surrounding it. The living units are positioned in the eastern and the north-western parts of the property and

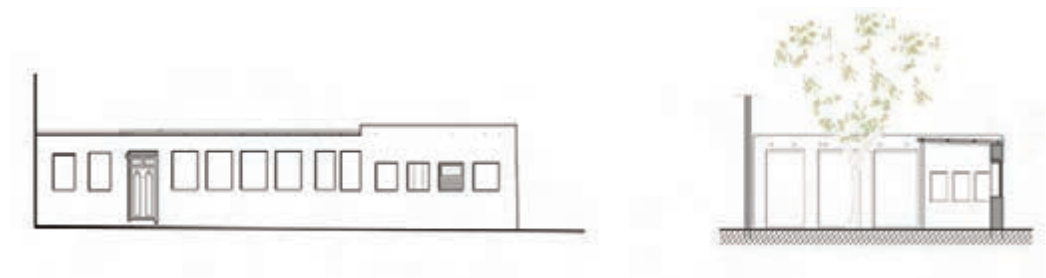
SITE ANALYSIS AND ACTION PLANS (2009-13)

Location map and ground plan of al-Ghūş House



a large solitary tree casts shade over most of the *hūsh*. The architecture of the eastern living unit reflects the important role privacy played in the local tradition and is exemplified in the ground plan. The eastern living unit is entered through a *majāz* (entrance corridor) that connects to a *majlis* (reception space) and a *liwān* (roofed open space), offering the inhabitants privacy. The *hujrah* (plain masonry room) is located further away from the public entrance, in the south-eastern corner of the living unit, and only accessible through the *liwān*. The north-western living unit consists of a singular *bangalah* (large room) accessible from the courtyard and raised to a slightly higher floor level.

Southern elevation and section of al-Ghūş House



The exterior and interior facades differ in style and reserve. The street facades show shallow rectangular niches, traditional doors and small-scale windows sculpting them aesthetically yet modestly. The internal facades are more expressive and in-tune with the Middle Period architectural styles. The *bangalah's* facade has deep arched niches, which are characteristics found within the Smooth Style. The *liwān* of eastern living complex shows the column and beam structure, typical of the Columnar Style.

• For a description of the architectural periods please refer to Chapter 2 Management Strategies, Strategy 5 Physical Conservation and Development.

Contribution of al-Ghūş House to the Outstanding Universal Value of the serial site

With reference to the *Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage*, the al-Ghūş House adds to the Outstanding Universal Value of the pearling testimony as a prototype building of the low income class. The

architecture of Middle Period style displays in a simple manner all the aspects that formed a modest Muharraqi home of the late pearling era: the construction and decorative details found in doors and windows; materiality; spatial planning; building technology; the passive air-conditioning systems such as the *bādgir*; orientation of the building and the tree for shadow. Thus, the house offers a glimpse into the conditions that some members of the low income professions were introduced to in the height of the pearling economy at the beginning of the 20th century. These professionals were particularly the members of the pearling dhows' crews such as divers (*ghīṣ*; pl. *ghāṣah*), haulers (*sīb*; pl. *siyūb*), simple captains (*nūkhidhah*; pl. *nūwākhidhah*) and their assistants (*mjaddimi*; pl. *mjādmah*), and also boat builders ('*ustādh*; pl. '*asātidhah*'), who at that time all still most commonly lived in a *barāstī* (palm branch hut) but some could now afford solid stone houses. The al-Ghūṣ House in its modesty and basic form is similar to that of a typical *barāstī* and can therefore be associated with that formerly common residential type in Muharraq.

The property's attributes reflecting the Outstanding Universal Value are the design of the prototype ground plan of a modest low-income class house which in its simplicity also reminds of the *barāstī*. The formerly standard traditional building material, coral stone, the different traditional architectural elements and the historic climatic conditions created by traditional ventilation systems and the *hūsh* tree are further attributes. These features add to the overall aesthetic feel and define the atmosphere which is considered part of the value. Last but not least, the building functions as a memory marker at the formerly crucial location between two of the three islands which today constitute Muharraq. The al-Ghūṣ House not only triggers memories of waiting for the tidal waters to subside for the crossing over to Bū Māhir Island, but also visibly marks the transition from modern to traditional urban pattern at the border of the historic settlement of Muharraq.

Beyond those attributes, the property is strategically located within the heritage site. It is located at the southern extremity of the urban pearling testimony. By making the building accessible, visitors who started their site visit at the Bū Māhir property are given the chance to experience the traditional architecture from the interior as soon as they enter the historic settlement of Muharraq.

Recommended future use as part of the pearling grand narrative

The property shall be made accessible to visitors as an exhibition facility displaying the prototypical home of the low income class in Middle Period architecture and *ṣūsh* house typology. The pearl diving profession, particularly the *ghīṣ* (diver) and the *sīb*, (hauler) shall be interpreted through the exhibits. The property's significance in marking the historic border of Muharraq's traditional urban settlement and transitional point to Bū Māhir Island shall be highlighted in interpretation facilities both in and outdoors.

Present state of conservation

The north-western room, the *bangalah*, has suffered some damage over the years. The original roof collapsed and has since been replaced with a corrugated sheet metal roofing system. The walls have suffered from wear and tear as well as exposure, and many niches now expose the internal horizontal structural timber members which show signs of fungus and termite infestation at some locations.

The eastern complex, with the aid of timber boarding and other temporary construction material, has been converted into a basic housing facility. The traditional walls, in an attempt to beautify the facility, have been plastered and painted, and traditional ceiling covered up with contemporary ceiling boards. A few windows have been replaced by air-conditioning units. The structural beams show signs of weakness. The courtyard has been covered with cement screed and is currently used as storage for furniture and construction material. A basic modern toilet and bathroom facility and a temporary room built of timber boarding material have been added to the western portion of the courtyard. The southern portion is roofed with a fibre cement sheet on a large timber column and beam structure while the space beneath is used for storage and hosts a basic temporary kitchen facility.

The original setting of al-Ghūṣ House has changed considerably as a result of the continuous land reclamation in Muharraq. Modern urban buildings have been constructed on the reclaimed land adjacent to the southern seashore. To the north, however, the historic urban pattern is well-preserved and clearly distinguishable as the border of the historic settlement, although much of the traditional structures in the surroundings have been replaced by modern constructions.

SITE ANALYSIS AND ACTION PLANS (2009-13)



left: Eastern entrance door

middle: Window in the public facade

right: Interior view of the southern entrance wall with niche

left: Mangrove beam ceiling

right: Southern entrance door

Factors affecting the property

Factor	Caused by	Impact	Severity of the impact
Modernization measures	<ul style="list-style-type: none"> • Modern, facilities and services introduced to historic substance 	<ul style="list-style-type: none"> • Impact on overall aesthetic • Disturbance of spatial proportioning • Material decay due to covering of traditional elements with paint and boards 	medium
Change in function and ownership	<ul style="list-style-type: none"> • The building has been adapted for accommodation • Ownership changed several times 	<ul style="list-style-type: none"> • Wear and tear of architectural structure • Temporary additions for tenants 	minor
Inadequate maintenance	<ul style="list-style-type: none"> • Lack of knowledge and resources for ongoing maintenance • Lack of interest to preserve and maintain the traditional building 	<ul style="list-style-type: none"> • Fire hazard due to outdated service infrastructure • Partial collapse of traditional roof & rot in timber elements 	medium
Urban development	Expansion of city	Visual corridor to Qal'at Bü Māhir not recognizable	major

Summary

The building is slowly progressing into a stage of vulnerability due to neglect. Although, some elements have been lost to deterioration the building still retains its traditional elements and character that reflect the Outstanding Universal Value.

Medium scale conservation interventions are needed.

Conservation policies for al-Ghuş House

Administration (1)

The ownership of the al-Ghūş House will be transferred to the Ministry of Culture and Information in 2010 after its purchase from the current owner by the Ministry of Municipalities Affairs and Agriculture. The building will not be inhabited but become an exhibition facility managed and maintained by the Ministry of Culture and Information. A property manager will be permanently stationed at the property during opening hours.

Statutory protection (2)

The al-Ghūş House has been designated national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information has earmarked the al-Ghūş House as an exhibition facility offering visitors the opportunity to experience the living conditions of the lower income members of the society during the late pearling era. The house will host an exhibition on the life of the pearling profession with special focus on the *ghīş* and the *sīb* while at the same time offering refreshments through a small scale catering facility.

Based on anthropological and historical research reports related to the property and the theme of pearl diving, the Ministry of Culture and Information will facilitate the design and installation of sober interpretation facilities which will not harm the heritage fabric or impact the spatial experience and atmosphere. Related authentic artefacts, such as diver's weights, and personal accounts of pearl divers shall help convey a vivid image of the pearl divers' strenuous profession. The crew members' lives on the dhows and their families' lives in Muharraḡ will be displayed.

Physical conservation and development (5)

To align this property to its anticipated function, the following conservation activities are recommended:

Maintenance

The al-Ghūş House will be maintained by the Ministry of Culture and Information.

Preservation

During the pearling era climate control was achieved with traditional ventilation systems such as a *bādgīr*, *kishtīl* and vegetation. Such surviving authentic elements shall be preserved. The need for preserving the tree, which offers natural cooling to the entire building, shall therefore be highlighted here and all activities required to preserve it must be incorporated into the property's conservation plan.

Restoration

Particularly the eastern living unit and the interior and exterior of the boundary walls as well as the *hūsh* must be restored, focusing on the walls, floors and ceiling details carrying the traditional character. The restoration procedure will make use of traditional materials, elements and techniques (e.g. traditional mix of material for the renders to be applied to surfaces using the traditional method), but vary slightly in colour and workmanship when compared to the original materials. This is intended to create a clear distinction between original and restoration components.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Adaptation and new work

With view to providing the proposed function, the property requires adaptation and new work to align with contemporary standards for exhibitions and visitor needs in terms of services and facilities. The north-west living unit's traditional roof structure requires to be closed and the new kitchen and sanitary facilities have to be introduced. It is also intended to upgrade the electric and sewage/ water infrastructure in the course of the rehabilitation works.

The following area programme is proposed:

- administrative office/reception space
- exhibition spaces/ refreshment facility
- service area/kitchen
- storage area
- sanitary facilities

Technical infrastructure/installations that will need to be upgraded:

- air-conditioning system (appropriate systems to be investigated)
- universal access to focal areas
- specialised lighting layout with necessary electricity supply
- fire protection plan with appropriate fire fighting equipment and exit routes
- exterior and interior signage
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation of the property's architectural and socio-cultural history and the related pearling profession (with special focus on the *ghīṣ* and the *sīb*).

Action plan for al-Ghūṣ House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The property is in the ownership of the MoCI.	By March 2010	Title deed (SAU Archive and Survey and Land Registration Bureau)	The MoMAA purchases the property and transfers ownership to the MoCI	MoMAA	SURPD	MoMAA budget
Administration (1)	A property manager is administering the property.	By March 2012, ongoing	Contract and weekly reports of the property manager (SAU archive), site inspection	Employ a property manager for Al-Ghūṣ House	SAU	-	Operational budget - MoCI

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The state of conservation of Al-Ghūs House is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Al-Ghūs House biannually	SAU	-	Operational budget - MoCI
Statutory Protection (2)	Al-Ghūs House has been designated as a national monument.	January 2010	Official government gazette	Register Al-Ghūs House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and presentation (4)	An exhibition in Al-Ghūs House is installed and open to public.	By March 2012, ongoing	Visitor records (SAU Archive), site inspection	Commission the design and implementation of interpretation facilities for Al-Ghūs House	SAU	Local community	Special project budget/ operational budget - MoCI
Physical conservation and development (5)	Al-Ghūs House is restored and adapted for public use.	By December 2011	Conservation report (SAU archive), site inspection	Implement the conservation plan for Al-Ghūs House	SAU, consultants	SUAH and SURPD	Special project budget
Research and documentation (6)	Site and theme specific anthropological and historical data and artefacts related to the property are gathered.	By July 2012	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of Al-Ghūs House and the pearling profession	SAU, consultants	Local community	Special project budget/ operational budget - MoCI

MoCI – Ministry of Culture and Information

MoMAA – Ministry of Municipalities Affairs and Agriculture

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

SUAH – Subcommittee for Urban and Architectural Heritage

SURPD – Subcommittee for Urban Regulations and Project Design

1.3.2 Badr Ghulum House with the attached Turabi House

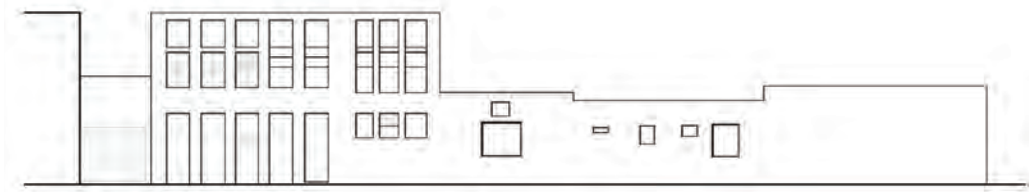
Name of the property	Badr Ghulum House
Number of serial property	6
Street address	Number 1256, Lane 1622, Block 216 (Turabi House: Number 1262 , Lane 1622, Block 216)
Plot number	13308, 13307 (Turabi House: 13306)
Central coordinate	50°36'48.348"E 26°14'44.592"N
Plot area	424 m ²
Total floor area	213 m ² (Turabi House: 183m ²)
Courtyard area	158 m ² (Turabi House: 40m ²)

In his mid twenties, probably in the year 1912, *Badr Ghulum* settled in Muharraq and built his reputation as a barber and therapist in traditional folk medicine. As one of only three people offering such services, he played an important role in the pearling community. Particularly, the divers had to endure physical ailments inflicted by their strenuous profession. *Badr Ghulum Suleiman* purchased the plot of land together with his barber colleague *Yousif al-Turabi*. They divided the land equally and simultaneously built their homes back-to-back, sharing a common boundary. This was a common practice in Muharraq because it economised building material and improved the climatic conditions in the house. As *Badr Ghulum Suleiman* gained popularity, his wife, and later his son and his son's wife assisted him and soon became folkloric medical healers in their own right. Their home was continuously frequented by the local community while at the same time offering residential space for the growing family. Both the residential quarters and areas for medical treatment were positioned around a large serene courtyard garden. With its palm trees and water pool, the house consisted in a private yet semi-public space that made a refreshing retreat particularly during the hot summer days. Thus, the Badr Ghulum House continuously evolved and consolidated with more and more *barāsti* being converted into permanent coral stone structures. This process lasted until 1947. The building therefore shows elements of Middle and Late Period architecture. The last of the *barāsti* was unfortunately removed in the 1960s. The property is a typical residential house, but due to the services offered by its owner, it is positively remembered as health facility of semi-public character among the local community.

The property is imbedded in a traditional urban pattern of meandering narrow pedestrian lanes framed by residential single and double storey buildings which once marked the most western edges of *al-Hālah* Island.



Location map and groundplan of Badr Ghulum House and attached Turabi House



Southern elevation of Badr Ghulum and Turabi Houses

The public facade is composed of the attached traditional 2 storey buildings of Badr Ghulum House and Turabi House which develops into a dominant full-storey height boundary wall that serves as the exterior wall of the medical facility and also encloses the garden courtyard.

As per the Middle Period Colonnade Style, the rooms are made up of a columnar grid and filled in with vertically accentuated multi-level niche system made of *farsh*. On the ground floor and first floor level, the transition between private and public is created by the *liwān*, on the ground floor, and a roof terrace, on the first floor. The roof terrace and its plain parapet is carried by the octagonal column, with its square base and plain capital, and the beam structure of the *liwān*. The interior walls culminate in a traditional ceiling made of mangrove beams and diagonal grid of split bamboo. This structure shows the typical cornice and 45 degree niches.

The medical treatment room is modest in nature and was one of the last spaces to be converted from a *barāstī* to a permanent stone structure. This room carries the resemblance of the Late Period. Two doors in the middle and a window on either side structure the facade. The two square windows are furnished with internal double leaf timber shutters with external vertical steel bars.

• see Nomination File, Urban proper-
ties: Architectural Testimony of the
Pearling Heritage

The appending Turabi House also shows the Colonnade Style structured by a columnar grid and vertically accentuated multi-level niche system made of *farsh*. The house preserved its traditional ceilings set within dominant cornices. The historic house has three *hujar*, two of which are on the ground floor accessible through a *liwān* with the exact similar column and beam detail as the Badr Ghulum House. The 2nd and the 1st floor overlook the courtyard, which is today shared with a modern construction. The two historic structures not only support each other structurally, but also together, create the double storey portion of the southern facade that dominates the pedestrian lane.

Contribution of Badr Ghulum House to the Outstanding Universal Value of the serial site

The property's contribution to the serial site's Outstanding Universal Value is predominantly associated to the traditional medical treatment facility. It is the earliest remaining structure built for the healing of the sick in Muharraq. Physical ailment and relief is an important aspect of the grand narrative of pearling, particularly in the context of the boat crew. In the property, the physical evidence of this theme consists in the room that was exclusively dedicated to medical services but also in the garden, which retains its atmosphere and character experienced by visitors and patients in the past. The most important attribute is the property's continuation of function, which consists in the house offering physical relief and wellbeing to visitors from all walks of life. The Badr Ghulum House is synonymous with medical treatment and has become a memory marker as such. The simple traditional external facade of the attached double storey houses and the boundary wall, the courtyard's dominant palm trees visible from the street, along with the continued care for the property by the family, have assured the longevity of this landmark. The attributes reflected in sources of information are therefore: function, location and material structure of the treatment room; the atmosphere and character of the greened courtyard; and the modest structure and design of the outer facade and boundary wall.

Turabi House is structurally and historically interlinked with the Badr Ghulum House but does not contribute its own theme to the grand narrative of pearling.

Beyond the pearling context, the western most edge of the *al-Hālah* Island, which the property marks, is remembered for good fishing and quarrying of coral stone in the mind maps of the local community. The property furthermore testifies to the tradition of constructing residential buildings attached to each other.

Recommended future use as part of the pearling grand narrative

The welcoming character of the Badr Ghulum House and Garden shall be preserved and enhanced in cooperation with the Badr Ghulum Family. It will be made accessible to visitors and further supported by an exhibition facility which will explain the role of folkloric treatment that once offered relief to those who endured physical suffering within the pearling economy. The Turabi House is not in the focus of pearling grand narrative but its physical preservation is imperative. Given the fact that the owning family currently does not wish to continue using the house, it has been earmarked as accommodation facility for the site administration unit.

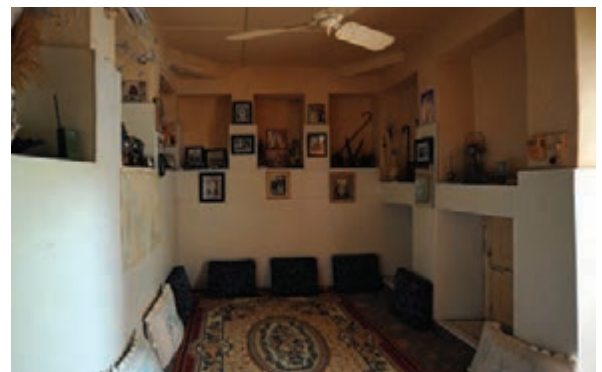
Present state of conservation of Badr Ghulum House

Due to land reclamation and urbanization to the south-west of the Badr Ghulum house in the mid-20th century, the main entrance was relocated to the north-east end of the property border. At the same time, a contemporary kitchen, bathroom, and separate room were constructed adjoining the southern interior boundary wall. The addition of two rooms to the double-storey western complex has further impacted the traditional character. The courtyard is clustered with temporary make-shift structures constructed of lightweight materials, and some landscape elements of the courtyard require attention. The windows, *bādgir* and *farsh* on the first floor require attention and the aesthetic value of the house is reduced by the adjoining temporary storage facility made of corrugated sheet metal. In an attempt to protect the building against efflorescence, walls were plastered and painted with contemporary materials. This however may have speeded up the rate of decay of the traditional material, as is currently further investigated. Unfortunately the traditional entrance door has been replaced.

The portion of the Turabi House attached to the Badr Ghulum House has also experienced some modernisation attempts. The two buildings today remain connected and are still owned by their original families. The Turabi House was recently given up as a family residence and currently stands vacant. The western portion of Turabi's plot is today built up and hosts a modern residential house. This part of the plot, which shares the courtyard with the historic Turabi House, remains inhabited by the family. Most walls of Turabi House have been rendered with contemporary plaster and oil based paint, while others have been covered with timber boarding to conceal efflorescence. A portion of the 1st floor terrace has been covered up with a modern structure that influences the aesthetic value of the traditional facade. Furthermore, modern elements such as off the shelf doors, aluminium windows and ceilings have replaced or covered some of their traditional counterparts.



left: Southern public facade



top right: Octagonal Column

middle: External view of a bādgir

bottom right: Traditional room
with low level windows and column
grid wall niches

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	<ul style="list-style-type: none"> • modern material, facilities and services 	<ul style="list-style-type: none"> • impact on traditional aesthetics and proportions • concealed traditional elements (by paint and boards) • destruction of some traditional elements • temporary additions in the courtyard of Badr Ghulum House • the courtyard of Turabi House is impacted by the modern building's facade to the west 	minor
Change in function	<ul style="list-style-type: none"> • Badr Ghulum House: is used only occasionally • Turabi House is vacant 	<ul style="list-style-type: none"> • Badr Ghulum House: irregular ventilation of storage rooms • dysfunctional elements (doors, windows) due to lack of use • lack of maintenance 	minor
Urban development	<ul style="list-style-type: none"> • the adjacent sea has been reclaimed 	<ul style="list-style-type: none"> • the former coastal setting is unrecognisable 	major

Summary

The property still retains most of its traditional elements and character. Most additions can be removed without inflicting harm to the historic fabric. Particularly the courtyard garden of Badr Ghulum House retains its extraordinary atmosphere. However, insufficient maintenance has led to material decay and calls for thorough conservation measures.

Medium scale conservation interventions are needed.

Conservation policies for the Badr Ghulum House and the Turabi House

Administration (1) and Stakeholder involvement (3)

The property remains in the ownership of the Badr Ghulum and Turabi families who lease the houses, on a long term basis, to the Ministry of Culture and Information and have been cooperating with the Site Administration Unit in various other ways.

The Badr Ghulum house and garden will not be inhabited but become publicly accessible and host: an exhibition; a refreshment facility; and a facility for offering merchandise, health products and services related to the family tradition. The facilities will be operated by the Ministry of Culture and Information in cooperation with the Badr Ghulum Family and possibly by third parties. Occasional use by the owners is foreseen. A property manager in charge of both property parts will be employed by the Ministry of Culture and Information. Additional front line personnel will be present in the Badr Ghulum property during opening hours. The Turabi House is earmarked to become the site administration accommodation managed and operated by the Ministry of Culture and Information.

Statutory protection (2)

The Badr Ghulum and the attached historic Turabi Houses have been designated national monuments under Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The exhibition facility and services planned within the Badr Ghulum House will evoke the remembrance of the folkloric treatment once offered there and which was the only form of medical relief for the island population of

Muharraq. The interpretation in the property will be enriched by personal accounts and artefacts related to the property's history, kindly made available for display by the property owners.

An exterior interpretive panel will be mounted next to the entrance of the Badr Ghulum House, reminding of its role in the pearling economy, while at the same time referring to its original setting by the sea. The history and function of the Turabi House will be shortly introduced on an exterior interpretive panel.

Physical conservation and development (5)

In order to align this property to its anticipated function the following conservation activities are recommended:

Maintenance

Badr Ghulum and Turabi Houses will be maintained by the Ministry of Culture and Information. In both cases, maintenance will be undertaken in close cooperation with the owning family and possibly with third parties operating the facilities. The maintenance of the electrical and sewerage infrastructure will receive priority attention before and during the conservation measures to determine whether partial replacements are needed to ensure the future long-term safety of these services.

Preservation

Preservation measures are aimed at preventing further deterioration of the existing historic fabric. In this context, ground floor rooms will be cleaned, including soft surface cleaning, and regular ventilation will be ensured to prevent the growth of fungus. The removal of some late boards that currently cover the interior walls will contribute to better ventilation and allow the walls to dry out. To reduce ground water penetration through the historic walls and the resulting salt efflorescence on the surfaces, the courtyard's flooring materials will be replaced (refer to Restoration, below).

Restoration

Badr Ghulum House: The spatial experience of the courtyard will be restored by removing recently added structures of poor aesthetic and architectural quality that are no longer functional. Traditional ceilings will be stabilised where necessary and covered with coatings that permit humidity penetration and prevent termite infestation. To reduce the partial ground water penetration in the historic walls, non-permeable wall paints will be removed and replaced with plaster-based finishes. In combination with the re-introduction of traditional water-permeable floor coverings (such as mud, sand and shells), it is hoped the salt crystallisation on wall surfaces can be reduced considerably. In addition, the rooms of the double-storey complex at the western side of the property and the treatment room need stabilisation and surface treatments in the context of the restoration measures.

Adaptation and new work

Simple, unobtrusive visitors facilities need to be provided, including a small-scale, partially-covered refreshment area within the garden. To reach the upper level of the eastern part of the building, a staircase will need to be built at the location of the historic staircase, which has been removed. Unfortunately, a lack of evidence does not allow for the reconstruction of the original staircase. Some of the windows and doors have been replaced by aluminium products that do not contribute to the preservation or aesthetic appearance of the building. It may be necessary therefore to remove some of these replacements and install alternative models.

The following area programme is proposed:

- Reception and refreshment area in the courtyard
- Facility for medical services and products (in the restored treatment room)
- Exhibition spaces
- Kitchen
- Storage area
- Sanitary facilities

The Turabi House will be equipped to satisfy contemporary needs for accommodation. The historic part will be separated from the modern residential building in the west by a separating element in the courtyard. The electric and sanitary infrastructure will be maintained and where necessary renewed and the rooms will be furnished.

The following area programme is proposed:

- Reception and communal space
- Guest rooms
- Sanitary facilities
- Kitchen
- Storage area

Technical infrastructure/installations that will need to be upgraded in the *Badr Ghulum* and *Turabi* houses:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas
- Public safety elements (e.g. balustrades)
- Pecialised lighting layout with necessary electricity supply and loading
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and document the architectural and socio-historic history of the property, the Badr Ghulum Family and the role of folkloric medical treatment in the pearling society.

Cultural traditions (8)

The Ministry of Culture and Information in cooperation with the Badr Ghulum Family will support the continuation of the property's traditional function as place of hospitality and well-being and its association to medical treatment. The provision of simple medical services and products will be supported.

Tourism and promotion (9)

The refreshment facility in the attractive courtyard garden of the Badr Ghulum House will contribute to the tourism offer of Muharraq. Accommodating visitors and consultants to the site administration unit in the Turabi House will promote the pearling testimony and architectural heritage of Muharraq.

Resource management (10)

The property lends itself for rental for special and corporate events.

Action plan for the Badr Ghulum and Turabi Houses

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	The property owners have agreed to lease the property on a long term basis to the MoCI and to cooperate for the property's future use.	January 2010	Agreement contracts (SAU archive)	Negotiate the conditions for future use of Badr Ghulum and Turabi Houses by the MoCI	MoCI, property owners	-	-

SITE ANALYSIS AND ACTION PLANS (2009-13)

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The state of conservation of Badr Ghulum House (including Turabi House) is assessed regularly.	Biannually, from October 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of Badr Ghulum House (including Turabi House) biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Badr Ghulum House (including Turabi House) has been designated as a national monument.	January 2010	Official government gazette	Register Badr Ghulum House (including Turabi House) with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	An exhibition is installed and open to public in Badr Ghulum House.	By June 2011, ongoing	Visitor records (SAU archive), site inspection	Provide and operate interpretation facilities for Badr Ghulum House	SAU	Property owners	Special project budget
Physical Conservation and Development (5)	Badr Ghulum House is preserved and adapted for public use.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Badr Ghulum House	SAU, consultants	SUAH and SURPD	Special project budget
Physical Conservation and Development (5)	Turabi House is preserved and adapted as SAU accommodation.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Turabi House	SAU, consultants	SUAH and SURPD	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data and artefacts related to Badr Ghulum House are gathered.	By October 2010	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Badr Ghulum House and family profession	SAU, consultants	Local community	Special project budget/ operational budget - MoCI
Tourism and Promotion (9)	A refreshment service and catering facility is operational in Badr Ghulum House.	By June 2011, ongoing	Contract with operator of the facility (SAU archive), site inspection	Develop a refreshment service concept and appoint an operator;	SAU	Private sector operator	Special project budget/ operational budget - MoCI

MoCI – Ministry of Culture and Information

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

SUAH – Subcommittee for Urban and Architectural Heritage

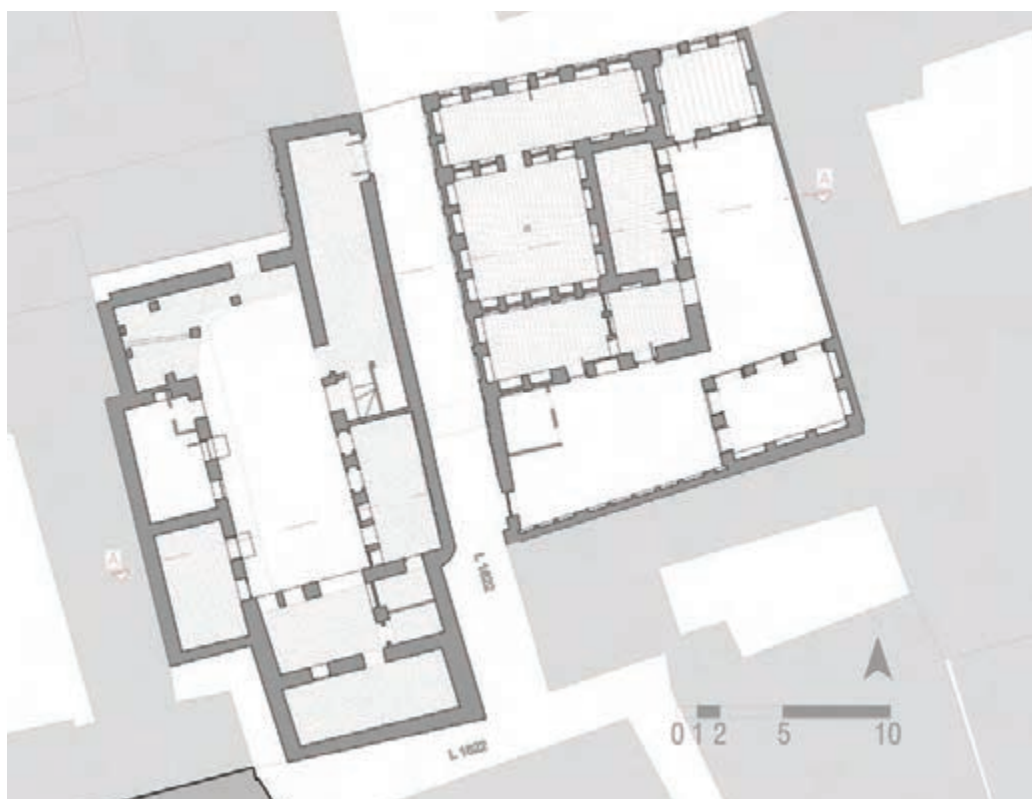
SURPD – Subcommittee for Urban Regulations and Project Design

1.3.3 Al-Jalahma House

Name of the property	Al-Jalahma House
Number of serial property	7
Street address	Number 1319, 1321 Road 1624/1251, 1250 Lane 1622, Block 216
Plot number	24631/24633/10155
Central coordinate	50°36'49.14"E 26°14'45.528"N
Plot area	713 m ²
Total floor area	746 m ²
Courtyard area	246 m ²

Al-Jalahma House is a prototype large and complex residence of an influential family. The family were *tawāwīsh* (pearl merchants) and traders, and therefore part of the high income section, which explains the magnificence of al-Jalahma House. The significance of al-Jalahma House lies less in representing a particular pearling related profession than in standing witness to the role women had in the society. The building is adapted in a sophisticated manner to the needs and privacy requirements of its female inhabitants, in a building that regularly received male visitors as guests and trade partners. Female and male dominated spaces are separated in a complex manner. The spaces reserved for males are furthermore convertible into female spaces if required. During the pearl collection season, the house, alike the settlement of Muharraq, transformed into a female community, as most men would abandon the city to go pearling and women would take over most male functions during those summer months.

• see refer to the Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage



Location map and ground plan of al-Jalahma House

The property was constructed in the Middle Period at the northern edge and entrance into the island of *al-Ḥālah*. To the south the property is surrounded by traditional urban patterns of narrow pedestrian lanes, framed by residential single and double storey buildings. The property's public facades consist in the sober rather homogenous walls of the *ṣabāṭ* while the more elaborate facades of the first floor are only visible from some distance.

The year 1915 brought a significant modification to the property, when an in-house *majlis*, a so-called *ḥafiz* with a surrounding *liwān* and additional rooms was centrally added in the first floor. The *ḥafiz* remains the most striking feature of the property until the present day. Built across a public lane between two buildings on the plot, this addition created a sort of bridge called *ṣabāṭ*. Formerly a typical feature in Muharraḡ, al-Jalahma *ṣabāṭ* is today the only one remaining.

The building consists of a series of spaces interlinked with entrances, corridors and staircases leading the user or guests into four different zones. These zones are established to offer privacy for the Jalahma women as well as their many female guests, while at the same time permitting the in-house *majlis* to function as business place for men. The western property is divided into zone (a): the *ḥafiz* on the first floor can be reached from the western property and via the western entrance of the eastern property; zone (b), located and entered on the north-east corner of the property is a *majlis* and a living space which shares the kitchen with zone (c); located on the south-west corner which consists of another *majlis* and accessible roof terrace with a separate bedroom; and zone (d), located in the eastern property which is interpreted as a space predominantly for women.

Section of al-Jalahma House



The two properties vary in style. The western property is an exquisite example of the Smooth Style of the Middle Period. The *liwān* with its massive pier-like columns and the mangrove tie beams, dominates the courtyard which is surrounded by the mass walls. The eastern property shows the character of the Perpendicular Style, which is apparent in the construction of the first floor *majlis*. The *majlis* has tall and slender arched windows set within the rectangular niches.

Contribution of al-Jalahma House to the Outstanding Universal Value of the serial site

The contribution to the serial site's Outstanding Universal Value of al-Jalahma House is the prototypical building typology with its ingenious design expressed in the ground plan. Its complex system of corridors, staircases, balconies and courtyards stands witness to the importance attributed to the freedom of movement for women while providing gender separation and flexibility in use. The property, supported by the only surviving *ṣabāṭ*, triggers memories particularly of the women's life during the pearling era and, furthermore, marks the entrance to *al-Ḥālah* Island.

Beyond its value within the pearling narrative, the property is one of the few buildings within its social class that offers a complete testimony to the Smooth Style architecture expressed in the planning program and architectural language executed in mastery of the art.

Recommended future use as part of the pearling grand narrative

The property shall be made accessible to display its prototypical design and it lends itself to conveying the extraordinary role of women within the pearling society through supportive interpretation facilities.

• Please refer to the Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage, for further details.

Present state of conservation of al-Jalahma House

The western part of the house seems to have been abandoned for a long time and has not been modernised. Its walls still show traditional plaster and authentic windows and only the external facade has been coated with cement-based plaster. However, the western part also shows an advanced stage of decay with damaged doors and windows and some signs of termite infection in wooden structures. On the southern edge of the upper floor, a *liwān* and an apartment have collapsed, and there is little evidence of their former shape. After the pearling period, only small-scale modifications were carried out in this part involving the use of modern materials such as concrete blocks.

The eastern part, in comparison, has seen more significant modernisation measures. Contemporary plaster and paint has been applied to the walls, lowered ceilings conceal the traditional ones, and “off-the-shelf” doors and windows have replaced their traditional counterparts. Both the staircases that led to the roof terrace of the *majlis* in the south-west corner and to the main first floor *ḥafiz* respectively have been removed. The roof structure of the *ḥafiz* shows sign of structural failure and is temporarily propped up with adjustable scaffolding.

While the urban setting is well preserved to the south, in the north the sea has been reclaimed and the coastal setting at the entrance of *al-Ḥālah* Island has been lost.



left: Ground floor Smooth Style *liwān*

right: Exterior view of the main *ḥafiz* on the first floor



left: Incised gypsum decorative panel

right: Mangrove beam ceiling



left: *Liwān* surrounding the main *ḥafiz* on the first floor

middle left: Main entrance door

middle right: Interior wall - shallow lower niches and deep upper niches

right: Low level windows and *bādgīr* above

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	• modern material, facilities and services	• impact on traditional proportions • traditional elements and surfaces concealed or replaced	medium
Change in Function	• property has been left vacant for many years	• advanced state of deterioration • windows and doors are damaged or lost • former temporary aviary remains	major
Urban development	• the sea to the north has been reclaimed	• the coastal setting and island location is unrecognisable	major

Summary

Although parts of the property are in an advanced state of disrepair, the building still retains its key traditional characteristics and elements expressing the attributes of Outstanding Universal Value. Most additions are reversible. However, the current state of conservation calls for short-term and elaborate conservation measures.

Major conservation intervention needed.

Conservation policies for al-Jalahma House

Administration (1) and Stakeholder involvement (3)

The property is owned by the private organisation Sheikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research which is cooperating with the Site Administration Unit by making a few rooms of the property available for exhibition facilities based on a long term contract with the Ministry of Culture and Information. The major part of the property will be operated as a publicly accessible historic building by the private organisation, and will host a handicraft centre. In the rooms attributed to the pearling narrative, the Ministry of Culture and Information will operate an exhibition facility. A property manager will be stationed within the exhibition spaces operated by the site administration during operating hours and, at least, one front line worker will be employed at the handicraft centre by the private organisation.

Statutory protection (2)

Al-Jalahma House has been designated national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information in partnership with the Sheikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research has earmarked al-Jalahma House as an exhibition facility offering visitors the opportunity to experience the living conditions of the wealthy upper class society during the pearling era. This experience will be enriched with an exhibition on the life of the women on the island during the pearling era within the spaces operated by the site administration.

An exterior interpretive panel will evoke the role of the building during the pearling era and also refer to the traditional setting at the entrance to *al-Hālah* Island.

Physical conservation and development (5)

To align this property to its anticipated function the following conservation activities are recommended:

Maintenance

While the Ministry of Culture and Information is responsible for the maintenance of the entire property, the day-to-day maintenance of most of the building will be provided for by the Sheikh Ebrahim Bin Mohammed Al-Khalifa Centre for Culture and Research.

Preservation

During the forthcoming preservation project, the remaining historic rooms and their decorative elements shall be preserved. Measures will include the surface cleaning and stabilisation of historic plasters and – where necessary – the structural stabilisation of the historic walls. After cleaning of the complete property, careful inspection of the wooden elements will determine whether any termite or fungal activities can be observed, in which case they may need to be treated.

Restoration

Restoration of different elements of the property is required to prevent future deterioration and to increase the general comprehensibility of the historic structure. In the western part, all rooms require intervention, in particular the addition of plaster, wooden elements in ceilings, and in rare cases structural interventions to stabilise architectural elements. A significant level of skill will be required to restore the highly-decorated gypsum panels of the *hafiz*, as well as the colour-glazed glasses of several window frames. Some of the wooden staircase elements may need to be replaced to ensure both the safety of future visitor groups and their ease of access to the first-floor level.

Reconstruction

Some of the colour-glazed elements of the traditional window glass are lost and will need to be replaced. These will need to be reconstructed, as several windows in a row illustrate a regular pattern of colours, and the remaining pieces provide clear information on fabrication techniques and material composition of the artefacts.

Adaptation and New Work

The property requires adaptation and new work to provide contemporary standards for exhibitions and to meet visitor needs in terms of services and facilities. The rehabilitation of the first-floor apartment, traditional staircase and roof terrace walls may be considered to provide a more accurate impression of the historic proportions and layout of the building. However, a decision on whether to proceed with this measure will be made once the preservation and conservation measures have been implemented, and in-depth archival research has provided detailed evidence on the historic structure. It may be necessary to rebuild at least the second staircase in order to provide full understanding of the house's unique gender-separation mechanism. To ensure the building's future security, it will probably be necessary to replace a number of disintegrating windows and doors in the western part of the property.

The following area programme is proposed:

- Reception space
- Exhibition spaces
- Administrative office
- Tea kitchen
- Storage area
- Sanitary facilities

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas
- Specialised lighting layout with necessary electricity supply and loading
- Audio system (to assist the exhibition)
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements – balustrades
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation of the architectural and socio-cultural history of the property and the life of the women on Muharraq during the pearling era.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Resource management (10)

The Ministry of Culture and Information and the Sheikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research are jointly restoring the property, while the latter contributes the financial resources. The exhibition spaces are made available to the Ministry free of charge, while the income generated will remain with the site administration unit for maintenance.

Action plan for al-Jalahma House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	The property owner (private foundation) has agreed to make part of the property available for use by the MoCI and to cooperate for the property's future use.	January 2010	Agreement contracts (SAU archive)	Negotiate the conditions for future use of part of al-Jalahma House by the MoCI	MoCI, property owner (private foundation)	-	-
Administration (1)	A property manager is administering the property.	By June 2011, ongoing	Contract and weekly reports of the property manager (SAU archive), site inspection	Employ a site manager for al-Jalahma House	SAU	Property owner (private foundation)	Operational budget – MoCI/ shared resources of partner
Administration (1)	The state of conservation of al-Jalahma House is assessed regularly.	Biannually, from October 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of al-Jalahma House biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Al-Jalahma House has been designated as a national monument.	January 2010	Official government gazette	Register Al-Jalahma House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	An exhibition at al-Jalahma House has been installed and opened to the public.	By June 2011, ongoing	Visitor records (SAU Archive), site inspection	Provide and operate interpretation facilities for al-Jalahma House	SAU	Property owner (private organisation)	Special project budget/ operational budget – MoCI/ property owner (private foundation)

Physical Conservation and Development (5)	Al-Jalahma House is restored and adapted for public use.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for al-Jalahma House	SAU, consultants	SUAH, SURPD, property owner (private organisation)	property owner (private organisation)/ shared resources of MoCI
Research and Documentation (6)	Site and theme specific anthropological and historical data related to al-Jalahma House and family is gathered.	By July 2012	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of al-Jalahma House, family and the life of women during the pearling era	SAU, consultants	Local community, Badr Ghulum family	Special project budget/ operational budget - MoCI
MoCI – Ministry of Culture and Information SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUAH – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3.4 Al-Alawi House

Name of the property	Al-Alawi House
Number of serial property	8
Street address	Number 414, Abdulrahman Al-Fadil Avenue, Block 214
Plot number	13751
Central coordinate	50°36'47.808"E 26°14'49.2"N
Plot area	147 m ²
Total floor area	300 m ²
Courtyard area	20 m ²

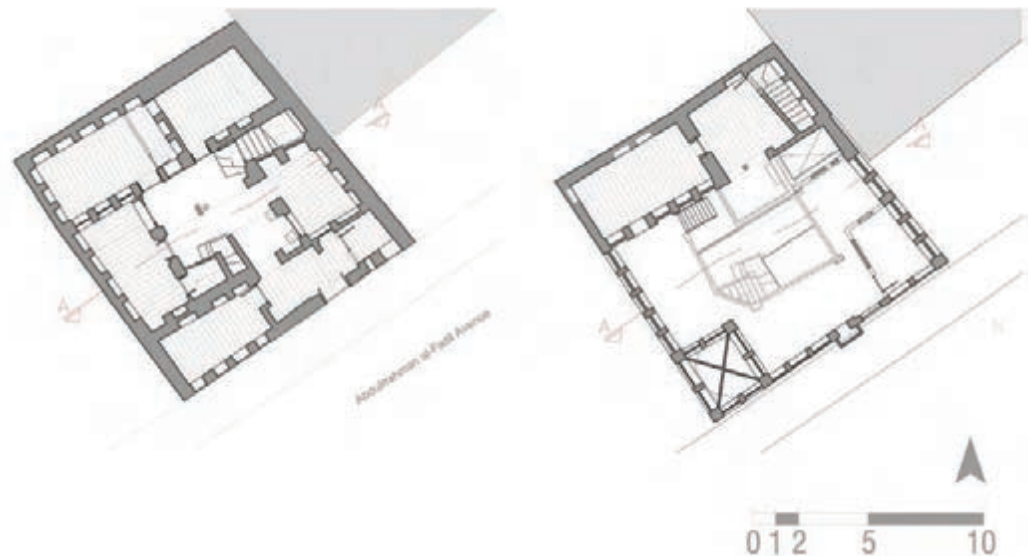
Mahmoud Muhammad al-Alawi was a trader like his father and during the pearling season gained his income from supplying the pearling dhows out at sea with sweet water, tobacco, food items, and other basic necessities through so-called sweet water boats. Formerly, al-Alawi House had direct sea access, facilitating the loading of boats. The house was also located near the shop where *Mahmoud Muhammad al-Alawi* sold boat maintenance items and other articles to the pearling dhows and their crew.

Al-Alawi House was formerly located at the southeastern edge of the historic main island of Muharraq, at, or rather within, a busy water area known as *al-Dūṣah* (the step), which at one point connected Muharraq to *al-Ḥalah* Island. *Al-Dūṣah* was reclaimed in the mid twentieth century and gave space to the busy commercial road and parking area. The construction of al-Alawi House started in 1932 on newly reclaimed land.

The house, although built within the transitional stage of the Middle to Late Period, is one of the latest examples of the Columnar Style and remains an outstanding specimen for its medium sized *malqif al-hawā'* (wind tower). The Middle Period is synonymous with the surge of housing demands seen at the pearling economic peak. The overall prosperity is visibly in the architecture of that time. Built around a central *ḥūsh* (courtyard), on an almost

SITE ANALYSIS AND ACTION PLANS (2009-13)

Location map ,
ground floor plan (left)
and thrid floor plan (right) of
al-Alawi House



square plot with a cornering wind tower, the property's typology was formerly typical throughout Muharraaq. The supply traders belonged to a professional class that was not involved in the loan system unlike most other professionals that were directly involved in pearling. The supply traders therefore often managed to achieve solid but moderate wealth. This is reflected in the al-Alawi House, which has an astonishingly compact footprint, covering 144 square metres within an approximate 12 x 12 metre layout. The rigid column and beam grid system and *farsh* (thin coral stone) infill panels, with a cornering *malqif al-hawā'* and an extensive *bādḡir* ventilation system, provide climatic comfort in an aesthetic environment; skilfully crafted, yet moderate, architectural elements. Although showing signs of luxury, the architecture makes no use of the decorative gypsum panels, merlons and such forms of ornamentation. Rather, the house shows the minimalist beauty of the structural and functional details. The house, as recalled by Mahmoud's son, *Yousif al-Alawi*, was frequented by many guests (locally and internationally) who would stay for long periods, in spite of the relatively limited rooms sizes and overall compact building proportions. The use of deep niches, corniche beams for the ceiling and soft indirect light from the *buwwādgir*, offer the building an enhanced sense of spaciousness; making guests oblivious of the rather tight room program.

• Please refer to the Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage, for further details.

Southern elevantion and section of
al-Alawi House



Contribution of al-Alawi House to the Outstanding Universal Value of the serial site

Al-Alawi House contributes to the Outstanding Universal Value of the serial site as an architectural prototype of a middle class residential building, whose owner derived his wealth from the supply trade of the pearling

economy. The building is a complete example of the Columnar Style residence. The property illustrates, in exceptional wholeness, the traditional cooling system and features, one of two surviving functional *malqif al-hawā'* in Muharraq, and an extensive *bādgīr* system, which naturally cools down the living space. An attribute reflecting the Outstanding Universal Value is, therefore, the layout and design of this exemplar supply trader residence. The house was built in high quality workmanship with mostly local materials with the exception of a few items which were imported by the owner during his trade expeditions. Material and workmanship are, therefore, further attributes. Amongst the local community members, the house remains a memory trigger of the water basin, which once separated *al-Ḥalah* from Muharraq, a location that was favoured by the traders making their way to and from the islands.

The property's exposure, no longer maintained through the *Dūrah* location, continues to similarly exist with the commercial road passing the house; suggesting a commercial or promotional function and complementing the heritage value with economic potential.

Recommended future use as part of the pearling grand narrative

The building should be made accessible to display the unique architectural prototype of a middle class supply trader's house and give visitors an opportunity to experience the architectural innovativeness applied in the traditional cooling system. Interpretation facilities should portray the pearling economy's supply trade and its links to the larger trade networks within the gulf.



left: View up the *malqif al-hawā'*

middle: Traditionally painted mangrove beam ceiling

right: Interior view of a typical room



left: Exterior view of the *malqif al-hawā'*

middle left: Buwwādgīr

middle right: Entrance door

right: Door and window detail of the *ḥūsh*

Present state of conservation of al-Alawi House

All essential architectural elements are preserved within the building and the few additions noted can be removed without major impact on the historic fabric. The spatial qualities of the central courtyard have been reduced by the introduction of modern toilet facilities and a balcony on the first floor level. Some modern materials and elements introduced during this modification also contribute to the reduction of the traditional aesthetic qualities.

Other modifications relate to changes of use initiated by al-Alawi family. The *majlis* was converted into a guest room; the *liwān* converted into a store; and the traditional sunken pantry with mezzanine level was converted into a living space. As in many traditional buildings, attempts were made to hide the signs of efflorescence behind temporary boarding and contemporary plaster and paint which unknowingly aggravated the deterioration process. A few structural timber beams show signs of decay and/or termite infestation. However, considering the fact that the house, which is still partly furnished, has only been used occasionally in the past decade and has hardly been maintained, the building is in an overall good state of conservation.

The property's setting has changed due to the reclamation of the southern water bay and the surrounding attached historic buildings have been destroyed, thus isolating the historic house which used to be part of a cluster.

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	• Modern materials, facilities and services added	• Impact on the traditional aesthetic proportions and the spatial experience of the courtyard • Traditional elements have been covered with paint and boards	medium
Change in function	• Property has been left vacant for several years	• Lack of maintenance • Used as storage	minor
Structural integrity	• Demolition of attached neighbouring buildings	• The demolition of the neighbouring building might have an impact on the stability of the building	medium
Urban development	• The southern sea basin has been reclaimed	• The setting at al- <i>Dūṣah</i> is lost	major

Summary

The building still retains its traditional elements but requires: the removal of compromising additions, some conservation interventions, and maintenance.

Minor conservation intervention needed.

Conservation policies for al-Alawi House

Administration (1) and Stakeholder involvement (3)

The Ministry of Municipalities Affairs and Agriculture will transfer ownership of the al-Alawi House to the Ministry of Culture and Information, in 2010, after its purchase from the al-Alawi family, who wishes to sell the property. Consequently, the property will be adapted to its new function and made publicly accessible. The property will be managed by the Ministry of Culture and Information and/or in cooperation with a partner from the private sector. A property manager will be permanently stationed at the property during opening hours. Depending on the attributed function of the house, which will be defined at a later stage, front line personnel will be additionally provided.

Statutory protection (2)

Al-Alawi House has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information has earmarked al-Alawi House to become a publicly accessible prototype house where visitors can physically experience the traditional cooling system and gain an understanding of a middle class supply trader's family. Interpretation facilities will convey the history of the house, family and supply trade to the pearling economy and, furthermore, highlight the trade relations within the Gulf region.

Exterior signage will provide a similar introduction of the property and point out its former *al-Dūṣah* location and significance.

Physical conservation and development (5)

The state of conservation and the anticipated function of the property calls for the following conservation activities:

Maintenance

Al-Alawi House will be maintained by the Ministry of Culture and Information. The day-to-day maintenance of the property will potentially be provided by a partner from the private sector. Due to the large number of historical surfaces, it will be necessary to provide special training for the cleaning and maintenance personnel.

Preservation

The historic elements present will be preserved with special emphasis on original historic surfaces and structural integrity of the walls. Particular attention will be paid to the western wall which may have been weakened during the demolition of the neighbouring building. Non-permeable paint layers will be removed to increase the air ventilation.

Restoration

Structural investigation of the western wall will determine whether the introduction of new stabilising materials is necessary to preserve its stability. Accordingly, preservation or restoration works will be carried out. The additional elements recently introduced to the courtyard will be removed to re-establish the historic proportions of open versus closed space. Further treatment of the walls will ensure that salt efflorescence is removed and that floor layers and surface coatings allow an equal distribution of water evaporation. In some rooms, the wooden ceiling may need to be treated against termite infestation, while traditional doors and windows will require added surface coatings for weather protection.

Reconstruction

Individual architectural elements such as doors and windows may need to be reconstructed in line with the remaining examples present. The reconstructions will follow the historic technique and design but be clearly distinguishable from the historic windows.

New work and adaptation

In order to provide contemporary standards in terms of services and facilities, some new works and adaptations are required. In particular, the northern and southern facades may require some plastering to prevent penetration of water into the walls.

The area programme will depend on the exact use yet to be defined, but the following spaces are anticipated:

- Reception space
- Exhibition space
- Administrative office
- Storage area
- Tea kitchen
- Sanitary facilities

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning systems (appropriate systems to be investigated)
- Specialised lighting layout, with necessary electricity supply and loading

SITE ANALYSIS AND ACTION PLANS (2009-13)

- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation activities for the architectural and socio-cultural history of the property, al-Alawi family, and the role of supply trade in the pearling era.

Resource management (10)

The property's economic potential for commercial or promotional use, due to its exposure on a commercial street, shall be harnessed.

Action plan for al-Alawi House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The property is in the ownership of the MoCI.	By March, 2010	Title deed (SAU archive and Survey and Land Registration Bureau)	The MoMAA purchases Al-Alawi House and transfers ownership to the MoCI	MoMAA	-	MoMAA budget
Administration (1)	A property manager is administering the property.	By March 2012, ongoing	Contract and weekly reports of the site manager (SAU archive), site inspection	Employ a property manager for Al-Alawi House	SAU	-	Operational budget - MoCI
Administration (1)	The state of conservation of Al-Alawi House is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Al-Alawi House biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Al-Alawi House has been designated as a national monument.	January 2010	Official government gazette	Register Al-Alawi House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	Visitor facilities at Al-Alawi House are installed and open to the public.	By March 2012, ongoing	Visitor records (SAU archive), site inspection	Commission the design and implementation of visitor facilities for Al-Alawi House	SAU	Local community, private sector tenant	Special project budget/ operational budget – MoCI/ private sponsor

Physical Conservation and Development (5)	Al-Alawi House is preserved and adapted for public use.	By December 2011, ongoing	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Al-Alawi House	SAU, consultants	SUAH and SURPD	Special project budget / private sponsor
Research and Documentation (6)	Site and theme-specific anthropological and historical data related to the property are gathered.	By July 2011	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of Al-Alawi House and Al-Alawi family profession	SAU, consultants	Local community, Al-Alawi family	Special project budget/ operational budget - MoCI
MoCI – Ministry of Culture and Information MoMAA – Ministry of Municipalities Affairs and Agriculture SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUAH – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3.5 Fakhro House

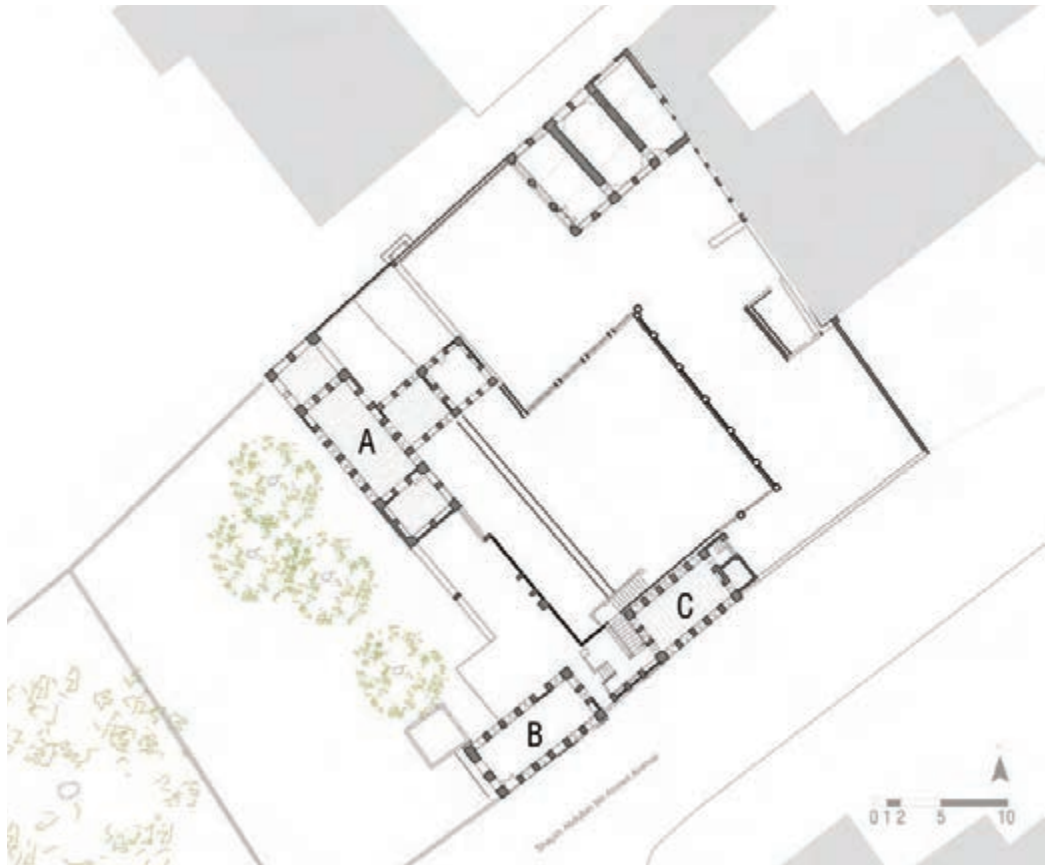
Name of the property	Fakhro House
Number of serial property	9
Street address	Number 252, Sh. Abdulla Bin Ahmid Avenue / 681,703, 705, Lane 1513, Block 215
Plot number	13974 / 13975 / 13975
Central coordinate	50°36'38.592"E 26°14'51.9"N
Plot area	3,047 m ²
Total floor area	1,299 m ²
Courtyard area	320 m ² (the remaining central courtyard)

Yousif Abdurrahman Fakhro was a successful merchant of timber and construction materials and also commissioned boats to be constructed. In 1905, as the owner of a maritime fleet of up to 50 boats, it was important that he build his impressive residence on the seafront. The plot he selected for his residence is located in the southwest portion of the historic main island of Muharraq. Yousif was not only concerned with his business, but also wanted to ensure that the bonds with his family remained strong. The family's growth dictated the expansion of the house, which in the formerly dense residential quarter could only be accommodated by successive land reclamations. In this process, his own room would shift in order to retain proximity to the landing place. This also allowed him to keep abreast with the business activity at his *'amārah*, the place where timber was traded and boats were built (just a hundred metres north of his residence). His wealth grew as he established strong links with foreign businessmen in countries such as Kuwait, Dubai, Oman, and as far away as India, and charged his sons with the regional management of imports and exports from these regions. Thus, the house also functioned as a place for business relations and receiving important guests, which explains the representative architecture of the property.

At one stage, the property had four courtyards, only one of which remains in its entirety. The other three remain visible through their partly-excavated architectural remains.

The remaining traditional structure, the oldest part of the property, is arranged around a central courtyard and consists of two parts. The eastern part has been slightly modernised and remains inhabited by the family. The western part, which is within the focus of this nomination, was abandoned in 1954 and has since progressed

SITE ANALYSIS AND ACTION PLANS (2009-13)



Location map and ground plan of Fakhro House

into a state of considerable disrepair. Nevertheless, it still attests to the rich architectural character of the upper class house. The *banāgil* (apartments) on the first floor belonged to three of *Yusif Abdurrahman Fakhro's* five sons, who assisted in the management of the family's multi-national business. Each *bangalah* has its own unique character. *Bangalah-A*, located on the northwestern corner has a large-scale full height arched *liwān*. The narrow elongated room with a high ceiling is richly decorated with incised gypsum panels. Tall arched narrow doors and windows with stained glass surround the entire room, flood it with light and colour. *Bangalah-B* dominates the southern facade with a vertically accentuated facade that sophisticatedly culminates in a two-tier coping. Internally, the already high ceilings are further accentuated with the tall slender columns in which the surrounding arched windows and doors are set. The windows and fanlights fill the room with multicolour light, which adds to the spaciousness of the large room. *Bangalah-C*, the most modest in appearance of the three rooms, is an example of Middle Period, Smooth Style architecture. The ceiling heights of *bangalah-C* are relatively lower than the other *banāgil* and its windows on the street facade are almost square in proportion.



Southern elevation

Contribution of Fakhro House to the Outstanding Universal Value of the serial site

Fakhro House contributes to the pearling testimony not only as a splendid upper class building, and by reflecting the narrative of a successful boat and timber merchant through its architecture and the archaeological remains. The close proximity of the family house and the *'amārah* to each other and to the sea stands witness to the balance *Yousif Abdurrahman Fakhro* created between business and family life. The ground plan, which is preserved both in its architectural and archaeological evidence, illustrates the successive building phases in which the family's head room shifted, together with the coastline, as land was reclaimed; allowing for the further expansion of the property. The property is located on one of the earliest large-scale land reclamations in Muharraq. The rich architecture displays the wealth, possibly accumulated through certain supply industries, from the pearling economy. The three *banāgil* in the western part of the remaining structure testify, in particular, to the elaborate design, workmanship and structure of the property.

Recommended future use as part of the pearling grand narrative

While the western parts of the property will, in the near future, remain inhabited by the Fakhro family, its architectural structure will, according to the wish of the owners, be restored and made accessible to the public. The family also wishes to foster its longstanding social involvement within the local community and will thus build a public *majlis* on the western part of the plot. These developments must incorporate the archaeological remains, together with the standing building. Supportive interpretation facilities shall communicate the role of the Fakhro family as timber and boat traders within the pearling economy and illustrate the evolution of the property.



left: Part of the southern facade

right: Decorative timber panel ceiling



left: Trefoil arch with gypsum panels in exterior facade

centre: Elaborate interior incised gypsum panel

right: Exterior window detail with steel bars and stained glass fanlight



left: Window niche

middle left: Decorative window shutters

middle right: Interior view of window niches with shutters and stained glass fanlight

right: Trefoil arch above the secondary entrance passage

left: Detail of a timber window shutter



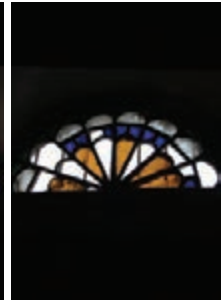
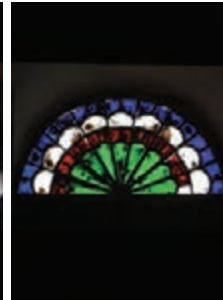
right: Mangrove beam ceiling



left: Recessed trefoil arches in exterior facade



centre and right: Stained glass fanlights



left: Southern facade



middle: Corner merlon



right: Three step corner merlon



Present state of conservation of Fakhro House

The eastern part of the building is well-maintained, but shows slight impacts of modernisation. In particular, the southern facade, which links the two building parts, has been compromised through inappropriate surface design, which is scheduled to be removed.

The western part of the building is in a critical state of disrepair but simultaneously retains its authentic architectural elements and decorations in Smooth and Perpendicular Style. Apartments A, B and C are all in an advanced state of disrepair with some roof structures in danger of collapse. Vertical cracks are visible between the windows and ceilings of each apartment and adjoining *liwān*. These cracks contribute to the destruction of the decorative incised gypsum panels. Non-load bearing elements such as door and window frames are also affected by occurring tensions. Apartment A's main entrance and *liwān* arches are under strain due to the partly collapsed floor which adds to the instability of the structure. In apartment B the western facade shows signs of instability created by the demolition of an attached room and possibly due to the movement of the foundations which are built on reclaimed, and therefore settling, land. The visual appeal of the internal facade is slightly reduced by the electrical conduits which run across the walls; in apartments A and C doors, openings and decorative incised gypsum panels have been plastered and covered with inappropriate paint; some of the remaining windows, doors, screens and stained glass are in a state of disrepair and decay. All rooms are vacant, and at some places pigeons have been nesting in the property. Maintenance work was not carried out for several decades.

The simpler rooms directly beneath the apartments retain most of their original character while the roofs of other rooms in the ground floor have collapsed. Some rooms have been slightly modernised with the use of

contemporary plaster and paint render or bordered with decorative timber panels to retain an aesthetically pleasing appearance. The rooms are now used as temporary storage. The archaeological remains within the empty land of the property are partly covered with vegetation.

Part of the historic fabric which formerly surrounded the property has been destroyed in order to make way for open spaces and modern residential buildings. Continuous land reclamation has left the property without access to the sea.

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	• Modernisation of eastern part of the property	• New building materials and elements such as steel windows replace or cover traditional types and materials • Change in the floor levels	medium
Change in function	• The western parts of the property were abandoned and left vacant	• Lack of maintenance impacted the structural soundness of the oldest part of the property • Newer parts of the building to the west have been demolished	major
Urban development	• The adjacent sea has been reclaimed • Demolition of historic fabric and construction of modern residential blocks	• The coastal setting is lost • The setting has partly lost its historic character	major

Summary

The historic fabric of the eastern part of the standing building has been impacted slightly by modernisation. This part remains inhabited. The older, western part of the building is in an advanced state of decay and in urgent need of stabilisation and conservation. This part in particular preserves the decorative flamboyance of the property and can be used to convey the narrative of both the property and the timber merchant family.

Major conservation interventions are required.

Conservation policies for Fakhro House

Administration (1) and Stakeholder involvement (3)

While the eastern part of the property is in the ownership of individual members of Fakhro family, the western parts are property of a Fakhro family *waqf*. Representatives of the family *waqf* are cooperating closely with the Ministry of Culture and Information for the conservation and management of the property and facilities. The Ministry of Culture and Information will employ one property manager stationed within the spaces used as interpretation facilities for the pearling grand narrative. Additional frontline personnel for other facilities might be provided by the Fakhro family *waqf*.

Statutory protection (2)

Fakhro House has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information in partnership with the Fakhro family *waqf* have earmarked the Fakhro House to become a publicly accessible facility with community services. These services include: a new family *majlis* made available for the neighbourhood, an art gallery, and interpretation facilities dedicated to the history of the property and family within the pearling society.

An exterior interpretive panel on the property's southern facade will provide an overview of its history and significance for the pearling economy and include information on the original setting by the sea.

Physical conservation and development (5)

The following interventions are planned for Fakhro House to ensure both the preservation of the remaining historic structure and the stability required for its anticipated function. Most works are currently planned for the western part of the property; no major interventions are planned in the near future for the inhabited eastern part.

Maintenance

The eastern portion of the property will remain inhabited with its day-to-day maintenance provided by the inhabitants. The publicly-accessible part of the property and the new public *majlis* will be managed by the family *waqf*, except exhibition spaces operated by the site administration unit. The Ministry of Culture and Information is responsible for the conservation and regular maintenance of the heritage assets, both architectural and archaeological.

Preservation

The remaining historic rooms and their decorative elements will be preserved during the forthcoming preservation project. This will include surface cleaning and stabilisation of historic plasters and – where necessary – the structural stabilisation of the historic walls. Once the complete property has been cleaned, careful inspection of the wooden elements will determine whether any termite or fungal activities can be observed and require treatment. The expected adaptation of the eastern property and new work on the western part will be monitored to avoid any further loss of traditional fabric.

Restoration

Restoration of different elements of the property is required to prevent future deterioration and increase the general comprehensibility of the historic structure. In the western part, all rooms on both the ground and first floors require intervention, in particular the addition of traditional plaster, wooden elements in ceilings, and structural interventions to stabilise the architectural elements. Conservation specialists will be required to restore the highly-decorative gypsum panels located in the *banāgil* (apartments); the finely-carved timber window screens and shutters; and the stained glass in the arched fanlight of several windows. Based on the load anticipated from visitors to the future art gallery, wooden elements in the roof terraces, first-floor rooms and staircases will have to be restored to assure safe and secure public access.

The main courtyard will have to be restored to assist in the reduction of ground water penetration to the historic walls, the major cause of instability and salt crystallisation on wall surfaces. Re-introduction of traditional, permeable floor finishes (such as mud, sand and shells) may assist in improving the situation. Furthermore, all non-permeable wall paints will be removed and replaced with plaster-based finishes, allowing the walls to 'breathe' and therefore to retain the structural integrity of the coral stones used. Following the removal of modern paints, the traditional ceilings will be stabilised, and where necessary sealed with protective coatings to prevent wet rot and termite infestation.

Reconstruction

Reconstruction measures will be required to replace missing elements such as the stained glass in windows and wooden screens; carvings and decorative elements in doors, window screens and shutters; and ceiling details. Reconstruction activities are based on comparable examples of preserved doors and windows.

Adaptation and new work

Sensitive adaptation works are required in the oldest part of the property to provide contemporary standards for the foreseen facilities and mostly involve interior designing and servicing. The works, however, also include providing privacy for the inhabited part of the property. This will be achieved by using the secondary entrance to the focal area as the visitor entrance and, where necessary, screening the private areas from public view.

The more significant construction is planned for the eastern part of the property. Here, a modern building will host the planned *majlis*. The design and construction works will take into consideration and preserve the archaeological remains of the property. The newly planned construction will, on the basis of archaeological findings, reinstate parts of the past spatial experience. This however, is not foreseen as a reconstruction with use of traditional materials and elements, but rather as a modern construction of volumes and spaces in comparable

proportions.

A proposed area programme to be accommodated in the historic and planned buildings is considered as follows:

- Private residence
- Reception space
- Spaces for interpretation facilities
- Art exhibition spaces
- Public family *majlis*
- Administrative office
- Storage areas
- Kitchen
- Sanitary facilities
- Service yard

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas where possible
- Specialised lighting layout with necessary electricity supply and loading
- Audio system (to assist the exhibition)
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements – balustrades
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation activities for the architectural and socio-cultural history of the property and Fakhro family, with an emphasis on the family's function as timber and boat traders within the pearling economy.

Education and awareness raising (7)

The art gallery and other facilities planned by the Fakhro family will give the property an important role within the local community. In cooperation with the Ministry of Culture and Information, heritage issues and concerns of the pearling testimony will be part of the facilities' programme, such as pearling related exhibitions and art production.

Resource management (10)

Fakhro family is contributing the financial resources for the conservation measures to the focal part of the property. The conservation works will be facilitated by the Ministry of Culture and Information. The added facilities for the art gallery, within the new public *majlis*, are equally financed and also facilitated by the family, who is in close cooperation with the site administration unit. The exhibition spaces, operated by the site administration in the context of the pearling grand narrative, are made available free of charge and any income provided will remain with the Ministry for the maintenance of the property.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Action plan for Fakhro House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	The property owner (family <i>waqf</i>) has agreed to cooperate with the MoCI for the property's future use.	February 2010	Agreement contracts (SAU archive)	Negotiate the conditions for future use of Fakhro House by the MoCI	MoCI, property owners	-	-
Administration (1)	A property manager is administering the property.	March 2012	Contract and weekly reports of the property manager (SAU archive), site inspection	Employ a property manager at Fakhro House	SAU	-	Operational budget - MoCI
Administration (1)	The state of conservation of Fakhro House is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Fakhro House biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Fakhro House has been designated as a national monument.	January 2010	Official government gazette	Register Fakhro House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	An exhibition at the Fakhro House is installed and open to the public.	By March 2012	Visitor records (SAU archive), site inspection	Provide and operate interpretation facilities for Fakhro House	SAU	Local community, property owners	Special project budget/ operational budget - MoCI
Physical Conservation and Development (5)	Fakhro House is restored and adapted for public use.	By December 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Fakhro House	SAU, consultants	SUAH and SURPD	Special project budget/ property owner (family <i>waqf</i>)
Research and Documentation (6)	Archaeological data of Fakhro House are gathered.	By May 2010	Archaeological excavation report (SAU archive)	Facilitate an archaeological investigation of parts of Fakhro House plot.	MoCI, consultants	-	Special project budget
Research and Documentation (6)	Site and theme specific anthropological and historical data related to the property are gathered.	By July 2012	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of Fakhro House and family profession	SAU, consultants	Local community, Fakhro family	Special project budget/ operational budget - MoCI

MoCI – Ministry of Culture and Information

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

SUAH – Subcommittee for Urban and Architectural Heritage

SURPD – Subcommittee for Urban Regulations and Project Design

1.3.6 Murad House

Name of the property	Murad House
Number of serial property	10
Street address	Number 169, Road 1313 / 62,64 Road 1308, Block 213
Plot number	Not registered
Central coordinate	50°36'48.996"E 26°14'58.632"N
Plot area	967 m ²
Total floor area	900 m ²
Courtyard area	306 m ²

Murad House and the Murad *Majlis* were both built by *Jassim Murad*, who upon his arrival to Bahrain from Qatar made his living and established his name as *tawwāsh al-bahr*. This is a type of intermediate pearl merchant, who, during the pearling era, spent the pearling season at sea buying pearls from the *nūkhidhah* (captain) and later sold them on to other pearl merchants (*tawwāsh*). Murad House is the family residence of *Jassim Murad* and his descendants, and together with the separate *majlis* (in this case a separate guest reception building) located across a small public square, comprise the best-preserved example of an architectural ensemble of a *tawwāsh* house. The two properties represent the social status and financial wealth typical of a *tawwāsh* who was well-advanced within the hierarchy of the pearling economy.

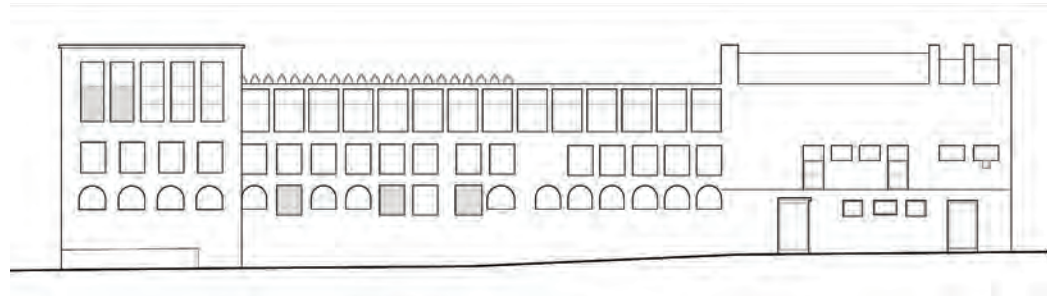
Murad House is located in a dense residential fabric. The rather spacious residence was constructed in the Perpendicular Style of the Middle Period. The property is comprised of mostly one-storeyed residential units which engulf the central courtyard and a *liwān*. The spacious courtyard with its palm trees, water pond and domesticated animals, was the most important space for the daily life of women, of Murad family and their visitors. Communication between most rooms took place via the courtyard which explains the necessity of having a separate *majlis* for receiving the many trade partners and male guests of the *tawwāsh*.



Location map and ground plan of Murad House

Both the public and the interior facades are rigidly structured with repetitively-arched, rectangular niches and structurally narrow columns and beams, which guide the internal space planning of the rooms. Each room echoes the same rigid structure of tall full-height, deep niches offering generous shelf and storage space, while being divided by a low wall into a sleeping area and a *musbah* (wash area). The external facade has hardly any window openings, while tall, narrow rectangular windows and doors perforate the courtyard's façade. The facade is decorated with simple decorative arches and ornaments. The original internally-placed double panelled timber shutters and window frames that maintain traditional metal bars are well preserved.

Southern elevation



• Please refer to the Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage, for further details.

The main entrance is emphasised with a large-scale double door entrance. The entrance is topped with a semicircular arch fanlight and radiating circular steel bars, set within a pointed arch niche. More height is given to this facade, with the aid of an extra high ceiling of the *dihliz*, and an equally well-preserved *ghurfah* on the first floor.

Contribution of Murad House to the Outstanding Universal Value of the serial site

The contribution of Murad House to the Outstanding Universal Value of the pearling testimony is interlinked with the value contributed by Murad *Majlis* (described below). Both properties' values are expressed in their particular features of generous space, and relative luxurious and representative designs, which display the prominent role, wealth and professional activities of a *tawwāsh*. The materiality of both properties testifies to the pearl trader's ability to import precious woods for ceilings, window and doors, in addition to the locally quarried *furūsh* (coral stone). A safe that has been preserved in the family head's room reminds of the pearls it once stored. The concept of hospitality survives in the Murad House. The wish of the family is to operate a guesthouse in remembrance of the former busy days when the frequent visitors populated the house. Memory is therefore a further attribute, with the remembrance of the days when this building was inhabited by a *tawwāsh*, among the family and local community members.

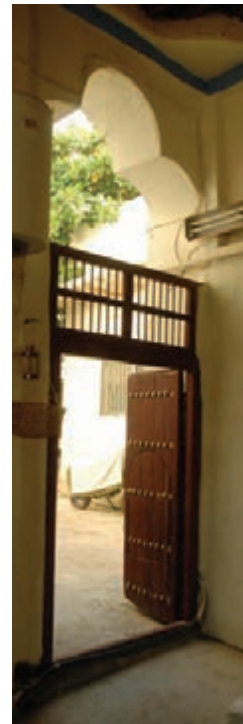
Recommended future use as part of the pearling grand narrative

Murad family, particularly several of its women, wishes to foster the remembrance of the property as a 'house of hospitality' and plans to operate a guest house on the Murad property. This plan is supported by the Ministry of Culture and Information.

Present state of conservation of Murad House

The last members of the Murad family, who previously inhabited the building, have recently moved out of the property to initiate its conversion into a traditional guesthouse. Most of the rooms are empty or used as storage.

Part of the house was modernised in the second half of the 20th century. In the 1950s, a portion of the house was modified to gain better access to a newly acquired *majlis*. The position of the second entrance was shifted and new rooms and a *liwān* were added. The historic fabric of the northern wing was reduced at the time. In the 1980s, the first floor was modernised; the traditional kitchen on the ground floor was rebuilt and used as stores; a raised terrace was introduced in front of the *liwān*; an apartment was added within the courtyard at the entrance and in the far south-east corner of the property; and the traditional water pool was filled in. All these modifications used non-traditional materials and proportions and are therefore planned to be removed. Furthermore, part of the southern wing was subdivided into smaller apartments which currently still remain in use.



left: Southern elevation with main entrance door

middle: Recessed niches of southern the exterior facade

right: *Bāb Bū Farkhah* that opens from the *dihliz* to the private courtyard

centre: The southern courtyard facade



left: *Buwwādgīr* and three-step merlons on roof terrace

right: *Ghurfaḥ* with traditional doors, windows, *buwwādgīr* and niches

Factors Affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	- air conditioning units were added	- the exterior facade is scattered with air conditioning units	minor
Repairs and maintenance works	- adaptation to new design fashion and building technologies	- false ceilings have been added and wall decorations covered - new building materials were introduced for repair works	minor

Summary

Many modern additions currently influence the perception of the building, particularly the courtyard, however, the property's original spaces and elements are mostly preserved and in good condition. Minor insensitive additions and alterations and lack of maintenance slightly affected the property. At the same time, the adaptations, except the replaced northern wing, can easily be corrected and again display the original architecture and style of the building.

Medium conservation intervention needed

Conservation policies for Murad House

Administration (1) and Stakeholder involvement (3)

The property remains in ownership of the Murad family who is cooperating with the Ministry of Culture and Information in the conservation interventions and in making the house publicly accessible. While the Ministry facilitates the property's restoration and refurbishment as a guest house, Murad family members wish to operate the accommodation facility and thus manage the property with front line personnel made available from their side.

Statutory protection (2)

Murad House has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

Murad House has been earmarked as a 'house of hospitality' offering visitors an opportunity to experience the hospitality of a former *tawwāsh* family and in the traditional residence. The offer will include a catering facility. Small-scale interpretation facilities located indoors, and an interpretive panel on the exterior, will introduce the history of the property and family.

Physical conservation and development (5)

To preserve this property and prepare all structural and decorative elements for its anticipated function, the following conservation activities are required:

Maintenance

The day-to-day maintenance will be provided by Murad family or employees of the guesthouse. The Ministry of Culture and Information is responsible for the architectural structure's maintenance and its regular inspection.

Preservation

All remaining historic fabric will be preserved to prevent its further deterioration. Preservation methods will focus on the removal of harmful contemporary plaster layers and also of timber boarding and ceiling boards to increase the ventilation of walls and timber elements and reduce salt efflorescence and fungal growth. Furthermore, the courtyard's flooring materials will be replaced (refer to restoration) to limit groundwater penetration through the historic walls and the resulting salt efflorescence on the surfaces.

Restoration

Parts of the southern and western wings on the ground and first floors must be restored to their former (traditional) character to allow for a comprehensible interpretation of the traditional character of the property. In both these wings, the addition and application of traditional plasters, timber elements such as windows, doors and ceiling members, and in rare circumstances structural intervention to stabilise architectural elements, will be required. To ensure the safety of guests and or other users of the facility, added timber elements of the ceiling and the walls itself will have to be replaced to ensure the safe use of the first-floor roof terrace.

Reconstruction

The traditional pool has been located in archaeological excavation and family memories provide a very detailed description of its height and water features. The pool will be reconstructed to complete the spatial experience of the courtyard and strongly add to the traditional character.

Adaptation and new work

The operation of a guesthouse and a café-restaurant requires significant adaptations, including the provision of facilities such as bathrooms in each accommodation unit and service areas for catering. Based on both the memory of family members and in-depth archival research on the property, the design of these elements will be tailor-made for the house and its particular context. The rooms of the southern and western wings and the traditional staircase will be rehabilitated to offer a higher standard of security and spatial perception of the layout and functioning of the rooms.

The following area programme is planned:

- Entrance/reception space
- Administrative office
- Exhibition space
- Kitchen
- Sanitary facilities
- Interior and exterior catering areas (partly shaded)
- Guardian's room
- Storage/service room
- Double bedrooms with bathrooms
- Service area

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas
- Specialised lighting layout with necessary electricity supply and loading
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation activities of the history, the property, the family and, the profession of the *ṭawwāsh*.

Cultural tradition (8)

The tradition of welcoming guests in Murad House, typical for *ṭawwāsh al-bahr* family, is continued with the operation of a guesthouse on the property.

Resource management (10)

The public private partnership between the Murad family and the Ministry of Culture and Information has reduced the need for investment by the site administration, while providing an additional source of income to the family.

Action Plan for Murad House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	An agreement has been reached with the property owners to cooperate for the establishment of a guest house in Murad House.	February 2010	Agreement contract (SAU archive)	Negotiate the conditions for future cooperation and public use of Murad House	MoCI, property owners	-	-

SITE ANALYSIS AND ACTION PLANS (2009-13)

Administration (1)	The state of conservation of Murad House is assessed regularly.	Biannually, from October 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of Murad House biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Murad House has been designated as a national monument.	January 2010	Official government gazette	Register Murad House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	Murad House has been fitted with interpretive panels.	By June 2011	Planning documentation (SAU archive), site inspection	Design and install interpretive panels	SAU, consultants	Property owners	Special project budget
Physical Conservation and Development (5)	Murad House is restored and adapted for use as an accommodation facility.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Murad House	SAU, consultants	SUAH and SURPD, property owners	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data and artefacts related to Murad House are gathered.	By October 2010	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Murad House and Murad family profession	SAU, consultants	Local community, Murad family	Special project budget/ operational budget - MoCI
Tourism and Promotion (9)	A public guesthouse is operational in Murad House.	By June 2011, ongoing	Visitor records at guesthouse administration (onsite), site inspection	Operate a public guesthouse in the property with technical assistance from the MoCI	Property owners	MoCI	Private sponsor

MoCI – Ministry of Culture and Information

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

SUAH – Subcommittee for Urban and Architectural Heritage

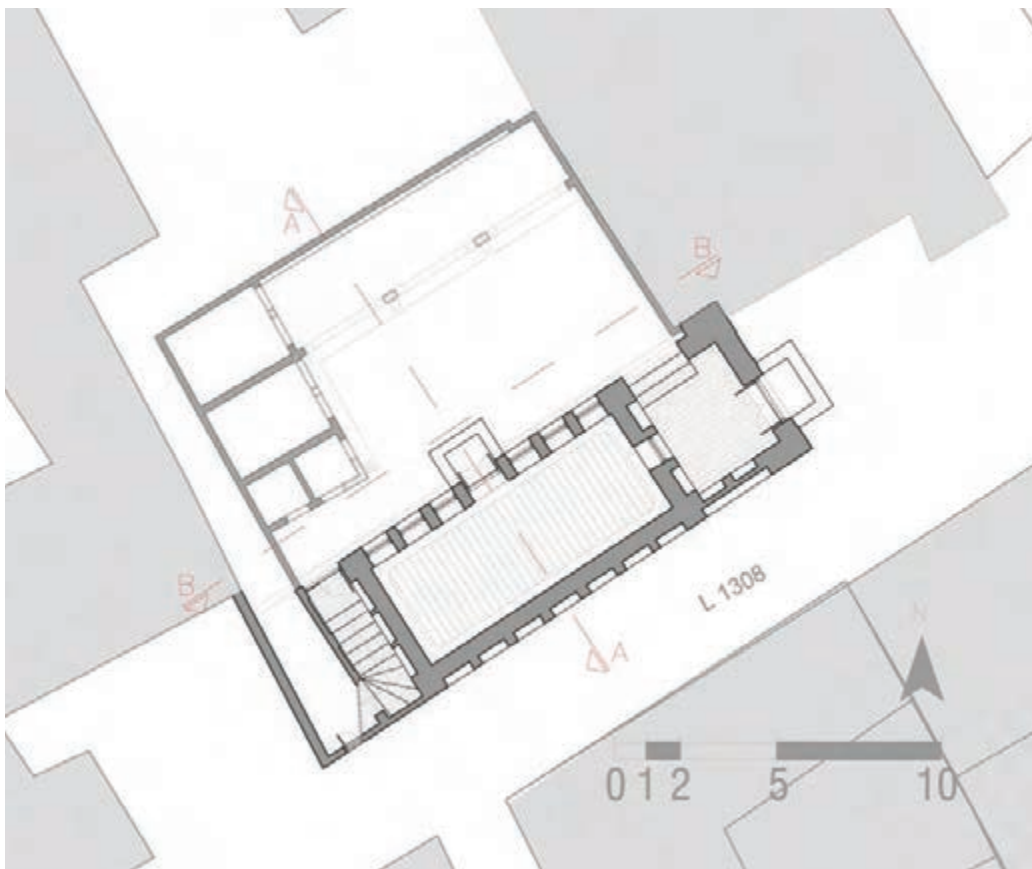
SURPD – Subcommittee for Urban Regulations and Project Design

1.3.7 Murad Majlis

Name of the property	Murad Majlis
Number of serial property	11
Street address	Number 70, Road 1308, Block 213
Plot number	12238
Central coordinate	50°36'48.996"E 26°14'57.696"N
Plot area	210 m ²
Total floor area	132 m ²
Courtyard area	78 m ²

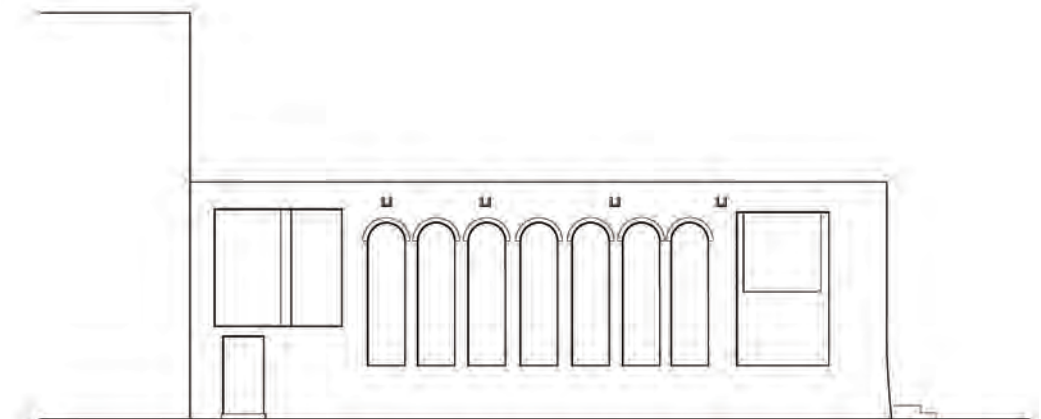
Murad *Majlis* continues to be owned and used by the Murad family as a reception place for weekly social gatherings. The property forms part of the architectural ensemble of the former *tawāwīsh* family, and is thus inked to the Murad House described above.

Murad *Majlis* is located within a network of pedestrian alleyways, opposite Murad House, on a small square that serves as an access point to *al-Mo'awdah* Mosque. The mosque is located between the two properties, which dominate the setting with their tall, sculpted facades. The street facade of the *majlis* is kept sober, yet impressive, due to the tall deep arched niches structuring it.



Location map and ground plan of Murad *Majlis*

Southern elevation



The building, which can be attributed to the Smooth Style, is a tall single-storey structure with an accessible roof terrace. The ground plan consists of a *dihliz* which provided privacy from unexpected visitors to the *tawwāsh*, who negotiated with his trade partners in the *majlis*. This main room, the *majlis*, is accessed through a courtyard which hosts simple modern sanitary facilities, a kitchen, and a small guest room. These facilities were added to the property in the late 20th century.

The courtyard facade of the *majlis* is arranged symmetrically around the central entrance door. On both sides of the timber door are located three square low-level windows with double leaf timber shutters.

The interior of the *majlis* is richly decorated with low-level rectangular windows onto the courtyard and with many vertically aligned deep niches immediately above them. The low windows testify to the long-abandoned Muharraqi tradition of sitting on carpets and cushions at floor level. Incised decorative plaster panels accentuate the verticality of the high room. The walls culminate in a dominant cornice, with corners at approximately 45 degree angles. The ceiling is constructed of traditional mangrove beams and a diagonal grid of split bamboo.

Contribution of Murad Majlis to the Outstanding Universal Value of the serial site

The contribution of Murad *Majlis* to the pearling testimony's Outstanding Universal Value is interlinked with the other Murad property. Again, the attributes of space, design, materiality, function and use apply as described above. The decorated *majlis*, in particular, expresses the social position of a *tawwāsh*. Historically, the *majlis* was a location that also witnessed pearl trade negotiations. The *dihliz* is an expression of a *tawwāsh's* need for privacy in the profession. The property's continued use as a family *majlis* contributes to its value.

Recommended future use as part of the pearling grand narrative

The building should ideally retain its function as a family *majlis* and additionally be made accessible to the general public to convey the role of a *tawwāsh* within the pearling economy.

Present state of conservation

As a result of its continued use, the property has been well maintained and is, therefore, in a good state of conservation. New additions and minor modernisations have not had a significant impact on the property. Additionally, the courtyard has been paved with stones. Incorporated in the courtyard are a modern kitchen, bathroom, spare room and shaded seating areas. The staircase to the roof has remained unchanged since its construction. Contemporary plaster, paint and floor finishes are the only questionable changes made to the traditional structure, and show some efflorescence. Photographs show that at some point the parapet's height was increased, a change reversed during a restoration project in 1994.



top left: Arched openings and ceiling of the *dihliz*



right: Interior view of the *majlis*



left: Courtyard facade of the *majlis*



left: View into the *dihliz* from the courtyard



right: The wall decoration of the *majlis*



right: Detail of the incised gypsum panels

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	• Air conditioning	• Two air conditioning units reduce the traditional aesthetic of the <i>majlis</i> without impacting the historic fabric	minor
Repairs and maintenance works	• Use of new building materials	• Walls are plastered and painted with inappropriate materials • New building material have been used for modern additions	minor
Change in function	• Connection to neighbouring house became obsolete	• Connection to neighbouring house is no longer present	medium

Summary

In general, the property is in a good state of conservation.

Minor conservation interventions are required.

Conservation policies for the Murad Majlis

Administration (1) and Stakeholder involvement (3)

The property is owned by the Murad family and will remain in their use and ownership. The family is cooperating with the Ministry of Culture and Information by allowing public accessibility for interpretation purposes. Interpretation facilities will be provided by the Ministry of Culture and Information, which considers stationing a property manager at the property during opening hours. These activities will be coordinated with the private use of the property by the Murad family.

Statutory protection (2)

Murad *Majlis* has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information and the Murad family have agreed to provide interpretation facilities for the general public in the courtyard and make the property accessible. A small exhibition will highlight the history of the property related to the profession of a *tawwāsh* and the Murad family in particular. An interpretation panel on the property's exterior will fulfil the same function in condensed form.

Physical conservation and development (5)

For the property's continued maintenance and anticipated use, the following interventions are required:

Maintenance

The Ministry of Culture and Information and the Murad family jointly will provide ongoing maintenance of the property, while the Ministry is responsible for maintaining the built fabric and its regular inspection.

Preservation

During the forthcoming conservation activities of the Murad *Majlis*, the traditional elements (e.g. windows

and doors) and their decorative ornaments shall be preserved. Planned measures include surface cleaning and stabilisation of historic plasters and – where necessary – the structural stabilisation of the historic walls. Guidelines for use will be developed to guarantee proper awareness of historic preservation requirements among future users.

Restoration

Due to the long standing care and maintenance of the property, the restoration activities are kept to a minimum. The application of traditional plaster render to the internal facade – following the removal of contemporary paints – is the most necessary restoration intervention required. It is hoped that the re-introduction of traditional water-permeable floor coverings (such as mud, sand and shells) in the courtyard will further assist to reduce the partial groundwater penetration in the historic walls, and at the same time reduce considerably the salt crystallisation on wall surfaces.

Adaptation

The modern facilities added in the courtyard require minor adaptation to accommodate the demands of the expected visitor flow. The following technical infrastructure/installations will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas where possible
- Specialised lighting layout with necessary electricity supply and loading
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements – balustrades
- CCTV surveillance equipment

New work

The added rooms and shadings in the courtyard will be redesigned, in sober contemporary design, to harmonise with the historic fabric. A proposed area programme to be accommodated in the historic and modern rooms is considered as follows:

- Reception space in the *dihliz*
- Interpretation facilities in the courtyard
- Family *majlis*
- Storage area
- Tea kitchen
- Sanitary facilities

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation of the property's history and the profession of *tawwāsh*.

Cultural traditions (8)

The local tradition of "*majlis*" gatherings is continued in this property.

Resource management (10)

The spaces for interpretation and public access to the Murad *Majlis* are made available, free of charge, by the owner. Any income generated by the Ministry of Culture and Information will remain with the site administration for the property's maintenance.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Action Plan for Murad Majlis

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	An agreement was reached between the MoCI and the property owners to make the Murad <i>Majlis</i> publicly accessible and to continue cooperation.	February 2010	Agreement contract (SAU archive)	Negotiate the conditions for future cooperation and public accessibility of Murad <i>Majlis</i>	MoCI, property owners	-	-
Administration (1)	A property manager is administering the property.	By June 2011, ongoing	Contract and weekly reports of the property manager (SAU archive), site inspection	Employ a property manager for Murad <i>Majlis</i>	SAU	-	Operational budget - MoCI
Administration (1)	The state of conservation of Murad <i>Majlis</i> is assessed regularly.	Biannually, starting October 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of Murad <i>Majlis</i> biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Murad <i>Majlis</i> has been designated as a national monument.	January 2010	Official government gazette	Register Murad <i>Majlis</i> with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	Murad <i>Majlis</i> has been fitted with interpretive panels.	By June 2011	Planning documentation (SAU archive), site inspection	Design and install interpretive panels	SAU, consultants	Property owners	Special project budget
Physical Conservation and Development (5)	Murad <i>Majlis</i> is restored and adapted for use as an accommodation facility.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Murad <i>Majlis</i>	SAU, consultants	SUAH and SURPD, property owners	Special project budget
Research and Documentation (6)	Site and theme specific anthropological and historical data related to the property are gathered.	By September 2010	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Murad House and Murad family profession	SAU, consultants	Local community, Murad family	Special project budget/ operational budget - MoCI

Cultural Traditions (8)	The property continues to be used as <i>majlis</i> by the property owners.	Ongoing	Documentation of use schedule (SAU archive)	The property owners continue to use the property as <i>majlis</i> and coordinate times of private use with the SAU	Property owners	MoCI	-
MoCI – Ministry of Culture and Information SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUAH – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3.8 Siyadi Shops

Name of the property	Siyadi Shops
Number of serial property	12
Street address	Eastern complex: Number 1653, 1655, 1667, 1669, 78 Al-Tujjar Street, Block 215 / Western complex: Number 67, 87, 83, 81 Bu Maher Avenue, Block 215
Plot number	7108 / 24254
Central coordinate	50°36'36.216"E 26°14'59.784"N
Plot area	564 m ²
Total floor area	743 m ²

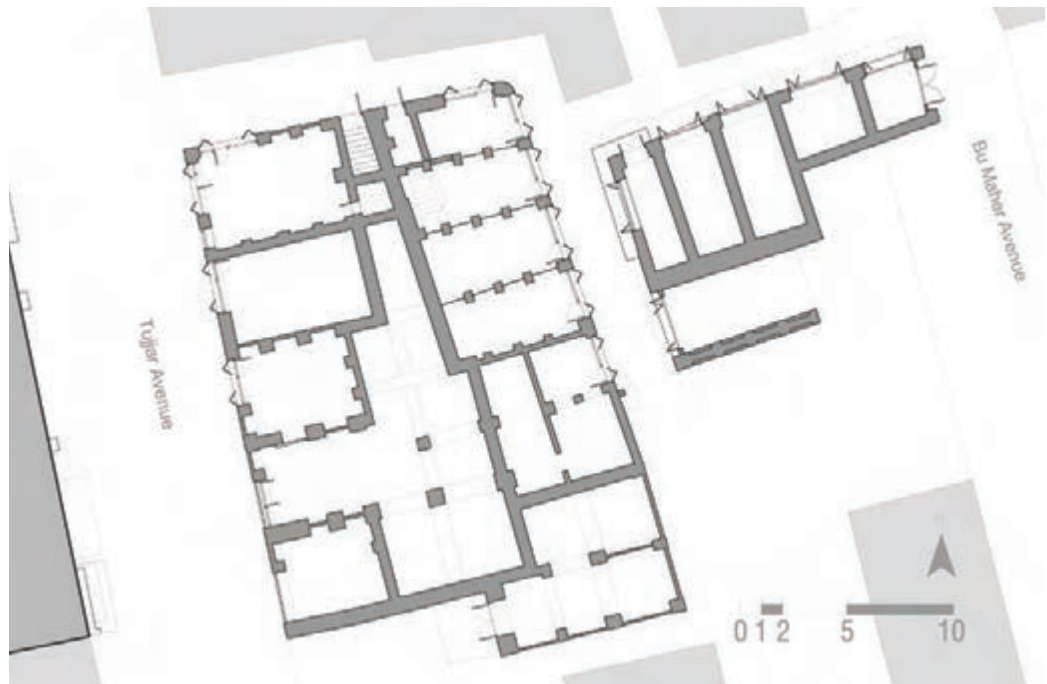
Siyadi Shops is a series of stores belonging to the grand pearl merchant Siyadi, and is thus associated with the other Siyadi properties described below. Together, the shops convey the narrative of the grand pearl merchant, *tājir al-lū'lu'*. The Siyadi Shops, the earliest parts of which date back to 1860, have been passed on from generation to generation within the family, and most of the individual stores retain a commercial function. The current owner, *Abdullah bin Hassan Siyadi*, continues the tradition of waiting for his trade partners and clients to approach him in his shop, although he no longer deals in pearls.

The Siyadi Shops are located in Muharraq's commercial centre and consist of two separate complexes located between Bu Maher Avenue and Al-Tujjar Street. The complexes are separated by a narrow pedestrian lane. The property is located in the hustle and bustle of Muharraq's daily commercial activity.

The shops did not primarily serve the sale of pearls, but rather offered the *tijār al-lū'lu'* an additional income from the sale of goods such as dates. More importantly, the shops provided opportunities for socialising and everyday occupation. It was customary for those in search of pearls to approach the Siyadis in their ground-floor office at the property, and then ascend to the first-floor apartment to negotiate in total privacy. The first-floor apartment, in addition to the Siyadi *Majlis* described below, was a regular venue for business transactions.

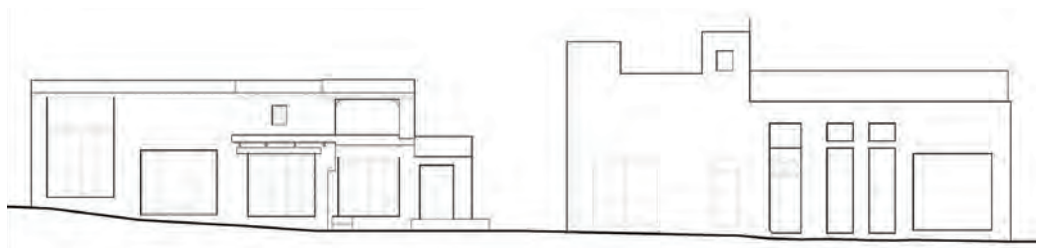
The eastern complex once formed a part of a series of shops that opened onto Bu Maher Avenue. The property in its squatness reminds of Early Period architecture — robust, solid and with an expression of buoyancy — in its attempt to appear lighter in its construction. This complex consists of a series of similarly sized rooms clustered together on a relatively steep slope. Each shop has a single entrance from the street, in most cases the only source of light and ventilation. During business hours, these shops would be wide open to showcase their merchandise. To accommodate this activity, the building was fitted with two double-hinged doors to allow for maximum opening and a solid overhang of the roof structure for shading. The spaces, though relatively small, have a high level ceiling which catere for a mezzanine level storage of goods.

Location map and ground plan of Siyadi Shops



The western complex (facing Al-Tujjar Street) is a cluster of back-to-back shops with a large-scale central storage facility and living units above. The building finds its expression in the Perpendicular Style of the Middle Period architecture. In comparison to the other complex, it appears lighter and more sophisticatedly assembled, with vertical accentuated niches and decorative slender columns. Doors are crowned with rectangular niches of the same width. Tall, slender windows and *buwwādgīr* are fitted to the living units above. The shops are fitted with either a rear-of-house or a mezzanine storage facility.

Nothern elevation of Siyadi Shops



Contribution of Siyadi Shops to the Outstanding Universal Value of the serial site

The Siyadi Shops contribute to the pearling testimony's Outstanding Universal Value by conveying the narrative of the grand pearl merchant and, at the same time, reflecting prototype shops and store structures. The shops illustrate the traditional local market architecture, typically built back-to-back, forming commercial lanes once parallel to the shore. The eastern complex displays the slightly different type of shops found at the edge of a market, in this case *Sūq al-Qaysariyyah*.

The attributes that reflect the Outstanding Universal Value are: the layout and architectural design; the continued use and function as shops, offices, and storerooms; and the places of public access. Of additional value is the family's continued ownership and use of the property.

Located within the active commercial area of Muharraq, the property has significant economic potential that could be harnessed.



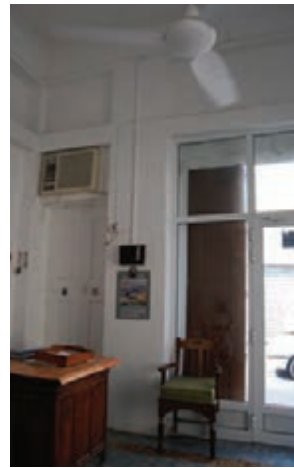
left: The eastern complex



right: Door and fanlight detail in the eastern complex



left: The western complex



right: Interior view of the shops in the Western complex

Recommended future use as part of the pearling grand narrative

The property should retain its commercial function within the market area and serve both the local community and visitors. Interpretation regarding the property's significance for the pearling testimony should, additionally, be provided and (preferably) incorporated in the commercial use.

Present state of conservation

The Eastern complex (Bu Maher Avenue):

Archaeological excavations and historic maps illustrate that this complex consisted of eight shops of which six have retained their original dimensions. Excavations in one shop have uncovered the intact remains of a *mdbasah* (date juice press) which offers insight into the former use of the property. The shop on the south-western corner is in need of restoration. The rear wall has partly collapsed, and thus does not shield parts of the structure from the impact of weather. Since the collapse of the pearling economy, most of the shops have been modernised with the addition of canopies and signage; these are in bad condition due to a lack of general maintenance. These additions reduce the aesthetics of the historic fabric and will be removed. Mezzanines have been upgraded over the years. The exterior walls retain their original character and expose the original surface materials. While some of the shops still retain their original use, others either serve as storage facilities or remain vacant.

The Western complex (Al-Tujjar Street):

Most of the shops of the western complex are still functional, with only two shops in the south-east being vacant and in a state of disrepair. The property has been maintained regularly, a process that unfortunately included plastering and painting. Modernisation attempts further included the interior sealing of walls, niches and ceilings with temporary timber boarding and contemporary ceilings. Modern signage is scattered across the facade, and the tenants of some shops have introduced steel roller shutter doors. The necessary introduction of a sewerage system has further reduced the overall aesthetics.

The first-floor units are used for housing which has increased the wear and tear and general strain on the property. Extra rooms have been added to the first floor using temporary building materials in a manner that interferes with the architectural proportions and overall aesthetic value of the property. These are to be removed in the medium-term. Air-conditioning units have been added to most rooms and reduce the aesthetics of the interior and exterior facades. Moreover, the traditional *buwwādgir* have been blocked up.

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	• Use of modern materials	• Change of decorative details on the facade • Covering up of traditional elements with canopies	medium
Change in function	• A part of the property is vacant	• A part of the house has collapsed due to lack of maintenance	major

Summary

Except for the two demolished shops, the property's original fabric is mostly well preserved. The few additions and modernisations are mostly reversible or improvable. The continued commercial use of the property is an important asset.

Minor conservation interventions needed

Conservation policies for the Siyadi Shops

Administration (1) and Stakeholder involvement (3)

The property remains in the ownership of the Siyadi family, which is cooperating with the Ministry of Culture and Information for the conservation efforts. The commercial use of the shops will be maintained and the owners or tenants respectively will manage the property.

Statutory protection (2)

The Siyadi Shops have been designated national monuments under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information, in partnership with the Siyadi family, has agreed to retain the commercial function of the shops. Only an exterior interpretive panel will indicate the history and role of the property within the pearling economy. Indoors, interpretation should preferably be limited to the associated commercial functions, such as pearl jewellery production and sale. The interpretation facilities shall also point out the typological architecture of the property.

Physical conservation and development (5)

For the maintenance of the state of conservation and preparation for the anticipated future use, the following conservation measures are required:

Maintenance

Day-to-day maintenance will be provided by the owners and tenants of the commercial structures. The Ministry of Culture and Information will be responsible for the maintenance and regular inspection of the historic fabric.

Preservation

Preservation activities will focus on the eastern complex (both the building itself and archaeological finds) and the southernmost structure of Siyadi Shops. The archaeological findings (the *mdbasah*) will be preserved in place, interpreted, and incorporated into any future design planned for this portion of the property. The eastern complex and southern structure will require the preservation of shops and their elements such as doors, windows and plasterwork. Surface cleaning and stabilisation of historic plasters, and if needed the stabilisation of the historic walls and roofs, are incorporated in the more detailed conservation concept. Inspection of structural timbers and other wooden elements will determine whether they have been affected by fungal and termite activities and require treatment.

Restoration

The continued use of the property means it has undergone regular maintenance and indirectly reduces the need for major restoration activities. The western complex requires the removal of inappropriate cement-based plasters and impermeable paints, and re-application of its traditional counterpart. Furthermore, later additions of aluminium windows and doors that negatively impact the overall character of the property will in the long term need to be removed and replaced with more appropriate elements, in line with the character of the shops.

Adaptation and new work

For further understanding of the eastern complex, the archaeological remains of the two former shops will be rehabilitated to improve understanding of the shop typology that once lined Bu Maher Street. The interior and exterior of all the shops require the adaptation of their technical infrastructure, in order to ensure public safety and to improve the overall aesthetics and reinstate the shops' historic character.

A proposed area programme to be accommodated in the two complexes is considered as follows:

- Shops
- Stores
- Workshops
- Sanitary facilities
- Residential unit on first floor

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas where possible
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior signage
- Public safety elements

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation of the property's architectural typology and socio-cultural history. Small-scale archaeological investigations might also be required.

Cultural traditions (8)

The property retains its traditional function as a commercial structure and the Ministry of Culture and Information encourages the attraction of pearling related tenants, such as jewellers dealing in pearls.

Tourism and promotion (9)

The Siyadi Shops lend themselves to including souvenir items in their range of merchandise and would ideally include a custom-made pearl jewellery service for tourists.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Resource management (10)

Conservation, including the interpretation of the Siyadi Shops, will be carried out in public-private partnerships between the Ministry of Culture and Information and private businesses.

Action Plan for the Siyadi Shops

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The state of conservation of Siyadi Shops is assessed regularly.	Biannually, from February 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Siyadi Shops biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Siyadi Shops have been designated as a national monument.	January 2010	Official government gazette	Register the Siyadi Shops with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	Siyadi Shops have been fitted with interpretive panels.	By March 2012	Planning documentation (SAU archive), site inspection	Design and install interpretive panels	SAU, consultants	Property owners	Special project budget
Physical Conservation and Development (5)	Siyadi Shops are restored	By December 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Siyadi Shops	SAU, consultants	SUAH and SURPD, property owner	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and archaeological data gathered.	By July 2011	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Siyadi Shops and their use during the pearling era	SAU, consultants	Siyadi family, local community	Special project budget/ operational budget – MoCI
MoCI – Ministry of Culture and Information SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUAHS – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3.9 'Amārat Yousif Abdurrahman Fakhro

Three *'amārāt* (sing. *'amārah*, building, storehouse), located across Tujjar Avenue, in the heart of Muharraq's commercial zone, opposite the Siyadi Shops, are nominated as the thirteenth property and are described individually in the following text. *'Amārāt* were originally workshops for the building and maintenance of boats located mostly at the seashore, but later they played an increasingly important role for producing other merchandise. These included all kinds of hardware and equipment for boat building, as well as other building materials, textiles and food items, particularly dates.

The nominated *'amārāt* were built during the first extension phase of the Muharraq *Sūq*, which started in the 1890s. Each of the three nominated *'amārāt* contributes different attributes to the site's Outstanding Universal Value and

requires a different conservation approach as described below, including interventions in their shared primary protection zone.

Name of the property	'Amārat Yousif Abdurrahman Fakhro
Number of serial property	13 (a)
Street address	Tujjar Avenue, Block 215
Plot number	2018986
Central coordinate	50°36'33.156"E 26°14'59.892"N
Plot area	2,130 m ²

The 'Amārat Yousif Abdurrahman Fakhro, which today only survives in form of a ruin, is named after its original owner who, as highlighted above, was also the owner of Fakhro House. Built on the seashore of the newly reclaimed land, the *'amārah* was originally used for the trade of boat-building material, and had its own bult (private qay) for loading and unloading the boats. The property enlarged in three distinct phases, in each of which the coastline was pushed further westwards through reclamation of land.



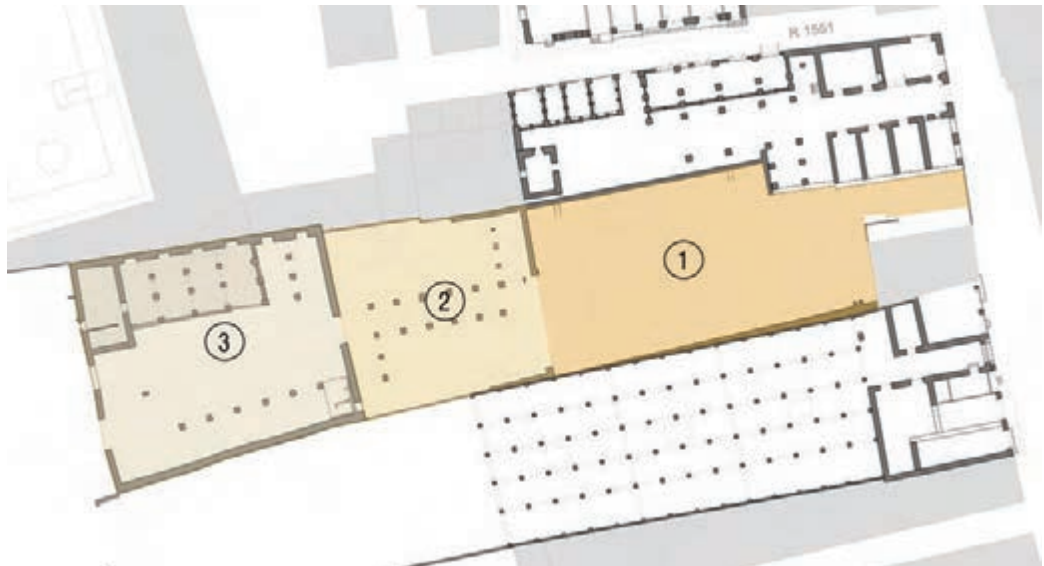
Location map and ground plan of the 'Amārat Yousif Abdurrahman Fakhro

The archaeological traces, and the fragments of the historic fabric that still stand, testify that the building's form resembled that of a typical linear *'amārah*: A corridor along the central axis connected the commercial road (Tujjar Avenue) to the bult area. The corridor was partially roofed and traces of the storage areas that flanked both sides of the central axis are still visible. As per the typology, the remains of smaller lockable storage area were located near the commercial street, while the rear end of the *'amārah* consisted of a roofed storage area with an open plan and carried by a column and beam structure.

The commercial entrance to this *'amārah* was at the end of a narrow lane perpendicular to Tujjar Avenue. Formerly, a *malqif al-hawā'* (wind tower) located along the facade towards Tujjar Avenue was a landmark of that busy street.

After the pearling era the building changed its original function and was used as a facility for the large scale production of date juice. The *mdbasah* (date press) flooring system, used for this process, is visible in almost each storage room located on the eastern portion of the property. The *mdbasah* were later covered with timber flooring for yet another use of the property: the storage of engine parts, mills and contemporary building material. Parts

Development phases of the
'Amārat Yousif Abdurrahman
Fakhro



of the ruins were later also adapted to be used as a livestock barn. As land reclamation proceeded, the property was disconnected from the sea and eventually the area around the property fell into disuse.

An additional area of 4,010 m², which is a part of the property's plot, is located in the primary and secondary protection zones and consists of both built-up and open areas. The area adjoining the western part of the ruins as well as that in the south-western part of the property consist of open land currently covered with vegetation. A fourth *'amārah*, which has not been nominated, is located in the south-eastern part of the property, adjacent to Tujjar Avenue. *'Amārat Al-Doe* is vacant and parts of it are in an advance state of decay.

Contribution of 'Amārat Yousif Abdurrahman Fakhro to the Outstanding Universal Value of the serial site

'Amārat Yousif Abdurrahman Fakhro, as a ruined structure, is a unique illustration of the decline of the pearling economy, and the abandonment and neglect of its physical testimony, the value of which has only been rediscovered very recently.

The attributes reflecting Outstanding Universal Value are the character of and atmosphere created by the ruins of this former storehouse. This includes the remaining fragments of the building and archaeological traces thereof. The remains of merchandise that were found during the excavations and testify to the former use and form of the *'amārah* are also considered as important attributes.

The property is also a testimony of the land reclamation history of the site. The archaeological excavation revealed the composition of materials used for land reclamation and identified at least four consecutive stages of this process within the property' boundary.

Apart from its heritage value, the property also has the potential to provide an attractive recreational space within the picturesque setting of the ruins. Located amidst the *sūq* of Muharraq, it can be used as a commercial space and therefore, has economic potential. Together with the open land and the remains of the *'Amārat Al-Doe* in the adjacent primary protection zone, the property has a significant real estate value and can be used for the development of visitor facilities that complement and enhance the heritage site.

Recommended future use as part of the pearling grand narrative

'Amārat Yousif Abdurrahman Fakhro will be preserved as architectural ruins and as an archaeological site. These features will be used to explain the evolution of the site, the decline of the pearling economy and the abandonment of its physical testimony.

However, parts of the property's area and parts of the plot in the buffer zone lend themselves for the

reintroduction of commercial spaces and provision of visitor facilities. As the property is centrally located in Muharraq and amidst the urban parts of the pearling testimony, the creation of a Visitor and Experience Centre at 'Amārat Yousif Abdurrahman Fakhro will allow large groups of visitors to be welcomed. The proximity of the property to a public bus-station on the major traffic artery, the Avenue 10, is also an advantage.

Present State of Conservation of the 'Amārat Yousif Abdurrahman Fakhro

'Amārat Yousif Abdurrahman Fakhro today consists of ruins and archaeological remains. The parts of the former building which are still standing in a ruinous state are in danger of further disintegration and therefore preservation measures are currently being taken. The remains of the *'amārah's* foundations, floors, columns and walls as well as excavated artefacts provide testimony of the property's former shape and function.

The eastern portion of the property displays evidence of foundation walls, floors and the *mdbasah* (date press) system. The foundations of the stores show the exact footprint of the storage areas each with a centrally located door. The foundation walls also indicate the position of the central axis. As the archaeological remains were covered with up to half-a-meter of sand, the *mdbasah* system has been well preserved. However, the timber flooring system placed over these *mdbasah* has succumbed to decay and only some fragments of it are preserved.

Parts of the property's first extension, which now constitute the building's central part, are preserved as ruins. The columns that formed the central colonnaded passage have survived along with the *'amārah's* boundary walls to the north and south. Similarly, the property's western portion displays remains of the boundary walls and a series of columns. The roof structure is partly preserved, but in an advanced stage of decay and most timber members seem termite infested. In the northern part, the former use as a barn for livestock is still evident. Here, separating walls made of concrete blocks have been introduced and a small storage room been built.

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Factor	Caused by	Impact	major
Lack of maintenance	- until recently no value was attributed to the property and it has been left to decay for many years	- the building has disintegrated; it is now a ruin and archaeological site	medium
Change in function	- the property was adapted several times to accommodate various successive functions and was eventually abandoned	- new elements made of both traditional material as well as modern materials such as concrete blocks have been added	major

Summary

The property is regarded a ruin and archaeological site and requires appropriate preservation measures.

Medium conservation interventions are required for the preservation of the ruin.



Boundary wall with high level niches

SITE ANALYSIS AND ACTION PLANS (2009-13)

left: Columns of the celestory passage in the 'Amārat Yousif Abdurrahman Fakhro (area a2)



right: Remains of the roof structure (area a2)



left: Archaeological finds - the traditinal *mbasah* (area 1)



middle: 'Amārat al-Doe (area b2)



right: Interior facade articulation (area a2)



Conservation policies for 'Amārat Yousif Abdurrahman Fakhro

Administration (1)

'Amārat Yousif Abdurrahman Fakhro as well as parts of the primary and secondary protection zone, that are located on the same plot, are property of members of the Royal Family. The owner and his descendents have kindly agreed to donate the entire 7,715 m² plot to the Ministry of Culture and Information for the above-mentioned use. The property and the proposed visitor facilities will be managed by the Ministry in coordination with the owners. The planned Visitor and Experience Centre will host the pearling testimony's headquarter which will include an office space for the site's administrators, meeting and conference rooms, and an archive for storing administrative unit's files.

At least ten employees will be stationed here, including a site manager for the 'Amārat Yousif Abdurrahman Fakhro and front line personnel. Part of the commercial and interpretation facilities are foreseen to be operated through a public-private partnership and will be managed by the private tenants.

Statutory Protection (2)

'Amārat Yousif Abdurrahman Fakhro has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

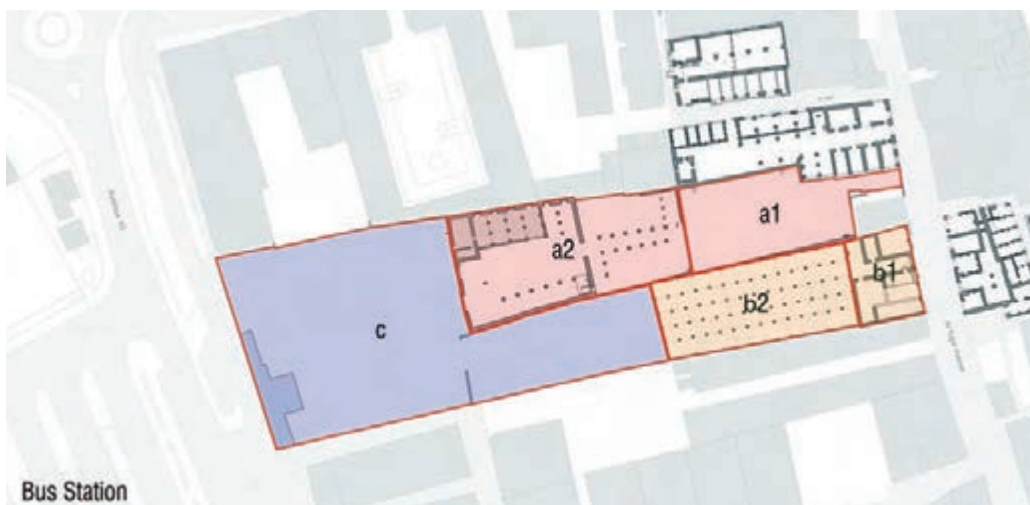
The historic part of the 'Amārat al-Doe is designated a primary protection element.

Stakeholder involvement (3)

Cooperation with the property owner is particularly close for the property, due to the extensive development project on the remainder of the plot. The Visitor and Experience Centre will host an interaction point where visitors and the local community can get in contact with the site administration unit of the pearling testimony. The Visitor and Experience Centre will also contain a public library and archive related to the pearling heritage.

Interpretation and Presentation (4)

The archaeological finds and ruins of 'Amārat Yousif Abdurrahman Fakhro will be interpreted with the help of media such as explanatory panels. The scenic qualities of the property will be enhanced with the help of light installations and alike. The outdoor spaces around this property will be accessible to the public at all times. The planned Visitor and Experience Centre is at the heart of the interpretation and presentation endeavours for the pearling testimony. It will serve as a reception point particularly for bigger visitor groups and provide all necessary site orientation information such that the visitors can independently explore the whole site from this point onwards. An integrated multimedia centre, covering an area of 300 m², will be built for this purpose. The architecture and landscape design of the planned facilities contribute to the interpretation of the site in their own right. Elements such as a water basin will, for example, evoke associations with the former coastal setting and sea use. The property will furthermore function as a pedestrian link between the modern city and the pearling city, the historic settlement of Muharraq, and thus provide a means for understanding the urban transformation.



Development phases of the 'Amārat Yousif Abdurrahman Fakhro

Physical Conservation and Development (5)

For a clearer understanding of the interventions planned for 'Amārat Yousif Abdurrahman Fakhro and its setting, the plot has been divided into different areas as shown on the plan below:

Area (a) consists of 'Amārat Yousif Abdurrahman Fakhro. The architectural remains (a2) will be conserved as a ruin and most of its surrounding parts will be adapted to provide an open recreational space. The property's second part (a1) constitutes a transition area between the *sūq* and the Visitor and Experience Centre and displays archaeological finds. The former commercial function will be revived, with the enclosed spaces being reconstructed according to the archaeological evidence. Other parts of this area will not be built upon and the archaeological evidence will be displayed.

The 'Amārat al-Doe (b) will be conserved and adapted to be part of the Visitor and Experience Centre. 'Amārat al-Doe's historic part (b1), is a traditional coral stone building and will be restored. The more recent addition (b2), a hall with an open plan and consisting of columns and a traditional timber ceiling/roof will be adapted to host exhibitions.

In the western area (c) a new structure is anticipated which will host the archive and library building of the Visitor and Experience Centre. Some parts will also be designed for use as open space.

Further specific recommendations are as follows:

Maintenance

The property and all newly-added facilities will be maintained by Ministry of Culture and Information in cooperation with the tenants. The Ministry is the authority responsible for ensuring the maintenance of the property's historic fabric and archaeological remains.

Preservation

In area (a), all the excavated *mdbasah*, foundation walls, flooring elements, columns, walls and remaining roof structures should be preserved in place to assure that further decay of the ruins is prevented. By so doing, the archaeological testimony can be incorporated into the greater interpretation plan set out for the larger property. Preservation activities will include the stabilization of columnar and wall elements regarded as part of the ruin. The north-western portion of area (a2) and 'Amārat al-Doe (b1) requires preservation which will focus on: the cleaning and stabilizing of timber elements; coral stone walls; and columns and traditional finish render. The expected adaptation of the eastern property and new work on the west will be monitored to avoid any further losses of traditional fabric.

Restoration

To assure the proper interpretation and spatial experience of the north-western portion of area (a2) and 'Amārat al-Doe (b1), the restoration of elements such as windows, doors, ceilings and plaster render will be incorporated. The columns and other elements of the open ruins will require to be impregnated to avoid future water penetration that would enhance the decay process. Several experts proposed roofing solutions, which would, however, strongly influence the unique character of the ruined site. The conservation team is therefore currently in the process of exploring which materials could provide ample structural security while not changing the visual characteristics of the surfaces and site.

Adaptation and new work

Area a, b and c will undergo different levels of adaptation and new work to assure that it meets contemporary visitor needs and its assigned function. Area (a1) will incorporate new commercial facilities; area (a2) to a large extent requires technical infrastructure and landscape elements such as pathways, lighting, seating, waste disposals and public safety elements; the north western portion of area (a2) will be adapted to facilitate new visitor facilities; while areas (b1) and (b2) will be adapted for visitor facilities and new visitor exhibition facilities; and area (c) will incorporate a new state-of-the-art Visitor and Experience Centre.

A proposed area programme for the entire property and plot is considered as follows:

- Reception spaces
- Public open recreational space (including archaeological site, architectural ruins and
- Landscaping design elements)
- Commercial areas (shops and workshops)
- Administrative areas (offices, meeting rooms, administrative archives)
- Conference room
- Exhibition spaces including a children's area and multimedia centre
- Public library and archive
- Cafeteria
- Storage and service areas
- Sanitary facilities
- Parking spaces and drop of facility for buses

Technical infrastructure that also has to be introduced in historic and new areas.

- Fire protection plan with appropriate fire fighting equipment and emergency exists
- Exterior and interior signage
- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas
- Public safety elements
- CCTV surveillance equipment particularly in public exterior spaces

Area (c), which contains no historic structures, will host the main building of the Visitor and Experience Centre built in a contemporary style. This will include administrative facilities such as offices and archives of the site administration unit, meeting and conference rooms, lounges, a public library, a cafeteria and associated service areas. Underground parking and a drop-off facility for visitors arriving in coaches will also be created.

Smaller scale new construction is planned in area (a1), the second entrance off Tujjar Avenue, for the provision of commercial spaces and protective elements for the exposed archaeological remains.

Research and Documentation (6)

The site administration unit will facilitate further research and documentation of the history of 'Amārat Yousif Abdurrahman Fakhro, its traditional use and historic development.

The public library and archive, which will include both physical and digital documents, will constitute an important public resource for further research on the pearling heritage.

Education and awareness raising (7)

The Visitor and Experience Centre's public library and archive as well as the exhibitions will contribute significantly to the educational endeavour of the site administration unit. The Centre will also host spaces explicitly dedicated to children and will additionally cater to school groups.

Parts of the property and newly-added facilities will be equipped to host special events. These will also be made available to third parties organising community or corporate events on a rental basis.

Cultural Traditions (8)

The revival of commercial spaces within 'Amārat Yousif Abdurrahman Fakhro, and the plot it is located in, will improve the commercial viability of the traditional *sūq* of Muharraḡ.

Tourism and promotion (9)

The Visitor and Experience Centre is the core facility of the pearling testimony and will cater to larger tourist groups, such as cruise ship passengers. The centre will furthermore provide promotional facilities and services, such as tour guides, audio guides and printed information about the entire heritage site.

The property will include attractive features for promotional events, and VIP receptions will be catered for within the new building of the Centre.

Resource management (10)

The owner of 'Amārat Yousif Abdurrahman Fakhro and its plot has kindly offered to contribute financially to the planned conservation and development measures. The spaces will be made available free of charge to the Ministry of Culture and Information for use and operation. All income generated from the services and facilities, however, will benefit the owner after subtraction of all administrative costs. Revenue is expected to be generated from admission fees, the sale of merchandise and services and the renting of spaces. Tenants from the private sector will pay rent to the owner.

1.3.10 'Amārat Ali Rashid Fakhro (I)

Name of the property	'Amārat Ali Rashid Fakhro No. I
Number of serial property	13 (b)
Street address	Number 1626, 1622, 1632, 1640 Al-Tujjar Avenue, Block 215 / Number 1491 to 1509, Road 1551, Block 215
Plot number	6674 / 6675
Central coordinate	50°36'34.38"E 26°15'0.612"N
Plot area	780 m ²

SITE ANALYSIS AND ACTION PLANS (2009-13)

Ali Rashid Fakhro not only used the *'amārah* for his trade of boat building materials but also for other products such as food items. Similar to other *'amārāt*, the office of *Ali Rashid Fakhro* offered storage services, for documents and valuables, to members of the community.

'*Amārat Ali Rashid Fakhro (I)* is a prototype of a traditional storehouse, with a main clerestory central axis off Al-Tujjar Street, towards the former seashore in the west. Here boats would have accessed the property, before the land reclamation, during the pearling era. A massive entrance door is located on Al-Tujjar Street, while the second entrance, originally located opposite the main entrance at the western extremity of the *'amārah*, nowadays opens onto Lane 1511. Several shops are located along the central axis, either accessible from the interior of the *'amārah* or from the adjacent street and lane. *Ali Rashid Fakhro's* office was located near the main entrance. In the western parts of the *'amārah*, columns carry the roof structures of the clerestory main axis and the adjacent spaces, which create an open plan storage area.

Location map and ground plan of
'*Amārat Ali Rashid Fakhro (I)*



The *'amārah* was built in two phases, during the 1890s. Two different architectural styles are readable on the building's facade: the Perpendicular Style of the Middle Period in the eastern part and the slightly later Columnar Style in the western part.

The narrow commercial Lane 1551 which separates the building from '*Amārat Ali Rashid Fakhro (II)*, located to the north, is part of the property.

• see *Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage*

Today, most parts of the *'amārah* have been abandoned. Some of the shops opening up to the public space remain rented out to merchants. An important commercial function that survives within the *'amārah*, although slightly shifted in location, is the *Qahwat Bu Khalaf*, a traditional coffee house. Coffee houses like this one, were an important market institution in the pearling era; as described in the *Nomination File, Urban properties: Architectural Testimony of the Pearling Heritage*.

Western elevation



Section A



Contribution of 'Amārat Ali Rashid Fakhro (I) to the Outstanding Universal Value of the serial site

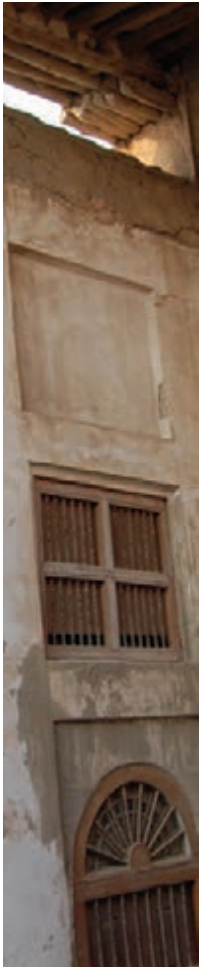
'Amārat Ali Rashid Fakhro (I) contributes to the Outstanding Universal Value of the pearling testimony as a prototype of a traditional storehouse. The building comprises all typical architectural features of the *'amārah* typology and therefore conveys an understanding of its function and its role within the single product pearling economy.

The attributes that reflect this Outstanding Universal Value are the architectural design, in ground plan, elevations and spatial proportions, and the integration of the structure into the local market neighbourhood. Another important component is the traditional ownership by the descendants of *Ali Rashid Fakhro*, who are concerned about the building's preservation and presentation. Lastly, the traditional coffee shop adds to the site's value with its ongoing function.

The property has economic potential, through its commercial use, beyond the heritage value.

Recommended future use as part of the pearling grand narrative

'Amārat Ali Rashid Fakhro (I) shall be restored to regain its function as a commercial space, where the existing layout can be used to create a small commercial alleyway while displaying the prototypical *'amārah* structure. A traditional Bahraini coffee shop shall remain incorporated within the *'amārah*. Simple interpretation facilities and related merchandise shall support the articulation of the property's narrative.



left: Interior wall articulation in the clerestory passage

right: Recessed trefoil arches on the western facade



middle: Colum and beam system

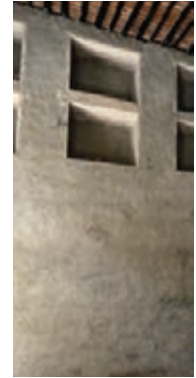
right: Th clerestory central passage

left: Interior wall decoration and window

middle left: Window

middle right: Door and fanlight

right: High level niches



Present state of conservation of the 'Amārat Ali Rashid Fakhro (I)

The *amārah* displays all the traditional architectural elements that define a prototypical *amārah*, but is in an advance stage of neglect with the western roof in danger of collapsing. Most of the shops continue to be used for commercial purposes and the public facades give an impression that the building has been maintained and slightly modernised. Surfaces have been plastered and painted. Aluminium window frames have been replaced some of the property's traditional doors and windows and canopies have been added.

The administrative office in the south-eastern section of the Tujjar Street front has been converted into a fruit and vegetable shop. The shop on the north-eastern section of the same front has been joined with its neighbouring store to the west. The separating and load bearing wall was removed and a steel beam was introduced. The main entrance door of the Tujjar Street front is still intact, but the timber shows signs of impact of weather.

Out of the eight shops aligned along the northern *sūq* facade, four remain operational. Modern elements and fittings such as steel roller shutters and illuminated signage decorate the facade. The *'amārah's* second entrance gate in the northern facade has been adapted to provide access to the *Bu Khalaf* Coffee Shop which today occupies a part of the former storage space with an open plan. Though the higher roof height at the former entrance area still indicates its original use, the traditional door and the arched fanlight have been replaced.

The internal spaces of the *'amārah*, made up of the central clerestory corridor, the small lockable storerooms, and the large open plan stores, are in need of restoration. The only space that still remains in use is the one that hosts the coffee shop. This has been given additional volume by means of a concrete block construction that extends into the central corridor. All other spaces remain vacant and have not been maintained for many years. Part of the roof structure that covered the clerestory corridor has collapsed, exposing the internal walls. This has caused a loss of protective render as well as instability of the walls, which in turn has affected the traditional timber doorframes. The remaining fragments of the *'amārah's* roof show signs of termite infection. Thus, they no longer fulfil their function of safeguarding the building from the impact of weather and additional protection against water ingress has only been provided in places that remain in use.

A part of the southern external wall has collapsed due to the decay of the *'amārah* which stood adjacent to it. The storerooms located in this part of the *'amārah* are therefore exposed. Two of these southern storerooms have been merged; the dividing wall has been knocked down and replaced with a steel I-beam. Moreover, the internal staircase that leads to the rooftop has partly collapsed.

Provisory structures shade Lane 1551. Random materials ranging from textile to timber boards have been fixed to traditional elements such as traditional window frames or the coral stone wall of the property's facade. These additions screen parts of the traditional facade and impact its aesthetics. Furthermore, some of them pose a safety hazard to the public. Removal of these additions has been identified as a priority and is being addressed currently.

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	<ul style="list-style-type: none"> • Modern material, facilities and services added in spaces that remain in use 	<ul style="list-style-type: none"> • Covering up of traditional elements with paint and boards • Removal of traditional elements in favour of modern elements 	medium
Change in function	<ul style="list-style-type: none"> • The family business was given up and parts of the property have been left vacant for many years while others have changed function 	<ul style="list-style-type: none"> • The vacant parts of the 'amārah have an overall critical state of conservation • the parts that remain in use have been adapted for their changed commercial use 	major
Lack of maintenance	<ul style="list-style-type: none"> • Loss of traditional elements and structural integrity 	<ul style="list-style-type: none"> • Traditional windows and doors are broken or lost, - the roof has in parts collapsed and exposes the interior spaces and building elements • The collapse of the neighbouring 'amārah has added to the destabilization of the southern exterior wall 	major
Urban development	<ul style="list-style-type: none"> • The sea to the west of the property has been reclaimed 	<ul style="list-style-type: none"> • The coastal setting and sea access seen during the pearling era has been lost 	major

Summary

Parts of the building are in an advanced stage of decay and in danger of collapsing. The 'amārah, however, retains its important elements and still allows for its appreciation as a prototype of this typology.

Major conservation interventions are required.

Conservation policies for the 'Amārat Ali Rashid Fakhro (I)

Administration (1) and Stakeholder involvement (3)

The 'amārah remains in its current ownership of *Ali Rashid Fakhro's* descendants. *The owners* have entered into an agreement with the Ministry of Culture and Information to restore the property and make it accessible to the public as a commercial space and heritage site. Upon restoration, the Ministry and the property owners will cooperate in renting out the spaces to private businesses and in managing the structure. One traditional store is reserved for the installation of interpretation facilities operated by the Ministry. A traditional coffee shop will remain with the 'amārah, although the location of the coffee shops will shift within the property. One property manager will be employed by the Ministry of Culture and Information and be present, in the exhibition space, during its opening hours.

Statutory protection (2)

'Amārat Ali Rashid Fakhro (I) has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

'Amārat Ali Rashid Fakhro (I) will be entirely accessible to the public, thus displaying the prototype of the 'amārah typology. The 'amārah's past use will be explained through interpretation facilities operated by the Ministry of Culture and Information. An interpretive panel, mounted on the exterior of the building, will provide a short introduction to the history and value of the property. The Ministry of Culture and Information will favour the rental of the 'amārah's commercial space to businesses offering merchandise that is related to the pearling economy and past function of the property. This strategy is favoured as it further supports the overall presentation and interpretation of the locale.

Physical conservation and development (5)

The recommendations for a thorough physical conservation are as follows:

Maintenance

The tenants will provide the daily maintenance of the commercial spaces, while the Ministry of Culture and Information is responsible for the maintenance and the regular inspection of the historic fabric.

Preservation

All remaining historic fabric (architectural structures, windows, doors, decorative details and finishes) will be preserved, preventing further deterioration thereof. To preserve the aesthetics of the traditional character, modern elements (such as aluminium windows and doors, canopies with illuminated signage and other standardised elements) will be dismantled and, where necessary, replaced with a more appropriate equivalent (refer to adaptation).

Restoration

The eastern and northern facades are in need of restoration to prevent further deterioration (stabilizing and securing elements where it is deemed necessary) of the traditional fabric. All traditional fabric and elements (such as doors and windows) that are not beyond repair will be restored by conservation specialists.

The currently added boundary wall of the traditional coffee shop will be removed to regain the historic proportions of the central axis. Some columns of static importance, which are currently incorporated into the additional intervention, will need to be identified and appropriately protected during the demolition works. Afterwards, these items are to be stabilized and restored.

Reconstruction

Elements that are in need of reconstruction are the southern exterior wall and the collapsed parts of the roof structure, the staircase. The reconstruction is based on historic documentation and remaining elements. Wherever possible, any disintegrated authentic elements and fabric will be incorporated into the reconstructions, which shall remain distinguishable from the original surfaces.

Adaptation and new work

The reuse of all commercial units, the relocation of the coffee shop and the creation of a small exhibition space will require the adaptation of spaces and services. The quality of the spaces and the readability of the traditional typology shall, in no case, be compromised. Additionally, the least intrusive measures shall be taken to provide comfort and safety for the property and users. Some of the added aluminium doors and windows may need to be replaced with high-quality products for predominantly aesthetic reasons.

An area programme to be accommodated in the historic building is proposed as follows:

- Commercial units
- Interpretation facilities in one traditional store
- Coffee shop
- Kitchen
- Sanitary facilities
- Storage and service areas

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning system (appropriate systems to be investigated)
- Universal access to focal areas
- Specialised lighting layout with necessary electricity supply and loading
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements
- CCTV surveillance equipment

Research and documentation (6)

The site administration unit will facilitate further research and documentation activities of the history of the *'amārah* and its use during the pearling era.

Cultural traditions (8)

By restoring the building and returning it to its commercial use, the Ministry of Culture and Information will foster the viability of the traditional *sūq* area. In particular, the Ministry supports the continuation of the traditional coffee shop, which has survived in the *'amārah* since the pearling era.

Resource management (10)

The property is maintained in a public-private-partnership between the tenants, the owners of the building and the Ministry of Culture and Information.

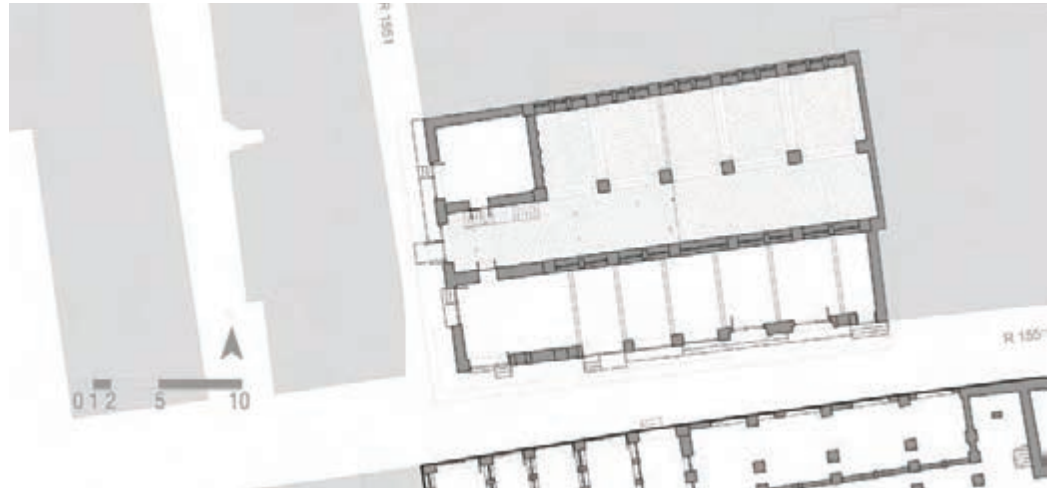
1.3.11 'Amārat Ali Rashid Fakhro (II)

Name of the property	'Amārat Ali Rashid Fakhro (II)
Number of serial property	13 (c)
Street address	Number 1524, Road 1551, Block 215 / Number 1494 to 1506, Road 1551, Block 215
Plot number	11368 / 11371
Central coordinate	50°36'33.912"E 26°15'1.224"N
Plot area	427 m ²

Ali Rashid Fakhro equally owned 'Amārat Ali Rashid Fakhro (II) that is located to the north of 'Amārat Ali Rashid Fakhro (I), across Lane 1551. *Ali Rashid* rented most of the second *'amārah* out to other merchants. The second *'amārah* is the only one still entirely used in its traditional function as storage for food items and as shops. The *'amārah* was built in the Middle Period, as a column and beam structure remains similar to 'Amārat Ali Rashid Fakhro (I). The central clerestory corridor extends over the building's full length from the west to east. The corridor impresses with the height of the traditional ceiling, which rises towards the west in several steps. The building has seven bays of storage area to the north opening of the corridor and seven shops opening up to the *sūq* in the south. Each shop has a single access, with an upper level storage area that is ventilated with a small singular opening to Lane 1551.

The main entrance is located at the western extremity, opening onto Lane 1524. A second entrance, once linked to Lane 1551, has been converted into an additional commercial unit. To the east and the north, the building is attached to the adjacent buildings.

Location map and ground plan of
'Amārat Ali Rashid Fakhro (II)



West-east section (left)
and south-north section (right)



Contribution of 'Amārat Ali Rashid Fakhro (II) to the Outstanding Universal Value of the serial site

'Amārat Ali Rashid Fakhro (II), apart from being the counterpart of 'Amārat Ali Rashid Fakhro (I), contributes to the Outstanding Universal Value of the pearling testimony in its continuity of use and function, maintaining its storehouse and shops since the pearling era. The atmosphere in the storeroom is considered a direct witness of the pearling era.

The property has economic potential, through its commercial use, beyond the heritage value.

Recommended future use as part of the pearling grand narrative

'Amārat Ali Rashid Fakhro (II) must retain a commercial function, including its use as a storeroom.

Present state of conservation of 'Amārat Ali Rashid Fakhro (II)

With its continuous use and only minor adaptations, 'Amārat Ali Rashid Fakhro (II) is the most intact of the traditional storehouses. These adaptations include: the transformation of the southern entrance to host an additional shop; the closing of openings in the ceiling of the clerestory corridor, which traditionally provided ventilation to the space, and the introduction of roller shutters and showcase windows in place of traditional doors and windows in the shops. The application of modern plaster and paint, the installation of illuminated signage and the boarding up of the niches and walls are interventions that currently affect the appearance, but are reversible. The sealing of surfaces with timber boards has had an impact on the traditional coral stone walls and on timber elements.

Like in the case of 'Amara Ali Rashid Fakhro (I), provisory systems for shading the adjacent *sūq* lanes have been anchored onto the building's public facades impacting its overall aesthetics.



left: Column and timber beam



right: Mangrove beam ceiling system



left: Interior wall with tall niches at high level



right: Column and ceiling detail



left: Window in exterior facade



right: Mezzanine storage area

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	<ul style="list-style-type: none"> Modern materials, facilities and services have been added 	<ul style="list-style-type: none"> The covering up of traditional elements with paint and boards 	minor
Inappropriate maintenance	<ul style="list-style-type: none"> Only minimal maintenance is provided partly with the use of inappropriate materials 	<ul style="list-style-type: none"> Ventilation is hampered by the blocking of openings in the ceiling Covering up of traditional elements with paint and boards have had an impact on the structural integrity 	minor

Summary

The building at large is intact and in good condition with only minor additions to cater for its daily use.

Minor conservation interventions are required.

Conservation policies for the 'Amārat Ali Rashid Fakhro (II)

Administration (1) and Stakeholder involvement (3)

'Amārat Ali Rashid Fakhro (II) remains in the ownership of *Ali Rashid's* descendants. The exact ownership of the property remains unclear, as the *'amārah* is in inheritance process. The *Fakhro* family, however, has expressed its interest to restore and jointly manage the building, based on an agreement with the Ministry of Culture and Information. Upon clarification of ownership details, the Ministry of Culture and Information will carry out necessary conservation works. The commercial use of the building will be maintained.

Statutory Protection (2)

'Amārat Ali Rashid Fakhro (II) has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and Presentation (4)

The property will, generally, not be accessible to the public in the near future. Interpretation of the property will be provided within the 'Amārat Ali Rashid Fakhro (I) exhibition. An introductory interpretive panel will, however, be mounted on the exterior facade of 'Amārat Ali Rashid Fakhro (II).

Physical Conservation and Development (5)

The recommendations for conservation activities are as follows:

Maintenance

The tenant of the property will provide daily maintenance while the Ministry of Culture and Information will remain responsible to maintain the historic fabric and regularly inspect its state of conservation.

Preservation

All remaining historic fabric (architectural structures, windows, doors, decorative details and finishes) will be preserved preventing further deterioration thereof. To preserve the aesthetics of the traditional character, modern elements (such as aluminium windows and doors, canopies with illuminated signage and other standardised elements) will be removed. Where necessary replacements will be identified which prevent further damages to the historic structure and suit the facade appearance (refer to adaptation)

Restoration

The public facades and the flat roof structure are in need of minor restoration to secure their structural stability. For this purpose, mortars will need to be added at some locations and the traditional roofing material restored. Other restoration activities involve works on the surface coatings of windows and doors.

Adaptation and new work

The property will retain its long-standing function and therefore only requires minor adaptation to fulfil its required function. The quality of the spaces and the readability of the traditional typology may, in no case, be compromised. Additionally, the least intrusive measures shall be taken to provide comfort and safety for the property and users. In case exterior signage has to be added, this addition shall be designed to fit with the exterior facade and be fixed on a basis of minimal intervention to the historic structure.

An area programme to be accommodated in the historic building is proposed as follows:

- Commercial units

- Storage area

The technical infrastructure of the *'amārah* requires adaptation works to improve the functionality of the building and to ensure its safety.

These include:

- Fire protection plan with appropriate fire fighting equipment
- Exterior and interior signage
- Air-conditioning system (appropriate systems to be investigated)
- Public safety elements
- CCTV surveillance equipment

Research and Documentation (6)

The site administration unit will facilitate further research and documentation of the property's history.

Action Plan 2009-2013 for 'Amārāt Yousif Abdurrahman Fakhro, 'Amārāt Ali Rashid Fakhro (I) and (II), the Visitor and Experience Centre (including 'Amārāt al-Doe)

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	A property manager is administering the property.	July 2012, ongoing	Contract and weekly reports of the property manager (SAU archive), site inspection	Employ a property manager at 'Amārāt Ali Rashid Fakhro (I) for the four historic <i>'amārāt</i>	SAU	-	Operational budget - MoCI
Administration (1)	The state of conservation of 'Amārāt Yousif Abdurrahman Fakhro and 'Amārāt Ali Rashid Fakhro (I) and (II) is assessed regularly.	Biannually, from January 2013	State of conservation reports (SAU archive)	Inspect the state of conservation of 'Amārāt Yousif Abdurrahman Fakhro and 'Amārāt Ali Rashid Fakhro (I) and (II) biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	'Amārāt Yousif Abdurrahman Fakhro and 'Amārāt Ali Rashid Fakhro (I) and (II) have been designated as national monuments.	January 2010	Official government gazette	Register 'Amārāt Yousif Abdurrahman Fakhro and 'Amārāt Ali Rashid Fakhro (I) and (II) with the Survey and Land Registration Bureau	MoCI	-	-
Stakeholder Involvement (3)	A contact point for visitors and the local community is operational at the Visitor Centre.	By December 2012, ongoing	Visitor feedback documentation (SAU archive), site inspection	Put an employee of the SAU in charge of the contact point and announce the contact details in the media	SAU	-	Operational budget - MoCI

SITE ANALYSIS AND ACTION PLANS (2009-13)

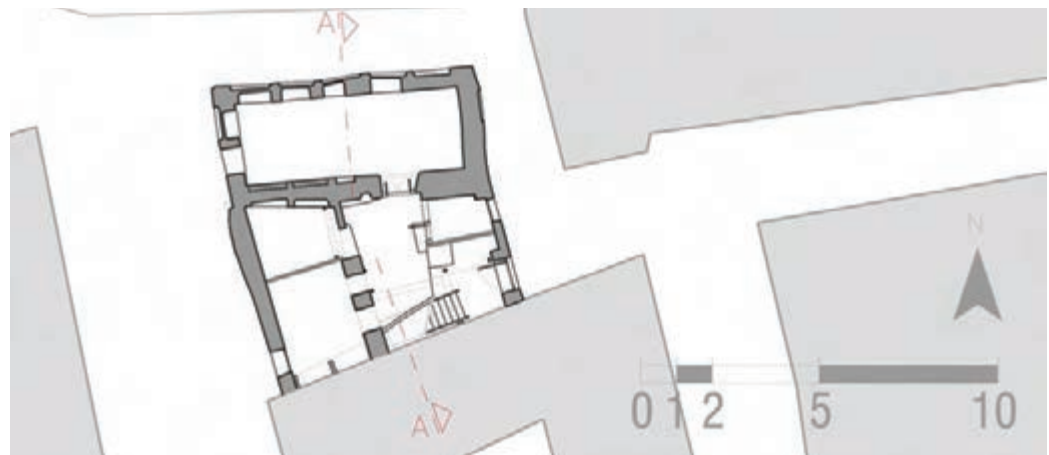
Interpretation and Presentation (4)	Interpretative installations have been installed at 'Amārat Yousif Abdurrahman Fakhro.	By December 2012	Planning documentation (SAU archive), site inspection	Commission the design and implementation of interpretive installations at 'Amārat Yousif Abdurrahman Fakhro	SAU	Property owners	Special project budget/ private sponsor
Interpretation and Presentation (4)	An exhibition is open to public at 'Amārat Ali Rashid Fakhro (I).	By October 2012, ongoing	Visitor records (SAU archive), site inspection	Provide and operate interpretation facilities at 'Amārat Ali Rashid Fakhro (I)	SAU	Property owners	Special project budget/ operational budget - MoCI
Interpretation and Presentation (4)	Interpretive panels are installed at 'Amārat Ali Rashid Fakhro (II).	By October 2012	Planning documentation (SAU archive), site inspection	Commission the design and implementation of interpretive installations at 'Amārat Ali Rashid Fakhro (II)	SAU	Property owners	Special project budget / private sponsor
Interpretation and Presentation (4)	A multimedia centre including (children facilities) is operational at the Visitor Centre.	December 2012, ongoing	Visitor records (SAU archive), site inspection	Provide and operate a multimedia centre	SAU, consultants	-	Special project budget / private sponsor/ operational budget - MoCI
Physical Conservation and Development (5)	'Amārat Yousif Abdurrahman Fakhro is conserved as a ruin and adapted to host visitor and commercial facilities in some parts.	By October 2012	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for 'Amārat Yousif Abdurrahman Fakhro	SAU, consultants	SUAH and SURPD, property owners	Special project budget
Physical Conservation and Development (5)	'Amārat Ali Rashid Fakhro (I) is restored and adapted to host commercial and visitor facilities.	By October 2012	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for 'Amārat Ali Rashid Fakhro (I)	SAU, consultants	SUAH and SURPD, property owners, tenants	Special project budget
Physical Conservation and Development (5)	'Amārat Ali Rashid Fakhro (II) is restored and adapted to continue in commercial use.	By October 2012	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for 'Amārat Ali Rashid Fakhro (I)	SAU, consultants	SUAH and SURPD, property owners, tenants	Special project budget

1.3.12 Nūkhidhah House

Name of the property	Nūkhidhah House
Number of serial property	14
Street address	Number 365, Lane 920, Block 209
Plot number	12820
Central coordinate	50°36'39.42"E 26°15'16.488"N
Plot area	56 m ²
Total floor area	110 m ²
Courtyard area	0 m ² (the courtyard is completely built up)

The property which is referred to as the Nūkhidhah House, was in fact the *majlis* of the *nūkhidhah* (captain) *Jassim Ajaj*. His family house was located across one of the narrow residential lanes, which surround the *majlis* on three sides. It is the *majlis* that is of importance for the pearling grand narrative, as it was here where the *nūkhidhah* would have received his frequent guests. These guests were often his boat crew members or, for example, new divers who would negotiate the advance paid upon employment. The harsh conditions that the crew experienced while at sea facilitated the building of strong bonds among them. The crew would therefore meet in the *nūkhidhah's majlis* all year round. The *majlis* was built separate from the family house to not only ensure the privacy of the *nūkhidhah's* family, but also that of the crewmembers.

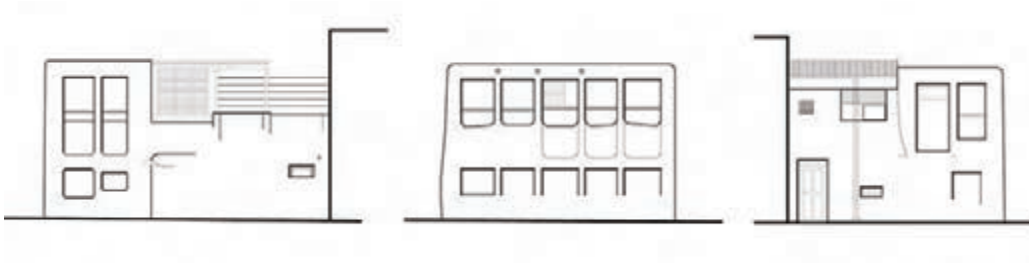
The property is located in the north-eastern part of historic Muharraq. Built approximately in 1920, the Nūkhidhah House dates back to the Middle Period. The small, modest, two-storey structure has an organic appearance, due to thick uneven walls, and is rationally structured by homogenously distributed niches on the three exposed facades. The facade progressively grows from a solid base with shallow niches with hardly any openings to the more articulated upper facade. Here, the deep niches include windows and *buwwādġir*.



Location map and ground plan of the Nūkhidhah House

The building is accessible from an entrance on the eastern facade leading to a courtyard which gives access to a room in the north. This northern room may have served as a winter *majlis* or as a guest room for divers arriving from abroad before the *Ghūṣ al-Kabīr*. In addition to a service room, for preparing coffee and food, the courtyard today hosts a sanitary facility. A staircase from the courtyard leads to the roof terrace and the *majlis*. The roof terrace and *majlis* were climatically pleasant gathering spaces, particularly in the summer months.

The property remains in the ownership of the Ajaj, family.



Eastern, northern and western elevations of the Nukhidhah House

Contribution of the Nukhidhah House to the Outstanding Universal Value of the serial site

The Nukhidhah House's contribution to the Outstanding Universal Value of the serial site is its unique reference to the business environment of the *nukhidhah*. It is an important place where the bonds amongst the crew members were formed or maintained during the off-season when no pearl diving was done. The architectural features, especially the first floor *majlis*, reflect this important function. The attributes reflecting the Outstanding Universal Value are the architectural design of the property and the possibility to continue its use as a guest room under the traditional family's ownership. The Ajaj family, furthermore, takes stewardship of promoting the building's preservation and presentation.

Recommended future use as part of the pearling grand narrative

The property shall be presented and interpreted as an architectural record for the *nukhidhah* profession, highlighting the building's important role for the pearling crew.

Present state of conservation

While the traditional character of the property's exterior is well preserved, the readability of the original structure in the interior is reduced by temporary additions. The property's exterior and interior walls have been replastered and painted. The interior niches have been boarded up and the traditional ceilings have been covered by lowered ceilings. Timber boards, metal windows and steel posts were introduced by the latest tenants and reduce the overall aesthetics of the place. The *buwwadgīr* were sealed, reducing ventilation and increasing the dampness caused by leaking water taps and pipes. The current condition of the electrical cables increases the



left: A *bādgīr* boarded up in the exterior facade

middle: *Bādgīr*

right: The eastern facade

potential fire threat. The property additionally shows signs of wear and tear due to the lack of maintenance and high strain caused by its latest tenants. Restoration works are scheduled and will be aimed at reversing most of the negative impacts listed.

Factors affecting the property

Factor	Cause by	Impact observed	Severity of impact
Modernisation	Modern material, facilities and services	<ul style="list-style-type: none"> • Impact on spatial proportioning and overall aesthetics • Covering of traditional elements with paint and boards 	medium
Change in function	<ul style="list-style-type: none"> • The property is no longer inhabited by its traditional owners 	<ul style="list-style-type: none"> • Pressure on standard services and wear and tear • Temporary additions impact the overall aesthetics 	minor
Inadequate maintenance	<ul style="list-style-type: none"> • Latest tenants lacked knowledge and resources for the maintenance of the historic fabric 	<ul style="list-style-type: none"> • Spaces were overcrowded and ill-maintained, causing a fire hazard • The roof terrace shows signs of structural decay • Timber elements show signs of termite infestations 	medium

Summary

Although the building is slowly progressing towards a stage of disrepair, mainly due to neglect and previous misuse, the temporary additions are reversible. The original structure and its modest traditional architectural elements - such as traditional ceilings, *buwwādgir* and windows - are well preserved. The structural soundness of the building, the readability of the space and architecture and the overall aesthetics can be easily reinstated.

Conservation policies for the Nūkhidhah House

Administration (1)

The property remains in the ownership of the Ajaj family. The family has rented the house, on a long-term basis, to the Sheikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research. Both the family and the centre are cooperating with the Ministry of Culture and Information by supporting the presentation and interpretation of the property to the public, within the context of the pearling grand narrative.

Statutory protection (2)

The Nūkhidhah House has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Nūkhidhah House will host public exhibition facilities that will offer visitors the opportunity to experience the *majlis* of a *nūkhidhah* (captain). This experience will, in particular, be enriched with *nūkhidhah Jassim Ajaj's* life story. The former guest room, located on the first floor could be equipped to allow for its functional continuation.

An exterior interpretive panel will give an introduction of the property.

Physical conservation and development (5)

In order to align this property to its anticipated function and ensure its preservation, the following conservation activities are required:

Maintenance

The Nūkhidhah House will become an exhibition facility. The facility's management and daily maintenance will be undertaken by the Sheih Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research. The Ministry of Culture and Information remains responsible for the long-term maintenance of the historic fabric and the regular inspection of its state of conservation.

Preservation

During the forthcoming preservation project, the remaining historic rooms and their decorative elements shall be preserved. This includes surface cleaning and stabilization of historic plasters and – where necessary – the structural stabilization of the historic walls. After a complete cleaning of the property, careful inspection of the wooden elements will determine whether any termite or fungal activities are observed which then need to be treated accordingly.

Restoration

The entire structure, on the ground and first floors, also requires restoration measures. The emphasis of the restoration work is on the property's structural soundness and the salt efflorescence on the walls. The small courtyard to the Nūkhidhah House will be restored to offer a clear interpretation of the original spatial experience. Traditional ceilings and the roof terrace floor will be stabilized, where necessary, and covered with coatings that permit humidity penetration and prevent termite infestation. To reduce the partial ground water penetration in the historic walls, non-permeable wall paints will be removed and replaced by plaster based finishes. In combination with re-introduction of traditional water permeable floor finishes (such as mud, sand and shells) it is hoped the salt crystallisation on wall surfaces can be reduced considerably. A local craftsman will be requested to restore the deteriorated *buwwādġir* and timber elements, in particular missing elements of the ceiling.

Adaptation and new work

Minor elements require rehabilitation such as: the collapsed roof terrace wall that has been replaced with a contemporary cement block wall; insertion of inappropriate windows and doors; and large-scale additions of rooms built in inappropriate material, which reduces the overall character of the property.

The interior and exterior of the Nūkhidhah House require the adaptation of the technical infrastructure to assure the building's and users' safety. In order to provide visitor facilities, interior design interventions will be carried out.

The proposed schedule of area program is as follows:

- Reception space
- Exhibition spaces
- Sanitary facilities
- Service and storage areas
- Seating room

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning systems (appropriate systems to be investigated)
- Universal access to focal areas
- Public safety elements
- Specialised lighting layout with the necessary electricity supply and loading
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation activities for the architectural and socio-cultural history of the property, the Ajaj family, and the activities related to the *nūkhidhah's* profession and pearling crew.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Resource management (10)

The Sheikh Ebrahim Bin Mohammed Al Khalifa Centre for Culture and Research, in a public private partnership, contributes to the property's restoration that is carried out by the Ministry of Culture and Information. Additionally, the centre will make the property available, free of charge, for the interpretation facilities addressed to the general public, which will be operated by the site administration unit.

Action plan for the Nūkhidhah House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1) and Stakeholder Involvement (3)	The property is leased from the property owners by a private foundation on a long term basis and available for use by the MoCI.	March 2010	Agreement contracts between MoCI and private foundation (SAU archive)	Negotiate the conditions for future use of the Nūkhidhah House by the MoCI	MoCI, property owner, tenant (private foundation)	-	-
Administration (1)	The state of conservation of the Nūkhidhah House is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of the Nūkhidhah House biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	The Nūkhidhah House has been designated as a national monument.	January 2010	Official government gazette	Register the Nūkhidhah House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	An exhibition in the Nukhidha House is open to the public.	By March 2011	Visitor records (SAU archive), site inspection	Provide and operate interpretation facilities for the Nukhidha House	SAU	Property owner, tenant (private foundation)	Special project budget/ operational budget - MoCI
Physical Conservation and Development (5)	The Nūkhidhah House is conserved.	By December 2010	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for the Nūkhidhah House	SAU, consultants	SUAH, SURPD	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data related to the property are gathered.	Ongoing	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Nūkhidhah House and the <i>Ajaj</i> family profession	SAU, consultants	Ajaj family, local community	Special project budget/ operational budget - MoCI

MoCI – Ministry of Culture and Information

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

SUAH – Subcommittee for Urban and Architectural Heritage

SURPD – Subcommittee for Urban Regulations and Project Design

1.3.13 Siyadi House

Name of the property	Siyadi House
Number of serial property	15 (a)
Street address	Number 203, Lane 914, Block 209
Plot number	Not registered
Central coordinate	50°36'46.404"E 26°15'19.332"N
Plot area	739 m ²
Total floor area	452 m ²
Courtyard area (if applicable)	488 m ² (courtyard and back of house service areas)

The Siyadi House is one of three buildings that together form the fifteenth and final property, which constitutes the culmination of the urban properties and completion of the pearling grand narrative. The property is an ensemble of a residence, *majlis* and mosque of one of the leading *tājir al-lū'ū'* families (grand merchants trading with pearls). In contrast to the *ṭawwāsh* described above, the grand merchant would have had his own fleet of boats and would have exported the yield from this fleet to foreign traders, mostly to India and Europe, at the end of the pearling season. Together, the three extraordinary buildings that are only separated by a small pedestrian lane, dominate their surroundings.

The Siyadi House is the family residence built by *Ahmad bin Isa Siyadi*, an extremely wealthy grand merchant, during the 1930s and with a workforce that included members of his pearling crew. The two-storey residence organically evolved around a central courtyard and currently remains inhabited by the Siyadi family.

The Siyadi House is an example of Late Period architecture which, however, borrows heavily from the Middle



Location map and ground plan of Siyadi House

Period designs. The exterior facade rests on a solid plinth-like ground floor that tapers wider to the bottom, punctured only by the decorated entrance door. The upper portion of the facade is structured with recessed niches and *buwwādgīr* and is decorated with arched trefoil plaster panels; the main decorative motif of the facade.

Southern elevation



Section A



The internal facades of the courtyard have a unique character and together culminate in overall harmony. Like the exterior facade, the ground level appears heavy with small windows, which puncture the solidity of the wall. The upper floors are articulated by a void-over solid composition and various decorative elements, such as a *mashrabiyyah* and stained glass fanlights. The property was built in the last phase of the pearling era, during the global economic crisis that impacted the pearling economy. The building reflects the influence of this economic downturn through its somewhat lower quality workmanship and simpler execution of architectural details. These architectural features are further noticeable when compared to earlier buildings. Nevertheless, the property is one of the most impressive and beautiful residences in Muharraq.

Contribution of Siyadi House to the Outstanding Universal Value of the serial site

Siyadi House contributes to the Outstanding Universal Value of the pearling testimony by completing the unique grand merchant's ensemble of residence, *majlis* and mosque, which, from a southern viewpoint, present an impressive silhouette that appears unchanged since the pearling era. The residence - in size, building technique and decoration - represents the wealth of a *tājir al-lū'lu'* that persisted during the last years of the pearling era. In those years, members of the pearling crew were increasingly involved in the construction activities. These individuals aspired to improve their income, which was affected by the decreased market value of pearls. The building's workmanship testifies to this phenomenon. The continued ownership of Siyadi House by the Siyadi family is considered as an additive value.

The beautiful Siyadi ensemble is an important landmark in the neighbourhood, and the presence of the Siyadis in their residence contributes to the association of the *farj* to their family. The fact that the house remains inhabited by its traditional owners also testifies to the value the Siyadis attribute to their family's legacy and heritage.

Recommended future use as part of the pearling grand narrative

The building shall be preserved and presented as part of the Siyadi property. The house's current use, however, is given priority over the accessibility the internal spaces for visitors. Access to the house's premises might be provided at a future date, if the owners wish to do so.

Present state of conservation

Siyadi House has been maintained in its original form and character, although, the building evolved as the family grew within the last years of the pearling era and after the collapse thereof. The architectural fabric and the traditional character of the building are generally intact. Being inhabited, the house is well maintained but, unfortunately, some inappropriate materials have been used in earlier maintenance processes. The traditional

ceilings have sometimes been lowered, with electrical fittings set within and conduits running across the walls, which impact the overall aesthetic qualities of the house. The exterior walls were covered with cement-based plaster and contemporary paint. A room and a sanitary facility have been added on the north-eastern corner of the first floor. Another bathroom has been incorporated in the south-western corner, which blends into the character of the facade. The sewage and water pipes that branch down the outer wall, although preserving the traditional fabric, reduce the overall aesthetics. The walls on the ground floor have been punctuated for the installation of air-conditioning units. *Buwwādgir* have been closed up to retain the artificial climate. The main entrance door has been replaced with a contemporary door. Modern screening elements have been introduced to increase the privacy of the courtyard. Most of the courtyard's floor surface has been covered with tiles. Some windows have been replaced with new ones, which impact the character of the traditional facades. The introduction of electricity and public lighting has seen the incorporation of both these elements to the exterior facades. In recent decades, the number of inhabitants has decreased, leaving some rooms vacant. These empty rooms have since been used for temporary storage and sometimes lack regular ventilation.

The building's setting has preserved the most important assets, Siyadi Mosque and *Majlis*, which are separated from the residence by a narrow picturesque lane. However, empty plots to the south and north of the property remain in use as informal parking spaces.



left: First floor *liwān*



middle: Pyramid capping on roof



right: Exterior facade decorative detail



Upper part of the northern elevation



left: First floor exterior spaces



middle: Decorative brackets of the ground floor *Liwān*



right: Window detail courtyard facade

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Modernisation	<ul style="list-style-type: none"> • Air conditioning units, sanitary facilities and electrical installations have been added 	<ul style="list-style-type: none"> • The exterior facade is scattered with air condition units and <i>buwwādgir</i> have been blocked • Steel windows and modern doors replaced traditional ones • Traditional ceilings and wall decorations have been covered 	medium
Inadequate maintenance	<ul style="list-style-type: none"> • Use of inappropriate materials 	<ul style="list-style-type: none"> • Cement based plaster harm parts of the walls 	minor
Social change	<ul style="list-style-type: none"> • Younger generations increasingly choose alternative housing over the traditional residence 	<ul style="list-style-type: none"> • The building is inhabited by the senior Siyadi generation 	minor
Urban development	<ul style="list-style-type: none"> • Demolition of some surrounding buildings and the informal use of these empty plots as parking space 	<ul style="list-style-type: none"> • The urban fabric lost its original density 	medium

Summary

The building is in good condition and has suffered only minor insensitive additions and alterations, which are reversible.

Minor conservation intervention is required.

Conservation policies for Siyadi House

Administration (1) and Stakeholder involvement (3)

The property remains in ownership of the Siyadi family who is cooperating with the site administration unit in the overall conservation and presentation of the property. Siyadi House will remain inhabited by the traditional owners and will only be occasionally accessible to the public, upon coordination with the owners.

Statutory protection (2)

Siyadi House has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

As long as the building remains inhabited, a state that the Ministry of Culture and Information does not consider detrimental to the property's value, the building's interior will hardly be accessible to public. However, the house's impressive public facades will continue to illustratively display the wealth and role of the *tijār al-lū'lū'*. An interpretive panel in the pedestrian lane will provide the required background information for understand the building's value and contribution to the pearling testimony. In order to improve the overall presentation of the building, improvements to the adjacent empty plots will be required.

Physical conservation and development (5)

Physical conservation measures in the near future will concentrate on the public facades. On the other hand,

interventions in the inhabited interior spaces will be restricted to minimal conservation measures as required for maintenance.

Maintenance

Siyadi House remains a private residence. The house's general maintenance will be provided by its inhabitants. However, the Ministry of Culture and Information is responsible for maintaining the architectural fabric and for regularly inspecting its state of conservation.

Preservation

Due to the continual use of the property as a house, the need for major preservation activities has been reduced to a minimum. Traditional elements are in a good state of conservation. Continuous preservation activities will focus on retaining traditional elements such as: timber windows, shutters, screens, ceilings, doors and coping details, plaster details and retaining the functionality of the *buwwādgīr*.

Furthermore, the importance of controlling urban developments in the direct vicinity of this property, in order to preserve the traditional skyline, shall be highlighted. The Ministry of Culture and Information will, for this purpose, strictly monitor and control developments on neighbouring plots.

Restoration

Restoration is kept to a minimum. The exterior facades are the only aspect that requires restoration. The restoration work should replace harmful cement based plasters, with traditional types, and better integrate, or screen, modern facilities and services (pipes, air conditioning units etc.). To further assist the reduction of the partial ground water penetration in the historic walls, the re-introduction of traditional water permeable floor finishes (such as mud, sand and shells) in the courtyard and the neighbouring informal parking is hoped to considerably reduce the salt crystallisation on ground floor wall surfaces.

Adaptation and new work

In order to reduce hazards to the historic fabric, the Ministry of Culture and Information will, when necessary, improve the technical infrastructure - electrical cabling, water supply and discharge systems - of the entire building and provide appropriate fire fighting installations.

Research and Documentation (6)

The Ministry of Culture and Information will facilitate further research and documentation activities of the architectural and socio-cultural history of the property, the Siyadi family and the role of the *tijār al-lū'ū'* in the pearling economy and society.

Action plan for Siyadi House

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	An agreement has been reached with the property owner to include Siyadi House in the overall presentation of Siyadi property while it remains inaccessible to public.	March 2011	Agreement contract (SAU archive)	Negotiate the conditions for future cooperation in conserving Siyadi House	MoCI, property owners	-	-
Administration (1)	The state of conservation of Siyadi House is assessed regularly.	Biannually, from November 2011	State of conservation reports (SAU archive)	Inspect the state of conservation of Siyadi House biannually	SAU	SUAH	Operational budget - MoCI

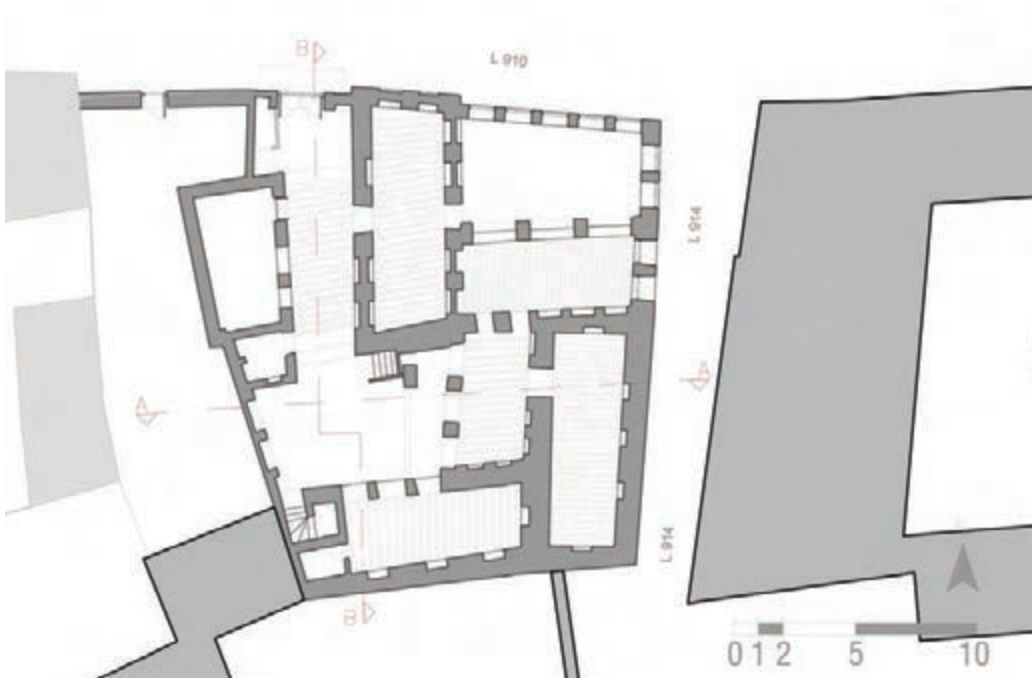
SITE ANALYSIS AND ACTION PLANS (2009-13)

Statutory Protection (2)	Siyadi House has been designated as a national monument.	January 2010	Official government gazette	Register Siyadi House with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	Siyadi House has been fitted with exterior interpretive panels.	July 2011	Planning documentation (SAU archive), site inspection	Design and install interpretive panels	SAU, consultants	-	Special project budget
Physical Conservation and Development (5)	Siyadi House is restored.	By April 2011	Conservation completion report (property archive) and site inspection.	Implementation of the Siyadi House conservation plan	SAU, specialist consultants	SUAH, SURPD	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data related to the property are gathered.	March 2011	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of Siyadi House and Siyadi family profession	SAU, consultants	Local community, Siyadi family	Special project budget/ operational budget - MoCI
MoCI – Ministry of Culture and Information SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUA – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design							

1.3.14 Siyadi Majlis

Name of the property	Siyadi Majlis
Number of serial property	15 (b)
Street address	Number 79, Lane 910, Block 209
Plot number	Not registered
Central coordinate	50°36'45.396"E 26°15'19.296"N
Plot area	336 m ²
Total floor area	460 m ²
Courtyard area (if applicable)	56 m ² (2 courtyards)

The Siyadi *Majlis* is Bahrain's only four-storey building of the pearling era and the most extroverted property in Muharraq. Clustered between the Siyadi House to the east and the Siyadi Mosque to the south, the highly decorated towering structure of the *Majlis* is the focal point within the current landscape. The complex building evolved throughout many decades and stands witness to different architectural styles. The rooms on the ground floor, mezzanine, first and second floors are interconnected at various levels by several staircases.



Location map and ground plan of Siyadi Majlis

The oldest parts of the property were built, as one of the earliest stone houses in Muharraq, in 1850 by *Ahmad bin Jassim Siyadi*. Only in 1921 were the guest rooms, which dominate the building today, built. The ground-floor apartments, organised around a visitor courtyard and a women's courtyard, with a *liwān* each, are expression of the Transitional Period. The upper levels are characteristic of the Middle Period, with extravagant interior and exterior ornamentation; executed in sophistication by local builders and with woodwork imported from Shiraz. Emphasis is laid on the main *majlis*, which is of double height, the *mukhtaṣar* (a private *majlis* extension), and the women's *majlis* or viewing room above the *mukhtaṣar*.

The main *majlis* is highly decorated with vertically aligned incised plaster panels, fine horizontal friezes and a colourful timber panelled ceiling.

The walls and ceiling of the neighbouring *mukhtaṣar*, the completely screened private negotiation room of *tājir al-lū'lū' Ahmad bin Jassim Siyadi*, are covered with mirrors. A safe is incorporated into one of the *mukhtaṣar's* walls.

The viewing room, is accessible via a small spiral staircase and allowed the women to follow reunions, hidden behind delicately perforated plaster panels.

Lastly, the building's main entrance door, within the northern ground floor facade, shall be highlighted, particularly for its heavily decorated Middle Period timber canopy. Above the door are two wooden wings and a fanlight.



left: Northern elevation

right: Section A

Contribution of Siyadi Majlis to the Outstanding Universal Value of the serial site

The contribution of Siyadi *Majlis* to the Outstanding Universal Value of the serial site is interlinked with the Siyadi House and Mosque, which together testify to the position of the *tājir al-lū'ū'*, his social and economic power, and cultural influence.

The *majlis* and *mukhtaṣar* are at the centre of the Outstanding Universal Value contributed by Siyadi *Majlis*. It is the last remaining grand pearl merchant's *majlis* and an architecturally unique example thereof. The attributes best reflecting the Outstanding Universal Value are the architectural interior and exterior decorations of the *majlis*, both of wood and gypsum work, and the mirrors of the *mukhtaṣar*. The complex organisation of space, expressed particularly in the inconsistent ground plan, stands witness to the evolving wealth of this pearl merchant's family. The building evolved from its very early stone construction to one of Bahrain's most exceptional buildings. The owner's wealth is not only readable in the richness of decoration and design, but also in the fine workmanship of details.

Although owned by the Ministry of Culture and Information, the Siyadi *Majlis* is inseparably linked to the Siyadi grand pearl merchants and is seen and valued as a prominent heritage site throughout Bahrain. The building is, furthermore, well accessible from a major traffic artery in Muharraq and centrally located in vicinity to the historic palaces of the Amir's family.

Recommended future use as part of the pearling grand narrative

The building's history, prominence and scale, as well as the current public ownership, encourage the installation of a pearl museum in Siyadi *Majlis*. Interpretation facilities will present the role of a *tājir al-lū'ū'*, together with the final product of the pearling economy: fine pearls and jewellery within the splendid architectural setting.

Present state of conservation

The Siyadi *Majlis* was vacant and, presumably, in a state of neglect when it was purchased, in 1974, by the Ministry of Municipalities and Agriculture. Subsequent questionable conservation efforts were later suspended and the ownership was transferred to the Ministry of Information (today named Ministry of Culture and Information). The initial conservation efforts, which unfortunately lacked documentation, led to the introduction of inauthentic elements and materials – and caused the reduction of parts of the authentic fabric. A reinforced concrete staircase attached to the historic facade was introduced in the courtyard. T-section steel angles, which have been inserted into the corners of humid and salt rich coral stone walls, show signs of rust and decay. An additional concrete stairway encroaches on the courtyard and cuts through the traditional timber beam construction that supports the first floor *majlis*. This intrusive addition is now being reversed within the framework of a larger conservation project.

Some architectural details, such as the gypsum panels and the timber-panelled ceilings in the various rooms, have been restored in an insensitive manner. However, the intervention ensured the survival of the structure, which still stands empty, and most of its architectural details. Particularly the elements of the main *majlis*, *mukhtaṣar* and the viewing room, remain untouched and are well preserved.

left: Exterior facade of the *Majlis*

middle left: Interior view of the *Majlis*

middle right: Corner moulding

right: Spiral staircase to the *mukhtaṣar*





left: Traditional door from the courtyard space

middle: Main entrance door

right: Gypsum panels of the courtyard facade



The *mukhtaşar*

Factors affecting the property

Factor	Caused by	Impact observed	Severity of impact
Inadequate maintenance	<ul style="list-style-type: none"> Partly inadequate restoration after 1974 	<ul style="list-style-type: none"> Loss of some original fabric and elements Impact on the remaining fabric in appearance and structural soundness 	medium
Change in function and ownership	<ul style="list-style-type: none"> The traditional owners left and sold the building 	<ul style="list-style-type: none"> The building was vacant for two decades and not sufficiently used and maintained 	minor
Urban development	<ul style="list-style-type: none"> Demolition of some surrounding buildings and informal use of those plots as parking space Introduction of a vehicular road to the north 	<ul style="list-style-type: none"> The urban fabric lost its original density 	medium

Summary

In spite of the long vacancy and the impact of early conservation efforts, the building and its extraordinary architectural elements are generally well preserved. Interventions are required to remove harmful additions and alterations, and to stabilize the building.

Medium conservation interventions are required.

Conservation policies for Siyadi Majlis

Administration (1)

The property remains in ownership of Ministry of Culture and Information, which is facilitating the restoration of the building and the installation of a public pearl museum. Visitor facilities, such as interpretation and refreshment services, will be operated by the Ministry and its partners in the private sector. A property manager will be stationed at the property, during opening hours, along with at least 3 other employees as front line personnel.

Statutory protection (2)

The Siyadi *Majlis* has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The Ministry of Culture and Information will facilitate the display of historic pearls and pearl jewellery within the pearl museum of Siyadi *Majlis*. These will be displayed alongside the history of the building, the role of the *tājir al-lū'lu'* within the pearling economy and society, and, in particular, the Siyadi family's history. The Ministry of Culture and Information considers operating a café in the lower parts of the building, while the upper parts, with their richly decorated architecture, constitute a major attraction in their own right.

Similar to all other properties, the building's history and value will also be introduced on an exterior interpretive panel. The provision of parking spaces in the neighbourhood and a connection to the site's planned shuttle service are foreseen for this property.

Physical conservation and development (5)

To align this property to its anticipated function, and to preserve the building's traditional character and structural soundness, the following conservation activities are required:

Maintenance

The maintenance of the pearl museum and other services offered in Siyadi *Majlis* will be facilitated by the Ministry of Culture and Information, in cooperation with possible partners. The Ministry of Culture and Information is responsible for maintaining the architectural fabric and the regular inspection of its state of conservation.

Preservation

During the forthcoming conservation activities, the architectural structure including all traditional elements (e.g. windows and doors) and their decorative ornaments shall be preserved. These activities include the surface cleaning and stabilization of historic plasters and, where necessary, the structural stabilization of the historic walls. After the complete cleaning of the property, careful inspection of the wooden elements will determine whether any termite or fungal activities are observed which then may need to be treated accordingly.

Restoration

Thorough restoration of the exterior and interior facades is required for the property's presentation. Conservation specialists will be required to restore: the highly decorative gypsum panels throughout the building; finely carved timber window screens and shutters; as well as the stained glass in the arched fanlights of several

windows and doors. Based on the expected loading brought on by the visitor numbers, wooden elements in the first floor and staircases, assuring safe and secure access and usage of the public facilities, may have to be replaced.

Reconstruction

The building requires some corrective measures. These measures are particularly needed where conservation, after 1974, has compromised the traditional features of the architectural elements and details. Any reconstruction required (predominantly for the plaster surfaces in the ground floor southern side) will be based on the ample-historic documentation available.

Adaptation and new work

The planned visitor facilities in *Siyadi Majlis* require the adaptation of spaces and the provision of additional services. However, the additions and adaptations shall be made as unobtrusive as possible, both visually and structurally.

The following schedule of area programme is suggested:

- Reception space
- Exhibition spaces
- Merchandise sales area
- Café
- Tea kitchen
- Sanitary facilities
- Service and storage areas
- Administrative office

Technical infrastructure/installations that will need to be upgraded:

- Air-conditioning systems (appropriate systems to be investigated)
- Universal access to focal areas where possible
- Specialised lighting layout with the necessary electricity supply and loading
- Audio and video system (to assist the exhibition)
- Fire protection plan with appropriate fire fighting equipment and exit routes
- Exterior and interior signage
- Public safety elements
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will further facilitate the research and documentation activities of the architectural and socio-cultural history of the building, the *Siyadi* family, and the role of the *tājir al-lū'lu'* during the pearling era.

Education and awareness raising (7)

The interpretation facilities of the pearl museum will highlight the intercultural nature of the pearl trade and will thus raise awareness for the shared heritage of the pearling testimony. The museum also contributes to the educational mission by including, for example, scientific information on the various pearl types.

Tourism and promotion (9)

Upon the restoration and installation of the pearl museum *Siyadi Majlis* will constitute a tourist attraction, of first rank, for both Muharraq and Bahrain.

SITE ANALYSIS AND ACTION PLANS (2009-13)

Action plan for Siyadi Majles

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	1 property manager and 3 additional staff members have been appointed.	June 2011	Contract (SAU archive)	Employ property manager	MoCI	SUAH	Operational budget - MoCI
Administration (1)	The state of conservation of Siyadi <i>Majlis</i> is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Siyadi <i>Majlis</i> biannually	SAU	-	Operational budget - MoCI
Statutory Protection (2)	The Siyadi <i>Majlis</i> has been designated as a national monument.	January 2010	Official government gazette	Register Siyadi <i>Majlis</i> with the Survey and Land Registration Bureau	MoCI	-	-
Interpretation and Presentation (4)	A pearl museum is operational in Siyadi <i>Majlis</i> .	By June 2011, ongoing	Visitor records (onsite), site inspection	Provide and operate interpretation facilities (pearl museum) in Siyadi <i>Majlis</i> .	SAU	-	Special project budget/ operational budget – MoCI/ private sponsor
Physical Conservation and Development (5)	Siyadi <i>Majlis</i> is restored and adapted for public use.	By March 2011	Conservation completion report (SAU archive), site inspection	Implement the conservation plan for Siyadi <i>Majlis</i>	SAU, consultants	SUAH and SURPD	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data related to the property are gathered.	July 2010	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of the Siyadi <i>Majlis</i> and Siyadi family profession	SAU, consultants	Local community, Siyadi family	Special project budget/ operational budget - MoCI
Tourism and Promotion (9)	Visitor facilities (catering, informational material and services) are operational in Siyadi <i>Majlis</i> .	By June 2011, ongoing	Visitor records (onsite), site inspection	Commission the design and implementation of visitor facilities and appoint private sector operator	SAU	private sector operator	Special project budget/ operational budget – MoCI/ private sponsor

MoCI – Ministry of Culture and Information

SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information

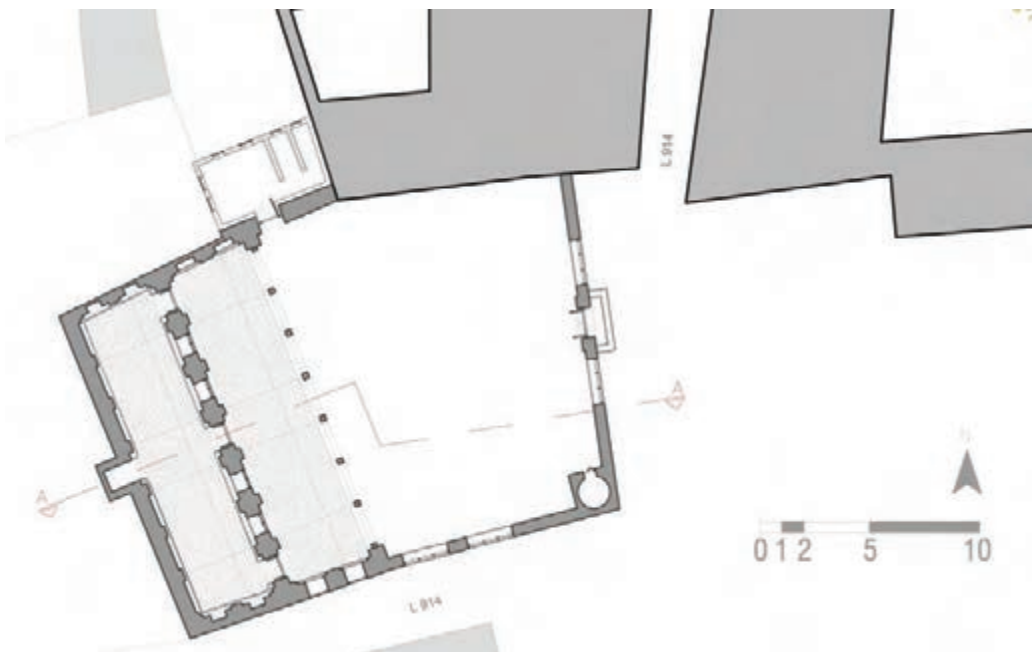
SUAH – Subcommittee for Urban and Architectural Heritage

SURPD – Subcommittee for Urban Regulations and Project Design

1.3.15 Siyadi Mosque

Name of the property	Siyadi Mosque
Number of serial property	15 (c)
Street address	Lane 914, Block 209
Plot number	13060083
Central coordinate	50°36'45.072"E 26°15'18.612"N
Plot area	396 m ²
Total floor area	184 m ²
Courtyard area (if applicable)	240 m ²

Siyadi Mosque was donated to the community by the Siyadi family's two first *tijār al-lū'lū'*, *Iṣa* and *Jassim bin Yousif Siyadi*. The original structure was built in 1865. For unknown reasons, the mosque was completely rebuilt in 1910. It is, however, understood to be an exact replica of the original Transitional Period architectural structure. The building is the oldest preserved mosque in Muharraq and the first to be donated by a pearl merchant.



Location map and ground floor of Siyadi Mosque

A two metre high boundary wall, perforated by timber lattice inserts, encompasses the modest complex that is comprised of: a tiled courtyard; an enclosed *haram* or prayer hall to the eastern edge of the plot; an intermediate *liwān* hall; a simple conical shaped minaret with an internal staircase in the southeast; and separate ablution facilities to the north. The entrance gate within the boundary wall opens onto an open space to the west of the plot.

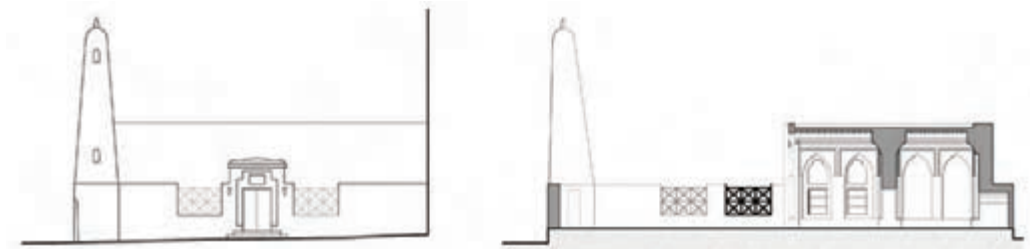
The modesty of the mosque's external features beautifully contrasts with the sumptuous architecture of the adjacent Siyadi *Majlis*. The delicately carved timber columns and beams of the *liwān* draw the visitors, entering the courtyard, to the decorated interior spaces.

Up to today the mosque remains in use by the community for regular daily prayers.

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left: Western facade
with entrance gate

right: Section A



Contribution of Siyadi Mosque to the Outstanding Universal Value of the serial site

Siyadi Mosque contributes to the site's Outstanding Universal Value as the earliest and best preserved expression of the integrated Islamic religious values into the pearling economy and vice versa. Built from the merchant's income, from the trade with pearls, and donated to the local community, the mosque was named after the Siyadi founders. The setting amongst the other Siyadi buildings illustrates the family's strong link to the religious endowment. The continuation of use, function and name, are thus attributes of its value, while others are the simple architectural features and design highlighted through the contrast with the elaborate facades of the adjacent Siyadi *Majlis*.

Recommended future use as part of the pearling grand narrative

The mosque shall retain its function for the benefit of the community and be opened to visitors, with the exception of prayer times.

Present state of conservation

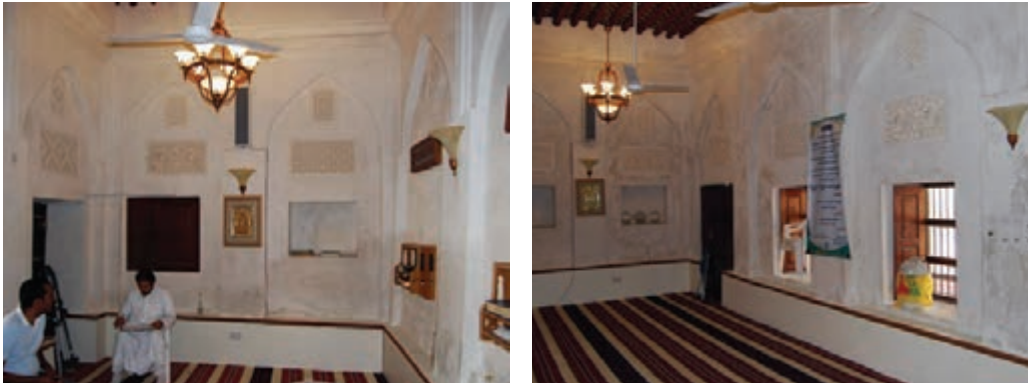
Over the years the Siyadi Mosque has been regularly maintained and is therefore in a good condition. Adaptation required for the continuous religious use, however, has led to modifications of the traditional fabric. The contemporary plaster and paint render applied to the external and internal facades, the electrical and audio appliances mounted onto walls and ceilings, and the electrical conduits running across the internal facade and its traditional decorative elements, illustrate the contemporary requirements of prayer performance. A central air-conditioning unit has been well integrated with the design of the interior. Functional elements such as lamps modify the traditional character. Plastic curtains have been fixed in a reversible manner to the timber frame openings of the *liwān* (under supervision of the Sector for Culture and National Heritage) in order to ensure effective air-conditioning for a larger space required to accommodate the growing number of worshippers. The ablution facilities, just north of the entrance gate, have been moved from their original position. The tiles that cover the surface of the courtyard seem in contrast to the traditional finishes and aesthetic qualities of the mosque. Parts of the boundary wall.

left: The minaret

middle: Timber portico to the *liwān*

right: Interior view of the *liwān*





left and right: Transitional Period decoartion in the interior

Factors affecting the property

Factor	Cause by	Impact observed	Severity of impact
Inadequate maintenance	<ul style="list-style-type: none"> • A few incidences of inappropriate use of construction material occurred in the building 	<ul style="list-style-type: none"> • The building has been rendered with cement based plaster and contemporary paint • Modern services such as electricity, audio systems, and air-conditioning systems have not been ideally integrated • The courtyard has been inappropriately tiled • Concrete blocks have been used with the boundary wall 	medium
Urban development	<ul style="list-style-type: none"> • Demolition of some surrounding buildings and the informal use of those plots as parking space 	<ul style="list-style-type: none"> • The urban fabric lost its original density 	medium

Summary

In general, the historic fabric and traditional atmosphere have been well preserved, while continuous maintenance and minor modernisations have upheld the functionality of the mosque.

Minor conservation interventions are required.

Conservation policies for Siyadi Mosque

Administration (1)

The property is in the ownership of a religious *waqf* and administered by the Ministry of Justice and Islamic Affairs. The latter cooperates with the Ministry of Culture and Information for the maintenance of the historic building and for providing access to visitors.

Statutory protection (2)

The Siyadi Mosque has been designated a national monument under the Decree Law No. (11) of 1995 Concerning the Protection of Antiquities.

Interpretation and presentation (4)

The mosque will be made accessible to visitors, outside the prayer times, while retaining its role within the local

SITE ANALYSIS AND ACTION PLANS (2009-13)

community. An interpretive panel on the exterior and, possibly, further discrete interpretation facilities in the courtyard will explain the mosque's history and the role of religious values within the pearling society.

Physical conservation and development (5)

The following interventions are required to improve the state of conservation of the building:

Maintenance

Siyadi Mosque will be maintained as an operational facility by the Ministry of Justice and Islamic Affairs. This undertaking is in cooperation with the Ministry of Culture and Information, which is the authority responsible for the historic building's maintenance.

Preservation

Due to the continual use of the property as a mosque, the need for major preservation activities has been reduced to a minimum. Traditional elements are in a good state of conservation. Continuous preservation activities will focus on retaining traditional elements such as timber windows, shutters, ceilings, doors, and plaster details.

Restoration

The exterior and interior facades of the mosque require the removal of inappropriate impermeable renders and the re-application of traditional plaster material. This restoration work will also incorporate the insertion of the electrical conduits and other items that reduce the traditional character of the mosque.

Adaptation

The technical infrastructure should be better integrated from a functional and aesthetic point of view, with priority given to the building and users' safety. These include the following:

- Fire protection plan with appropriate fire fighting equipment
- Exterior and interior signage
- Electrical fittings and conduits
- Air-conditioning systems (appropriate systems to be investigated)
- CCTV surveillance equipment

Research and documentation (6)

The Ministry of Culture and Information will further facilitate the research and documentation activities of the architectural, socio-historic and religious based history of the property, and the role of the mosque and that of its spiritual leader's within pearling era.

Action plan for Siyadi Mosque

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The state of conservation of Siyadi Mosque is assessed regularly.	Biannually, from July 2012	State of conservation reports (SAU archive)	Inspect the state of conservation of Siyadi Mosque biannually	SAU	SUAH	Operational budget - MoCI
Statutory Protection (2)	Siyadi Mosque has been designated as a national monument.	January 2010	Official government gazette	Register Siyadi Mosque with the Survey and Land Registration Bureau	MoCI	-	-

Interpretation and Presentation (4)	Siyadi Mosque has been fitted with interpretive panels and is accessible to the public, except during prayer times.	July 2011	Planning documentation (SAU archive), site inspection	Design and install interpretive panels and negotiate accessibility with the MoJIA	SAU, consultants	MoJIA	Special project budget
Physical Conservation and Development (5)	Siyadi Mosque is restored.	May 2010 – April 2011	Conservation completion report (property archive), site inspection	Implementation of the Siyadi Mosque conservation plan	SAU, specialist consultants	MoJIA, SUAH, SURPD	Special project budget
Research and Documentation (6)	Site and theme-specific anthropological and historical data gathered.	Ongoing	Anthropological and historical report (SAU archive)	Facilitate historical and anthropological research of Siyadi Mosque and its function during the pearling era	SAU, consultants	Local community, Siyadi family	Special project budget/ operational budget - MoCI
<p>MoCI – Ministry of Culture and Information MoJIA – Ministry of Justice and Islamic Affairs SAU – Site Administration Unit, Sector for Culture and National Heritage, Ministry of Culture and Information SUAH – Subcommittee for Urban and Architectural Heritage SURPD – Subcommittee for Urban Regulations and Project Design</p>							

1.4 INTERVENTIONS IN THE URBAN BUFFER ZONE

Urban buffer zone of the pearling testimony	
Total area	33.7 hectares
Primary protection zone area	7.6 hectares
Secondary protection zone area	25.03 hectares
Number of primary protection elements	61
Number of secondary protection elements	241
Estimated number of inhabitants*	7,025
Number of plots	1,405
<p>* Due to the complex demographics of Muharraq resulting from a high percentage of informal renting of residential spaces there is a lack of reliable data on inhabitant numbers. The number of inhabitants was therefore estimated based on the assumption of an average of approximately five residents per plot.</p>	

Based on the assessment of the potentials and shortcomings of the urban buffer zone described in *Chapter 1, Site Description, Objectives and Assessments*, counteractive measures have been developed as described in *Chapter 2, Management Strategies, Strategy 5 Physical Conservation and Development*. This section outlines the policy foreseen as part of the first implementation phase to be undertaken until 2013. The measures on the one hand include the development

• see also *Chapter 1, Site Description, Objectives and Assessments and Chapter 2, Management Strategies, Strategy 5 Physical Conservation and Development*

of urban legislation to steer the long-term development of the urban buffer zone; on the other hand they also involve urban upgrading to be carried out on a shorter term, in accordance with an urban master plan.

Policy for the urban buffer zone

Administration (1)

All interventions in the urban buffer zone and the development of urban legislation are coordinated by the Subcommittee for Urban Regulations and Project Design. Within this subcommittee, the Site Administration Unit of the Ministry of Culture and Information cooperates with other concerned government bodies to plan and implement all measures to be carried out in the coming years within the buffer zone and to protect the urban heritage assets.

In 2009, a technical group has also been created for the development of urban regulations and design guidelines in 2009 and 2010. The group is composed of members of the site administration unit and the Town and Village Planning Directorate (Ministry of Municipalities Affairs and Agriculture). The collaboration started in August 2009 and legal framework has been agreed upon. The contents of the regulations are in the process of being finalised.

The Subcommittee for Urban Regulations and Project Design is currently responsible for reviewing requests for building and demolition permits in the urban buffer zone. All decisions are currently taken within the subcommittee and correspondence with the concerned stakeholders from the local community (real estate owners, developers and architects) mostly takes place via the site administration unit. After the adoption of the urban regulations and design guidelines, this task will be transferred to an employee of the Ministry of Culture and Information stationed within the Permit Section of Muharraq Municipality. This post will be created in 2010 and constitute the main contact point for real estate owners of the urban buffer zone, and their developers and architects. The task will include identifying the requests for permit concerning real estate properties that fall under the authority of the Subcommittee for Urban Regulations and Project Design, notifying the subcommittee and the Site Administration Unit thereof, and ensuring that the regulations and guidelines developed for new constructions are followed. For permit requests that involve alterations to primary and secondary protection elements, the Subcommittee for Urban and Architectural Heritage is also involved in the process. Members of the Site Administration Unit coordinate between the two subcommittees for this purpose.

Statutory protection (2)

Statutory protection in the urban buffer zone involves regulations for new construction, public space design guidelines and the designation of historic buildings as primary and secondary protection elements.

Primary and secondary protection elements

The Ministry of Culture and Information has assessed all historic buildings in the urban buffer zone and the designation of historic buildings of a certain value as primary and secondary protection elements has been finalised. However, for all urban works to be carried out in the coming years, further assessment of these buildings will be carried out and several may be designated as national monuments.

In order to steer future conservation measures on primary and secondary protection elements, the Ministry of Culture and Information will facilitate the development of conservation guidelines. These guidelines will be developed in the form of a technical document by the Subcommittee of Urban and Architectural Heritage and will be based on the experience gained during the conservation works carried out at the architectural properties in 2010 and 2011. The conservation guidelines are meant to provide assistance to architects and engineers for future works.



A Secondary Protection Element

• see Chapter 2, Management Strategies, Strategy 1 Administrative Setup and Procedures

• see Chapter 2, Management Strategies, Strategy 2 Statutory Heritage Protection

• see Statutory Protection (2) below for more details

Regulations for new construction

The regulations, which will be issued as bylaws, aim to ensure that new constructions respect the conservation and presentation requirements in the vicinity of the urban properties. Controlling future development of the urban buffer zone is aimed at enhancing the urban form and stipulations are based on a respect for the local traditional style while restricting mimicry of traditional elements.

While regulations are currently being developed for the urban buffer zone of the pearling testimony, the Ministry of Municipalities Affairs and Agriculture intends to apply them, in the long term, to the wider setting of Muharra's historic settlement – a prospect strongly supported by the Ministry of Culture and Information.

Each bylaw is complemented by an implementation plan that includes graphic specifications such as indication of the limits of the protected area and built-to lines. The latter specify the limits that demarcate parts of the plot which must be built up or enclosed.

The implementation plan also includes a set of architectural design guidelines and public space design guidelines for the realisation of the urban vision. The guidelines constitute a reference manual for design assistance for architects and developers.

The content of the implementation plans and its design guidelines is being developed by the technical group in close cooperation with an urban designer who will also develop the urban master plan.

a. Primary protection zone regulations

The first bylaw is foreseen to be issued as ministerial decree (Ministry of Municipalities Affairs and Agriculture) in May 2010. It will regulate new constructions in the immediate vicinity of the urban pearling testimony, i.e. the **primary protection zones**.

The contents of the bylaw will include three sets of regulations: one for each building type as defined by the existing zoning scheme (Row Housing B): *buildings not located on commercial streets, buildings located on commercial streets, and buildings in commercial areas*.

Type 1

The first type or stipulations for *buildings not located on commercial streets* concerns the residential areas where the traditional, organically evolved urban fabric is most intact, and the level of privacy is highest. Most plots in these areas are smaller than 250m². The small plot sizes and street pattern are to be preserved. As the width of streets is rarely above 5m, pedestrian circulation is predominant and given priority in the regulations. Designs respect the traditional scale and are pedestrian friendly.

The bylaw will cover the following aspects:

- Use of the buildings for residential purpose, for providing public services, and for communal and cultural use, if compatible with the design regulations
- Reduction of floor area ratio (currently 300%) with the aim of encouraging the construction of terraces, courtyards and articulation of separate volumes rather than a compact building mass
- Lowering the current maximum permissible height (13m) in residential areas, as the average height of existing historic buildings in Muharra, mostly consisting of two storeys, is 10.3m
- Preventing the creation of setbacks and preservation of the street pattern by defining a limit up to which the built mass must extend (built-to-line). Currently, setbacks are allowed in Muharra and have a detrimental effect on the historic street pattern.
- Building of boundary walls equal to the height of a full storey (at least 3m) in order to preserve the character of the

• see Chapter 2, Management Strategies, Strategy 2 Statutory Heritage Protection

• see Development and implementation of the urban master plan, below

• see Chapter 2, Management Strategies, Strategy 2 Statutory Heritage Protection

• refer to Chapter 1, Site Description, Objectives and Assessment, 5.1.2.2 Urban legislation for the existing zoning scheme in Muharra



A typical two storey building in the historic fabric of the primary protection zone

confined streetscape and privacy of residential spaces

- Building permission to be granted to only those projections (currently allowed at 4.5 m above street level with 1.2m extrusion) which are primarily light structures, such as extruding, enclosed balconies, which exist as a feature in the traditional streetscape.

- Improving the overall appearance of the facades by prohibiting use of exposed pipes and technical equipment. These will have to be incorporated in the building design and be appropriately screened. Display of advertisement signs will be forbidden, and installations and objects on roof tops, visible from the street, will also not be permitted.

Type 2

The second type of stipulations for *buildings located on commercial streets* concerns commercial roads which are of a more public character and where suitable commercial uses are permitted. These streets are wider, building heights are usually higher than in the residential areas and vehicular circulation is predominant.

Here, the stipulations vary from those for type 1 as follows:

- Commercial uses and advertisement in line with the design guidelines will be allowed
- As the traditional, smaller scale of the built mass is less predominant along the commercial streets, building heights (currently a maximum of 14.5m) will be restricted to maximum 13m, but setbacks will be prohibited.
- The creation of bigger plots than in the residential areas will be allowed for the provision of parking spaces.



Sūq al-Qaisariyyah (primary protection element)

Type 3

The third type of stipulations for *buildings in commercial areas* mostly concern construction in the traditional *sūq*. Here the street scale is similar to the one in residential areas and most of the specifications for the first type apply. The main difference is that suitable commercial uses are permitted including advertisement in line with corresponding design guidelines.

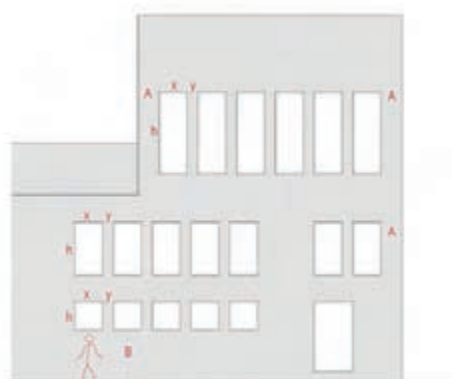
Implementation plan for the primary protection zone

The implementation plan defines the boundaries of the zone in which the regulations and guidelines apply. The plan indicates the built-to line. It also indicates the location and outline of the registered monuments as well as other historic buildings of interest, the primary protection elements. Architectural design and public space design guidelines form a part of the implementation plan (*see below*).

Architectural design guidelines for the primary protection zone

For the residential areas of the primary protection zones, design guidelines control the articulation of the public facades.

The general design concept encourages sobriety, a simple architectural language, emphasis on verticality in the facade composition, and less transparency on the



Schematic study of facade proportions and composition

ground floor level for more privacy. Only minimal decorations on public facades are allowed so that new design does not detract from the prominence of the historic monument. For this purpose, mimicry of the traditional architectural style is also prohibited.

However, the design guidelines favour traditional architectural language in terms of proportions, scales, and massing and promote unity of the streetscape. The guidelines also encourage the creation of traditional spaces like courtyards, terraces and *livān*.

The guidelines propose models of facade compositions that will serve as samples. Principles such as emphasis on verticality in a grid-like facade, fewer openings on the ground floor level, and use of traditional proportions, sizes and positioning of openings are applied.

Requirements for the design of facade elements like parapets and balconies are defined. Sample palettes for colours and textures are provided. Solutions for screening visually disturbing elements, such as air conditioning units, waste disposal facilities, gas cylinders etc., are also proposed.

The design specifications for buildings located on commercial roads and in commercial areas differ in some respects from those in residential areas as the former also include provisions for proportions and sizes of shop entrances, and guidelines for designing shop signage.

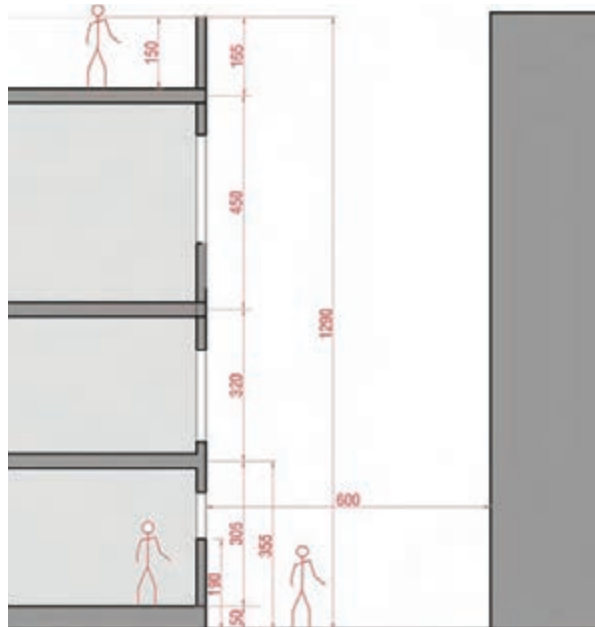
Public space design guidelines

The set of regulations will include public space design guidelines which are developed in close cooperation with the appointed urban planner in charge of designing the urban master plan for the buffer zone of the pearling testimony. These are foreseen to be completed in autumn 2010.

The guidelines include specifications for treating pavements, street furniture, waste disposal facilities and their enclosures, public lighting, shading elements, signage, playgrounds, etc.

b. Secondary protection zone regulations

The second bylaw will regulate new constructions in the wider setting of the pearling testimony's urban buffer zone, the secondary protection zone and will be issued by 2011. The process for adopting the bylaw for the secondary protection zone is lengthier than in the case of the first bylaw, as it requires an amendment of Resolution n° 28 of the year 2009 regarding the specification of the regulatory stipulations for the development in different areas in the Kingdom of Bahrain. This amendment consists of the addition of a clause to Article 21 concerning special stipulations for heritage areas which will then allow for stipulations which guide changes to the current zoning scheme. This requires a cabinet resolution, a process which will be started upon completion of the content of these regulations in summer 2010.



Schematic study of heights and floor levels of construction in the Row Housing B area



Historic building in the secondary protection zone

The second bylaw will follow the first one in structure. Contents, however, will vary slightly in order to provide more flexibility. The same basic concepts of sobriety and simplicity apply, but these stipulations allow more freedom of creativity. The bylaw also encompasses an implementation plan with architectural and public space design guidelines.

The architectural design guidelines for the secondary protection zone will be applied even before the adoption of the corresponding bylaw and implementation plan, based on the inter-ministerial agreement between the Ministry of Culture and Information and the Ministry of Municipalities Affairs and Agriculture. This is possible because the Resolution n° 28 of the year 2009 regarding the specification of the regulatory stipulations for the development in different areas in the Kingdom already provides the legal basis for design guidelines which do not constitute an amendment to the current zoning.

Stakeholder involvement (3)

The Subcommittee for Urban Regulations and Project Design involves all authorities that have a stake in the urban works. Furthermore, both the subcommittee and the technical group involve local or international consultants in the planning and implementation process. This includes consultations with local architects and engineers for the development of the urban regulations and guidelines as well as the urban master plan.

The local community is an important partner and target group of the urban interventions. Therefore, all planned works, including the urban master plan and the urban legislation, will be presented to the residents and real estate owners of the urban buffer zone in design workshops. The first series of workshops is planned to be held before summer 2010. Thus, the community also has the opportunity to take part in the creation of the master plan for the area. The site administration will facilitate regular workshops to accompany the upgrading work.

Upon adoption of the urban regulations, the technical group will invite local architects and engineers to presentations in which the stipulations will be explained. The first such presentation is planned for June 2010.

Interpretation and presentation (4)

The Ministry of Culture and Information has given high importance to the contextualisation of the pearling testimony within its setting for interpretation and presentation purposes. Most measures concerning the urban buffer zone, therefore, are of relevance for the presentation of the heritage site. While the urban legislation will improve the urban form and overall appearance of the buffer zone in the long term, as described below, the implementation of the urban master plan will improve it on a shorter term basis through targeted interventions. The upgrading works include improvement of the functionality of the heritage site by creating or improving visitor facilities.

For the purpose of interpretation, the public space design in the primary protection zones will also focus on emphasising the presence of the nominated properties, for example, through scenic lighting. Moreover, significant elements of the pearling testimony, particularly in the primary protection zones, will be highlighted throughout the urban buffer zone through spatial interventions, design elements or signboards. These elements include spaces, buildings, or locations related to the pearling era, such as the former geography of the island or traces of traditional practices related to pearling that are no longer in use.

Physical conservation and development (5)

The Ministry of Culture and Information is facilitating the development of the urban master plan that will guide the physical and functional upgrading works until 2013, and beyond, by appointing an urban designer for this task. The first implementation phase will last until 2013 and focus on the most urgent interventions that are required to make the urban components/setting of the pearling testimony accessible for visitors. Thorough upgrading measures with a stronger emphasis on design will be focused on the primary protection zones which will be targeted as successive pilot areas until the end of 2013. The preparation of the master plan with input from urban consultants started in summer 2008. The Ministry of Culture and Information will, in early 2010, launch a public design competition for the selection of the urban designer, who will prepare the final master plan. The urban designer will be a member of the Subcommittee for Urban Regulations and Project Design, as the development of the master plan is administered by the subcommittee.

• see *Physical conservation and development (5)*, below

Development and implementation of the urban master plan

Upon appointment of the urban designer, the **analysis** of the urban buffer zone will be carried further and a more detailed and location specific assessment of issues such as parking spaces required for visitors and residents, walking distances to parking spaces, traffic circulation, current and required land uses, availability and functionality of public services, etc. will be carried out. However, in some cases, the identification of concerned real estate owners with whom the site administration has to coordinate will pose a challenge as many buildings in historic Muharraq are rented out.

An important tool for the further analysis and assessment will be the urban design workshops, in which the local community can provide direct input and feedback. The analysis will, moreover, include the case to case assessment of the urban fabric in order to define suitable solutions.

The final design proposal, for two pilot areas, will be approved by the Subcommittee for Urban Regulations and Project Design in early summer 2010. Where necessary, negotiations with real estate owners affected by the planned interventions will be commenced at that point and **implementation** of first measures is planned in summer 2010.

The interventions in public spaces, such as improvement of road infrastructure, will be carried out by the Ministry of Works in coordination with the Electricity and Water Authority. The Ministry of Culture and Information will directly hire contractors for other works, such as improving the appearance of facades of private buildings.

The responsibility for **maintenance** of the provided facilities and upgraded spaces is equally divided: the Ministry of Works is responsible for maintaining the public spaces and infrastructure; the Ministry of Culture and Information will facilitate the upkeep of all other facilities, such as interpretive signage, etc.

However, the local community is an important partner in contributing to the maintenance of private real estate. Where necessary, the Ministry of Culture and Information will provide technical and financial assistance, particularly for the maintenance of primary and secondary protection elements.

Waste disposal and removal currently needs to be improved in most parts of the urban buffer zone. Therefore, waste disposal facilities will be tackled within the urban master plan and improved with its implementation. In parallel, the site administration is coordinating with the Muharraq Municipality to increase the waste removal service from one time a day to two times. Where necessary the Ministry of Culture and Information will make provisions for the cleaning of outdoor spaces within the heritage site.



Preliminary assessment of traffic circulation, existing and potential parking spaces



Assessment of existing religious buildings in the urban buffer zone

Content of the urban master plan

The urban master plan aims at aesthetic and functional upgrading of the streetscape and open public spaces, as well as at installing all required interpretation and presentation facilities in the urban buffer zone of the pearling testimony.

The urban master plan will indicate the **primary and secondary protection elements** that require conservation works. The Ministry of Culture and Information will cooperate with the owners of these historic buildings and provide technical and financial assistance where necessary. The site administration will support the use of vacant buildings for public uses that will benefit the local community and contribute to a better visitor experience to the heritage site, apart from assisting in finding appropriate tenants or sponsors.

The improvement of the appearance of **building facades** of both historic and contemporary buildings involves plastering and/or repainting of public facades; repositioning or screening of exposed technical infrastructure such as water pipes, electrical and telephone cables, air conditioning units, water and electric meters, waste disposal facilities, lighting, satellite dishes, antennas, and other equipment installed on facades or roof tops. If necessary and feasible, the upgrading may in some cases also concern the modification of architectural elements, such as openings in a facade, textures, materials and colours.

Public services and facilities that are to be improved in some areas include suitable street paving; public lighting; street furniture, shading and vegetation in line with the overall design concept; technical infrastructure such as electricity and water supply, drainage and canalisation; pedestrian crossings; traffic signage; public space such as parks and playgrounds; parking spaces; and facilities for the physically challenged.

Interpretation and presentation facilities

to be provided by the Ministry of Culture and Information include directory signage throughout the heritage site, regulatory signage where necessary, and stations for the shuttle services.

Upon completion of the conservation works of the first implementation phase of the management system for the pearling testimony in 2013, signage directing people towards the heritage site will be provided on the national level. In coordination with the Roads Directorate, Ministry of Works, the site administration will provide a suitable signage system along the main highways of the Kingdom of Bahrain, and in Muharraq, following the recommendations described in *Chapter 2, Strategy 5, Physical Conservation and Development*.

Another important aspect to be tackled by the urban master plan is the modification of the **circulation scheme** in the urban buffer zone. Pedestrian zones will be increased, as most of the urban buffer zone that connects the properties is to be converted into pedestrian area. Access for motorised vehicles will be regulated accordingly. In some cases, this will require the redirection of traffic movement and provision of additional parking spaces in the areas which lie along the modified traffic circulation route.

The master plan will also include recommendations for **land use**. This will



• see Chapter 2, *Management Strategies, Strategy 5 Physical Conservation and Development*

Exposed technical infrastructure in need of improvement

guide the future management of the urban area in terms of providing permits on a case to case basis. The urban master plan will also indicate where new construction on empty plots is recommended as well as preferred building heights and volumetric arrangement.

Research and documentation (6)

As described above, the preparation of the urban master plan involves further research into various aspects of the urban buffer zone, which will involve additional documentation of all primary and secondary protection elements by the end of 2013. The site administration unit will seek cooperation of local universities for this purpose.

For further information on planned research in the urban buffer zone please refer to *Chapter 2, Management Strategies, Strategy 6 Research and Documentation*.

Education and awareness raising (7)

The above-mentioned public urban design workshops and public presentations are an important tool for awareness raising of and coordination with the local community. Another important tool is a regular newsletter in which the site administration unit will keep local community abreast with the state of planning and announce upcoming works. The newsletter will be distributed every two months unless otherwise required within the urban buffer zone.

Cultural traditions (8)

The principles and objectives set out in the urban conservation and development strategy promote the continuation and revival of the main characteristics of the local urban form. The urban master plan and the urban legislation are rooted in these principles and thus promote the local distinctiveness and traditional expressions of the urban space. Furthermore, the urban master plan will foster the creation of public spaces that can be used for cultural and community events, including the tradition of public *majālis* (gathering spaces).

Tourism and promotion (9)

All the described urban interventions are of relevance to the heritage site as a tourist attraction. Certain measures, such as shuttle services, explicitly address the needs of tourists visiting the heritage site. The reuse of historic buildings as guest houses, cafes and cultural institutions will be done in a manner that gives priority to the needs of the local community but also adds to the visitor infrastructure of Muharraḡ.

Resource management (10)

While the Ministry of Works has allocated separate budgets for different urban interventions, the contributions from other stakeholders are equally significant. These contributions consist for example in human and financial resources; the provision of equipment; or making real estate available for particular developments. They come from all stakeholders and members of the Subcommittee for Urban Regulations and Project Design and from the local community, including real estate owners and the private economy.



Parked car in a narrow lane



Rehabilitated streetscape in the urban buffer zone

• see Chapter 2, Strategy 6 Research and Documentation

• see Chapter 2, Management Strategies, Strategy 5 Physical Conservation and Development

• see Chapter 2, Management Strategies, Strategy 10 Resource Management

SITE ANALYSIS AND ACTION PLANS (2009-13)

Action Plan for the urban buffer zone

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Administration (1)	The SURPD is established and administers the urban interventions.	June 2009, ongoing	Meeting minutes (SAU archive)	Cooperation between all concerned government bodies	MoCI, MoMAA, MoW, Muharraq Governorate, EWA	Local community, advisors, urban designer (consultant to SAU)	-
Administration (1)	A technical group is established within the SURPD and develops specific legislation for the buffer zone.	October 2009 – January 2011	Work progress reports (SAU archive)	The technical group is developing urban regulations and design guidelines for the buffer zone	SAU, MoMAA (Village and Town Planning Directorate)	Urban designer (consultant to SAU)	-
Administration (1)	An employee of the MoCI is reviewing and approving building and demolition permit requests concerning the buffer zone.	April 2010 appointed, ongoing	Contract (SAU archive), Permit Section of Muharraq Municipality	Train and employ (50%) a person at the Permit Section of Muharraq Municipality	MoCI, Muharraq Municipality	-	Special project budget/ operational budget - MoCI
Administration (1)	An urban designer is appointed to develop an urban master plan for the buffer zone.	May 2010	Contract (SAU archive)	Launch a public design competition and appoint an urban designer	SAU	SURPD	
Administration (1)	The waste removal service in the buffer zone is improved.	January 2011, ongoing	Agreement between MoCI and Muharraq Municipality (SAU archive), site inspection	Muharraq Municipality increases the waste removal service in the buffer zone	Muharraq Municipality	MoCI	MoMAA
Statutory Protection (2)	The buffer zone is designated a Special Protection Zone.	August 2009	Ministerial correspondence between MoCI and MoMAA (SAU archive)	Establish a Special Protection Zone for the urban buffer zone of the pearling testimony	MoMAA	MoCI	-
Statutory Protection (2)	Architectural design guidelines for new construction are applied in the urban buffer zone.	March 2010	Design guidelines manual (Muharraq one-stop shop)	Issue architectural design guidelines to be applied in the urban buffer zone by Permit Section of Muharraq Municipality	MoMAA (Village and Town Planning Directorate)	-	-

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Statutory Protection (2)	Regulations for new construction in the primary protection zone are adopted.	May 2010	Official government gazette	Adopt a bylaw (Ministerial Decree) to resolution no.28 of 2009 for new construction in the primary protection zone	MoMAA	-	-
Statutory Protection (2)	A clause is added to Article 21 of resolution no.28 of 2009 for the protection of heritage areas.	August 2010	Official government gazette	Decide the amendment of resolution no.28 of the year 2009 for the protection of heritage areas	Cabinet	-	-
Statutory Protection (2)	Regulations for new construction in the secondary protection zone are adopted.	September 2010	Official government gazette	Adopt a bylaw (Ministerial Decree) to resolution no.28 of 2009 for new construction in the primary protection zone	MoMAA	-	-
Statutory Protection (2)	Public space design guidelines for construction in the public realm are applied in the urban buffer zone.	October 2010	Design guidelines manual (Muharrag one-stop shop)	Issue architectural design guidelines to be applied in the urban buffer zone by Permit Section of Muharrag Municipality	MoMAA (Village and Town Planning Directorate)	-	-
Stakeholder Involvement (3)	The local community is involved in the design and implementation process of the urban upgrading works	Ca. every six months, from July 2010	Workshop reports (SAU archive)	Hold public presentations and workshops to introduce the urban master plan and to gather feedback on its concept, design and implementation	SAU	Gatekeepers of the local community, local real estate owners, businesses and residents	Special project budget/ operational budget - MoCI
Interpretation and Presentation (4)	The testimony of the pearling economy is signposted throughout the urban buffer zone.	By December 2012	Documentation of planning and implementation (SAU archive), site inspection	Commission the development and implementation of a signage system	MoCI, contractor	SURPD, MoW	Special project budget/ shared resources of partners
Interpretation and Presentation (4)	The testimony of the pearling economy is signposted throughout Bahrain.	By December 2013	Documentation of planning and implementation (SAU archive), site inspection	Commission the development and implementation of a signage system	MoCI, contractor	SURPD, MoW	Special project budget/ shared resources of partners

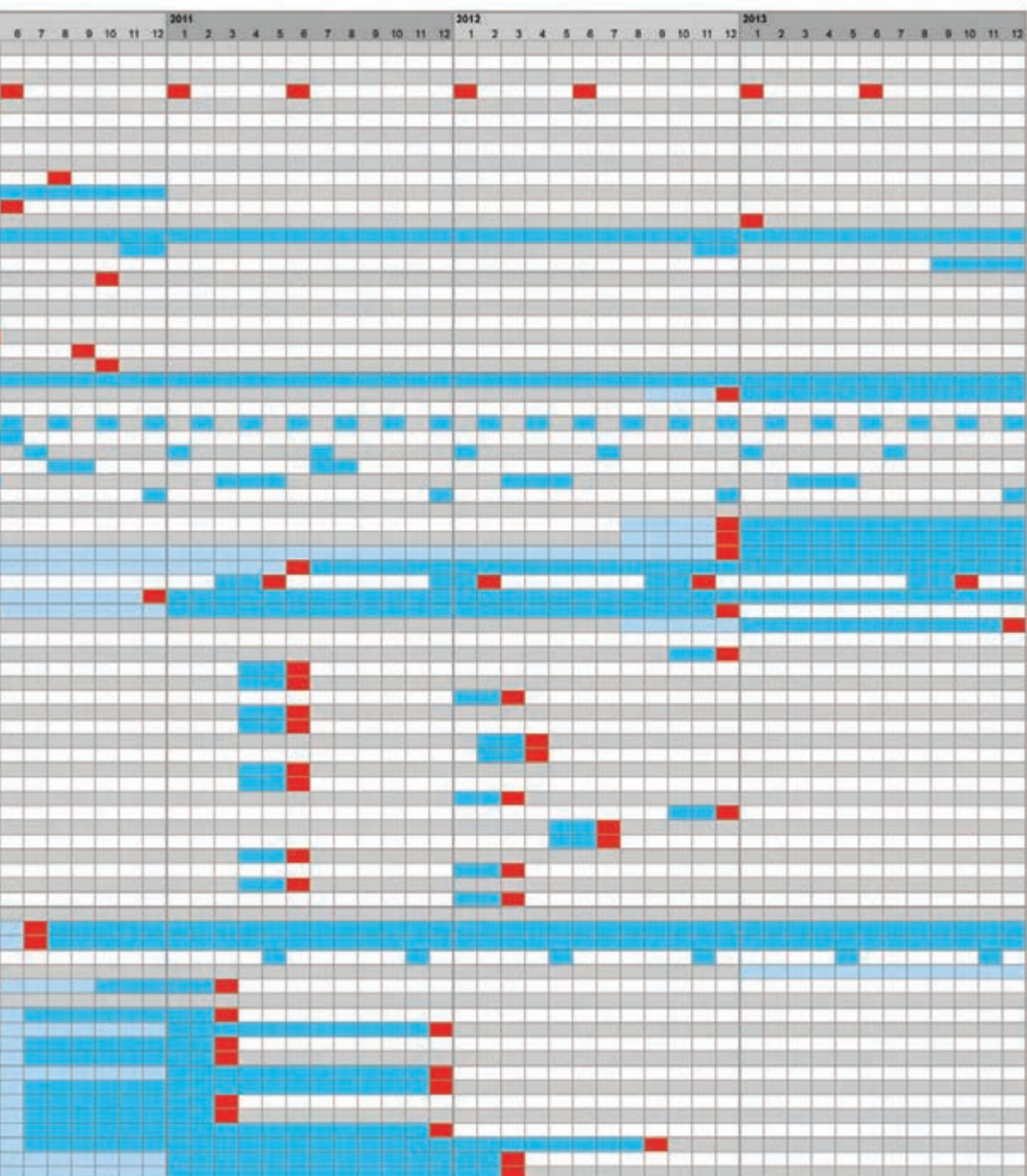
SITE ANALYSIS AND ACTION PLANS (2009-13)

OBJECTIVE	INDICATOR	TIMEFRAME	VERIFICATION	ACTIONS	ACTORS	PARTNERS	FUNDING
Physical Conservation and Development (5)	The first pilot area is upgraded.	March 2011	Planning and implementation documentation (SAU archive), site inspection	Commission the implementation of the urban master plan in the primary protection zone of the Nūkhidhah House	MoCI, contractor	SURPD, MoW, local community	Special project budget/ shared resources of partners/ private owners
Physical Conservation and Development (5)	The second and third pilot areas are upgraded.	May 2011	Planning and implementation documentation (SAU archive), site inspection	Commission the implementation of the urban master plan in the primary protection zones of Siyadi complex and al-Jalahma House	MoCI, contractor	SURPD, MoW, local community	Special project budget/ shared resources of partners/ private owners
Physical Conservation and Development (5)	All primary protection zones are upgraded	December 2013	Planning and implementation documentation (SAU archive), site inspection	Commission the implementation of the urban master plan in the primary protection zones of Murad complex, Al-Alawi House, Al-Ghūṣ House, Fakhro House and the suq area	MoCI, contractor	SURPD, MoW, local community	Special project budget/ shared resources of partners/ private owners
Physical Conservation and Development (5)	Primary and secondary protection elements in need of urgent conservation works are restored and in use.	By the end of 2013	Conservation completion reports (SAU archive), site inspection	Restore primary and secondary protection elements in urgent need of conservation and adapt for new use	SAU, consultants	SUAH, SURPD, owners, tenants	Special project budget/ private owners/ private sponsors
Physical Conservation and Development (5)	Conservation guidelines for primary and secondary protection elements have been developed	By the end of 2011	Conservation guidelines (SAU archive)	Develop and distribute conservation guidelines for primary and secondary protection elements	SUAH	Consultants to the SAU (architects and contractors etc), private owners, universities	Special project budget
Research and Documentation (6)	All primary and secondary protection elements in the urban buffer zone have been further assessed and evaluated.	By the end of 2011	Architectural and anthropological survey reports (SAU archive)	SAU and appointed experts are conducting thorough surveys of the primary and secondary protection elements, and the urban fabric in general	SAU, consultants	Local community, universities	Special project budget

2 MANAGEMENT FLOW CHART

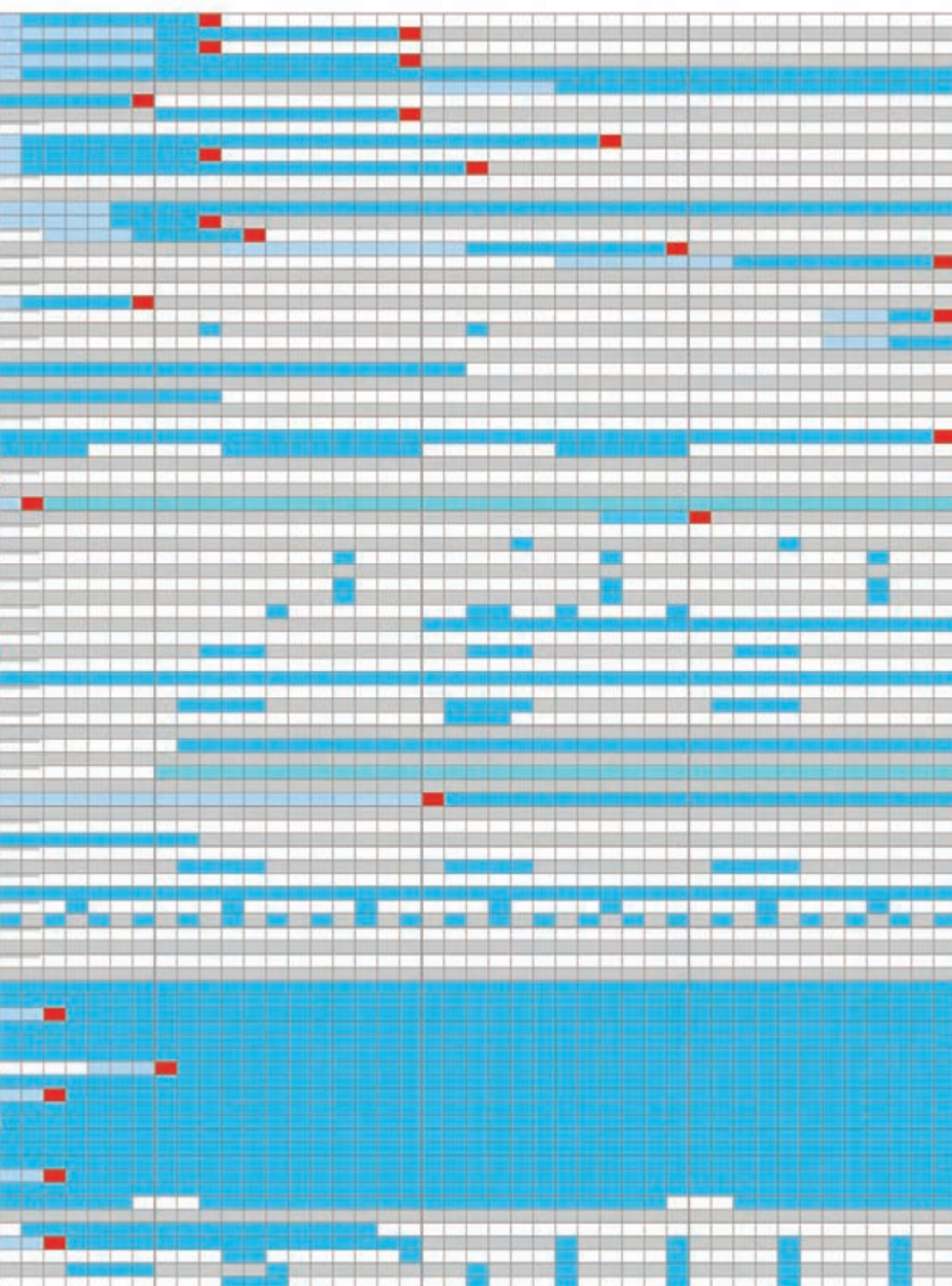
The following flow chart is structured by the 10 strategic objectives of the management system. The chart summarizes the activities and interventions for the timeframe of 2009-13 described in this document and it indicates which strategic objective each intervention contributes to.





SITE ANALYSIS AND ACTION PLANS (2009 - 2013)

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3 RISK PREPAREDNESS PLAN

The following table lists risks, emergency scenarios and disasters with the potential to impact negatively on the testimony of the pearling economy. The management system takes these risks and emergency situations into consideration. Actions devised to minimise their impact are the focus of the risk preparedness plan.

The plan lists risks and emergency events possible to occur in the vicinity of the heritage site and in the wider Gulf region, as well as highly unlikely events and disasters such as floods due to severe storms or underwater earthquakes, extreme winds or tropical storms, natural disasters triggered by global warming, and hazards of human origin such as major accidents, large-scale vandalism and armed conflict. While the focus of the risk preparedness plan is on detailing measures to counter possible events, the countermeasures also apply to the highly unlikely scenarios as the potential impacts of both threats are of the same nature (pollution, fire, tremors and water). This table will be adjusted and expanded throughout the management process.

The first column of the table classifies types of risks; the second column names the specific emergency situation; the third indicates the property affected; and the fourth classifies the emergency or disaster situations according to two impact levels:

Risk levels (increasing impact level):

- Level 1: Possible risks that are unpredictable regarding timing and extent but which are sufficiently familiar to and well-understood by the site administration to permit a response to reduce negative impact.
- Level 2: Unpredictable, high-impact risks related to emergency or disaster situations that are highly unlikely to occur either in the vicinity of the heritage site or in the wider Gulf region. They are considered extreme situations.

The fifth column of the table describes the measures taken by the Site Administration Unit in preparation for any of the listed emergency situations (risk preparedness) as well as measures adopted to reduce the likelihood of the emergency situation occurring (risk prevention). The table's last column, column six, describes the countermeasures the Site Administration Unit and/or other agencies and stakeholders will take to combat specific emergency situations where they occur and to minimize the impact on the properties.

Type	Risk	Property affected	Level	Risk preparedness and prevention provided by the Site Administration Unit	Responsive action – response plans by responsible agencies/actors
Hazards of human origin	Fire	Qal'at Bū Māhir	1	Coordinate with local fire brigades and conservation experts to ensure an adequate fire response plan is in place. The plan will include: early warning communication systems; automatic and manual fire-fighting equipment appropriate for use on earthen architecture; identification and maintenance of emergency access routes; regular emergency response training for fire fighters (at biannual intervals); and precise knowledge of the locations and vulnerabilities of the properties by all concerned actors.	Occupants or site personnel conduct first response actions with the aid of manual fire-fighting systems (fire extinguishers).
		Urban properties		Provide regular training and awareness-raising activities for site personnel, property owners and occupants regarding appropriate behaviour in the case of fire.	Automatic fire suppression systems will operate. Local fire brigades carry out response actions following the fire response plan. The Site Administration Unit initiates recovery actions immediately following the incident to avoid secondary damage such as collapse.

Type	Risk	Property affected	Level	Risk preparedness and prevention provided by the Site Administration Unit	Responsive action – response plans by responsible agencies/actors
Hazards of human origin				<p>Provide regulatory signage for users of and visitors to the pearling testimony regarding both behaviour in case of fire and indication of fire exits.</p> <p>Provide regulatory signage for users and visitors regarding appropriate behaviour in the vicinity of ignition sources.</p> <p>Use fire-safe and fire-resisting materials where appropriate; replace outdated, unsafe technical and electrical equipment in the properties and their vicinity.</p> <p>Maintain the properties and fire fighting equipment.</p>	<p>Contact details: Ministry of Interior Muharraq Fire Department P.O. Box 13, Muharraq Kingdom of Bahrain Tel (+973) 17-320349</p> <p>Police Directorate of Muharraq Kingdom of Bahrain Tel (+ 973) 17-342637</p>
	Oil spills or other industrial disasters contaminating water, seabed or soil	Oyster beds Bū Māhir Seashore	1	Coordinate within the Subcommittees for Marine Heritage and Bū Māhir Seashore to ensure that existing contingency plans are appropriate for the pearling testimony and that the relevant agencies are aware of the location and vulnerabilities of the properties	<p>The Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW) enacts the National Oil and Hazardous Spill Contingency Plan (SEACOR, 2009) (contained in annexed CD) to control pollution with oil or other hazardous and noxious substances on land or at sea. On the local level concerning the pearling testimony, the main partner for conducting the hazard control plan is the Bahrain Petroleum Company (BAPCO), the responsible entity for this purpose in the territorial waters (oyster beds) and the shores of Bahrain (Bū Māhir Seashore).</p> <p>In the case of oil spills, BAPCO conducts its Oil Spill Contingency Plan (BAPCO, 2007) (extract of the BAPCO Oil Spill Contingency Plan contained in annexed CD) together with the company appointed for oil drilling in the concerned block (Occidental Petroleum Corporation in block 1). BAPCO furthermore cooperates with the Gulf Area Oil Companies Mutual Aid Organisation (GAOCMAO) and the Marine Emergency Mutual Aid Centre (MEMAC).</p> <p>Contact details: Public Commission for the Protection of Marine Resources, Environment and Wildlife (PCPMREW), General Directorate for Environment and Wildlife P.O. Box 20071, Manama, Kingdom of Bahrain</p>

SITE ANALYSIS AND ACTION PLANS (2009 - 2013)

Type	Risk	Property affected	Level	Risk preparedness and prevention provided by the Site Administration Unit	Responsive action – response plans by responsible agencies/actors
Hazards of human origin					<p>The Bahrain Petroleum Company (BAPCO), P.O. Box 25555 Awali, Kingdom of Bahrain, Tel: (+973) 17704040-, Fax: (+973) 17-704070</p> <p>Gulf Area Oil Companies Mutual Aid Organisation (GAOCMAO) P.O. Box 30352, Kingdom of Bahrain</p> <p>Marine Emergency Mutual Aid Centre (MEMAC) P.O. Box: 10112 Manama, Kingdom of Bahrain, Tel: (+973) 17-274554, Fax: (+973) 17-274551</p>
	<p>Plane crashes (potentially also cause secondary damage due to fire, pollution and tremors)</p>	<p>Oyster beds</p> <p>Bū Māhir Seashore Qal'at Bū Māhir</p> <p>Urban properties</p>	1	<p>Coordinate with the Ministry of Interior, Bahrain International Airport, the local fire brigades and other involved emergency units as well as conservation experts to ensure a national plane crash response plan is in place that is adequate for the pearling testimony. The plan will include: an early warning communication system linked to Bahrain International Airport; provision of emergency response equipment (structural support, safety nets, etc.); identification and maintenance of emergency access routes; precise knowledge of the locations and vulnerabilities of the properties by all concerned actors; regular emergency response training for the responsible emergency units (every two years).</p> <p>Reinforce the structural integrity of architectural properties during conservation works to strengthen tremor resistance (use of tremor-resisting construction techniques where appropriate).</p> <p>Maintain the architectural properties (structural integrity).</p>	<p>Fire brigades and/or other responsible emergency units and security forces carry out response actions following the plane crash response plan.</p> <p>The response actions also tackle potential secondary damage caused by fire (implementation of other relevant response plans if required).</p> <p>The Site Administration Unit initiates recovery actions immediately following the incident</p> <p>Contact details:</p> <p>Bahrain International Airport P.O. Box 586, Manama Kingdom of Bahrain</p> <p>Ministry of Interior Muharraq Fire Department P.O. Box 13, Muharraq Kingdom of Bahrain Tel: (+973) 17-320349</p> <p>Police Directorate of Muharraq Kingdom of Bahrain Tel (+973) 17-342637</p>

Type	Risk	Property affected	Level	Risk preparedness and prevention provided by the Site Administration Unit	Responsive action – response plans by responsible agencies/actors
Hazards of human origin	Armed conflict/ large-scale vandalism	Entire site	1	<p>Coordinate with Bahrain Defence Force to ensure the military is informed of the protected status, location and vulnerabilities of the pearling testimony.</p> <p>Bahrain has accessed the Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague Convention 1954). The Site Administration Unit will ensure that the pearling testimony is entered on the register of protected cultural property provided for in the Convention.</p>	<p>The Bahrain Defence Force and the military forces of other states that are state parties to the Hague Convention 1954 are legally bound to spare the pearling testimony in the event of armed conflict in Bahrain.</p> <p>Local fire brigades and/or other responsible emergency units carry out actions to prevent or reduce impacts of secondary damage such as fire, flood, collapse and pollution (implementation of other relevant response plans if required).</p> <p>Site Administration Unit initiates recovery actions immediately following the incident.</p> <p>Contact details : Bahrain Defence Force (Military of Bahrain), P.O. Box 245, Manama Kingdom of Bahrain Tel. (+973) 17-653333</p>
	Floods due to heavy rain, earthquakes etc. (can also occur due to broken sewer or water supply pipes)	<p>Bū Māhir Seashore Qal'at Bū Māhir</p> <p>Urban properties</p>	1	<p>Coordinate with the Ministry of Interior, local fire brigades and conservation experts to ensure an adequate flood response plan is in place. The plan will include: an early warning system linked to meteorological stations; provision of emergency response equipment (sand bags etc.); identification and maintenance of emergency access routes; precise knowledge of the locations and vulnerabilities of the properties by all concerned actors; regular emergency response training for the responsible emergency units (at biannual intervals). Provide training and awareness-raising activities for site personnel, property owners and occupants on how to avoid damage from flooding.</p> <p>Treat foundations and surfaces of the architectural properties to reduce absorption of water.</p> <p>Increase the area of unsealed surfaces adjacent to walls and foundations during architectural conservation and urban upgrading works.</p> <p>Coordinate with the Ministry of Works to improve the drainage system as well as the water supply and discharge infrastructure during the urban upgrading works.</p> <p>Maintain the properties (surface finishes etc.).</p>	<p>Local fire brigades and other responsible security forces carry out response actions following the flood response plan.</p> <p>Local fire brigades and other responsible security forces carry out action to prevent or reduce impact of secondary damage such as collapse (long-term) or pollution (implementation of other relevant response plans if required).</p> <p>The Site Administration Unit initiates recovery actions immediately following the incident to prevent secondary damage such as collapse, fire, pollution etc.</p> <p>Contact details : Ministry of Interior - Muharraq Fire Department P.O. Box 13, Muharraq Kingdom of Bahrain Tel (+973) 17-320349</p> <p>Police Directorate of Muharraq Kingdom of Bahrain Tel (+973) 17-342637</p>
Natural disasters and severe weather					

SITE ANALYSIS AND ACTION PLANS (2009 - 2013)

Type	Risk	Property affected	Level	Risk preparedness and prevention provided by the Site Administration Unit	Responsive action – response plans by responsible agencies/actors
Natural disasters and severe weather	Earthquakes (potentially also causes secondary damage due to fire and floods)	Bū Māhir Seashore	1	Coordinate with the Ministry of Interior, local fire brigades and other involved emergency units as well as conservation experts to ensure a national earthquake response plan is in place that is adequate for the pearling testimony. The plan will include: an early warning communication system linked to seismic sensor stations; provision of emergency response equipment (structural support, safety nets, etc.); identification and maintenance of emergency access routes; precise knowledge of the locations and vulnerabilities of the properties by all concerned actors; regular emergency response training for the responsible emergency units (at biannual intervals). Reinforce the structural integrity of architectural properties during conservation works to strengthen tremor resistance (use of tremor-resisting construction techniques where appropriate).	Fire brigades and/or other responsible emergency units and security forces carry out response actions following the earthquake response plan. The response actions also tackle potential secondary damage caused by fire or floods (implementation of other relevant response plans if required). The Site Administration Unit initiates recovery actions immediately following the incident
		Qal'at Bū Māhir Urban properties			
				Maintain the properties (structural integrity). Indication of emergency exits.	Contact details: Ministry of Interior Muharraq Fire Department P.O. Box 13, Muharraq Kingdom of Bahrain Tel (+973) 17-320349 Police Directorate of Muharraq Kingdom of Bahrain Tel (+973) 17-342637

4 TABLE OF COMPREHENSIVE MONITORING INDICATORS FOR THE MANAGEMENT SYSTEM

The following table of indicators shall form the basis of regular monitoring and comprehensive reviewing of the management system. As opposed to the monitoring indicators in the action plans above, the indicators in this table are supposed to provide a basis for long-term monitoring of the management strategies. The progress indicators will be adapted and expanded as necessary, in order to ensure appropriate implementation of the management process.

For detailed monitoring indicators related to the attributes of Outstanding Universal Value of each property please refer to the Nomination File, 6. Monitoring.

Objective	Indicator	Source
1: Administration	Fully functional Site Administration Unit for the pearling testimony	Sector of Culture and National Heritage, MoCI
	Adequate frequency of meetings of Steering Committee	Minutes of Steering Committee meetings (SAU archive)
	Adequate frequency of meetings of all Subcommittees and balanced sharing of responsibilities	Minutes of Subcommittees' meetings (SAU archive)
	Adequate representation/ participation of property owners and businesses (site and buffer zone) in the Steering Committee	Representative councils and minutes of Steering Committee (SAU archive)
	Fully functional and updated Geographic Information System (GIS) for the site	SAU
	Existence of appropriate risk preparedness plans and measures	SAU; responsible agencies (see 3 Risk Preparedness Plan above)
	Monitoring activities carried out regularly	Monitoring reports (SAU archive)
	Evaluation and updating of the management plan at the end of each implementation phase	Most recent management plan (SAU)
	Proper administration of all properties	Reports of property managers and site manager (SAU archive)
2: Statutory Protection	Designation of all properties of the serial site as national heritage	Official Gazette (Press and Publications Sector, MoCI)
	Adoption of bylaws and guidelines regarding development in the buffer zone	Official Gazette (Press and Publications Sector, MoCI)
	Number of historic buildings designated as national monuments in the urban buffer zone	Heritage Register (Sector for Culture and National Heritage, MoCI)
	No incidences of garbage dumping, land reclamation, trawling and dredging within the boundaries of the seashore and marine properties and their buffer zones	Patrolling reports (PCPMREW, Coast Guard)
	No incidences of vandalism (graffiti, theft, etc.) to the urban properties	Reports of property managers and site manager (SAU archive)
	Appropriateness of existing regulations for controlling the exploitation of the pearl banks	PCPMREW, Subcommittee for Marine Heritage
3: Stakeholder Involvement	Active involvement of all key stakeholders in the implementation and review of the management system	Minutes of Subcommittee meetings; stakeholder feedback
	Adequate number and frequency of community workshops, with appropriate participation of all stakeholders	Documentation of community workshops (SAU archive), stakeholders feedback
	Number and range of non-governmental organisations, agencies and institutions cooperating with the site administration	SAU
	Functional contact points for community and visitor feedback	Site and website inspection; feedback records (SAU archive)
	Number of „Heritage saviour award“ granted	SAU

SITE ANALYSIS AND ACTION PLANS (2009 - 2013)

4: Interpretation and Presentation	Adequate public accessibility of the properties (opening hours, number of properties open, etc.)	Site inspection; visitor records (SAU archive and property archives)
	Adequate range and quality of interpretation facilities (exhibits, guides tours, informational material etc.) in the properties and the buffer zone	Site inspection; visitor feedback (SAU archive and property archives)
	Adequate range and quality of offsite interpretation facilities (webpage, publications etc.)	Inspection of facilities; visitor feedback (SAU archive and property archives)
	Full range of target groups successfully addressed	Inspection of facilities; visitor feedback and records (SAU archive and property archives)
	Visitor satisfaction with onsite and offsite interpretation facilities	Visitor feedback (SAU archive and property archives)
5: Physical Conservation and Development	Maritime Properties	
	No significant increase in water temperature	Survey reports (PCPMREW)
	No significant change in water depths	Survey reports (PCPMREW)
	Visibility level maintained	Survey reports (PCPMREW)
	No significant reduction of oyster clusters per square metre	Survey reports (PCPMREW)
	No significant reduction of pearl finds per 1000 oysters	Survey reports (PCPMREW) ; records of pearl diving activities (SAU archive)
	No significant reduction of size and quality of pearls found at the oyster beds	Survey reports (PCPMREW); records of pearl diving activities (SAU archive)
	No reduction of biodiversity in the marine properties and the buffer zone	Survey reports (PCPMREW)
	Bū Māhir Seashore	
	No significant erosion of the seashore	State of conservation report (SAU archive)
	No increase in pollution of the seashore	Chemical analysis of soil and sand (SAU archive)
	Preservation of the seaviews from Bū Māhir Seashore	Site inspection; photographic comparison (SAU archive)
	Satisfactory public accessibility of Bū Māhir Seashore	Site inspection; visitor records (SAU archive; property archive)
	Architectural Properties	
	Conservation and maintenance of all architectural properties is in accordance with international conservation principles	Site inspection; conservation reports (SAU archive)
	All architectural properties are appropriately used	Site inspection
	All new work on the nominated properties is carried out in accordance with international best practices	Site inspection; conservation reports (SAU archive)
	Sufficient funds are provided for conservation and maintenance works	Operational Budget of MoCI for the pearling testimony

5: Physical Conservation and Development	Conservation and maintenance of all architectural properties is in accordance with international conservation principles	Site inspection; conservation reports (SAU archive)
	All architectural properties are appropriately used	Site inspection
	All new work on the nominated properties is carried out in accordance with international best practices	Site inspection; conservation reports (SAU archive)
	Sufficient funds are provided for conservation and maintenance works	Operational Budget of MoCI for the pearling testimony
	Urban Buffer Zone	
	The historic setting of the nominated properties is conserved	Site inspection; photographic comparison (SAU archive)
	New developments in the immediate vicinity of the nominated properties do not compromise their heritage values	Site inspection; photographic comparison (SAU archive)
	Number of restored historic buildings (primary and secondary elements)	Subcommittee for Urban and Architectural Heritage (SAU archive); Building Permit Section of Muharraq Municipality
	Acceptable number of demolished historic buildings (secondary elements)	Subcommittee for Urban and Architectural Heritage (SAU archive); Building Permit Section of Muharraq Municipality
	Satisfactory overall appearance of the primary and secondary protection zones	Site inspection
	Adequate maintenance of public spaces and infrastructure	Site inspection
	Existence and proper maintenance of an adequate number of public recreational areas	Site inspection
	Proper maintenance of roads and pedestrian infrastructure	Site inspection
	Sufficient availability of public and private parking spaces	Site inspection; feedback of visitors and residents (SAU contact points)
6: Research and Documentation	Adequate level and quality of cooperation with research institutions and researchers	SAU
	Number and type of publications related to the pearling heritage purchased by MoCI	SAU archive; public pearling library and archive
	Heritage impact assessments are carried out prior to any development projects on the site and in the buffer zone	Assessment reports (SAU archive); SAU
	Environmental and marine research	
	Existence of scientific base line data for the marine and seashore properties	Survey reports (SAU archive and PCPMREW)

SITE ANALYSIS AND ACTION PLANS (2009 - 2013)

6: Research and Documentation	Historical and anthropological research	
	Satisfactory number and quality of oral history interviews, thematic studies, and community workshops	Research reports and documentation (SAU archive)
	Satisfactory number and range of identified and/or acquired artefacts related to pearling	Reports, documentation and artefacts (SAU archive and exhibitions)
	Architectural and urban research	
	Adequate number and quality of research projects into traditional and contemporary conservation techniques, local architecture, urban development etc.	Reports and documentation (SAU archive)
	Satisfactory documentation of historic buildings (nominated properties, primary and secondary elements)	Survey reports and documentation (SAU archive)
	Archaeological research	
	Archaeological assessment has been undertaken prior to any development projects on site and in the buffer zone	Directorate of Archaeology and Heritage, MoCI
	Documentation	
	Satisfactory quality of archive and library maintained by the Site Administration Unit	Archive and library inspection
	All conservation measures are appropriately documented and archived	Conservation reports and documentation (SAU archive)
	Satisfactory number, range and quality of publications related to the site and pearling heritage published by or in cooperation with MoCI	Inventory of SAU archive and library
7: Education and Awareness Raising	Satisfactory number, range and quality of community events held on the site	Documentation (SAU archive); feedback of visitors and residents (SAU contact points)
	Satisfactory number of school class visits to the site	Visitor records (SAU and property archives)
	Satisfactory level and quality of cooperation with educational institutions	Documentation (SAU archive)
	Existence of a satisfactory range of educational activities and services that successfully address all key target groups	Documentation (SAU archive)
	Pearling and site related themes feature in the curricula of national education institutions	Ministry of Education
8: Cultural Traditions	Pearling arts	
	Satisfactory number and range of cultural events featuring pearling arts (songs, dances, poetry, festivals, etc.) on the site and in Muharraq	Documentation (SAU archive)
	Satisfactory level and quality of cooperation with <i>dūr</i> (music centres)	Visitor records (SAU archive); <i>dūr</i> in Muharraq
	Number of active <i>dūr</i> (music centres) in Muharraq, and number of people involved	<i>Dūr</i> in Muharraq

8: Cultural Traditions	Pearl diving	
	Number of pearl collection trips to the marine properties in cooperation with the MoCI	Documentation (SAU archive); tour operator
	Number and origin of people participating in pearl collection trips to the marine properties	Documentation (SAU archive); tour operator
	Number and origin of pearl divers trained in cooperation with the MoCI	Documentation (SAU archive); diving school
	Artisanship	
	Number of pearl jewellery shops on the site and in the buffer zone	Site inspection; Ministry of Industry and Commerce
	Number and range of traditional artisans in Muharraq (pearl jewellery makers, boat builders, etc.)	Site inspection; Ministry of Industry and Commerce
	Number of people trained in traditional architectural construction and decoration techniques	Documentation of trainings (SAU archive)
9: Tourism and Promotion	Numbers and origin of visitors to the site (per property)	Visitor records at the properties
	Number of participants in public events	Visitor records (SAU archive)
	Number of overnight stays in the site's guesthouse(s)	Guesthouse administration
	Number of press releases concerning the site	SAU archive; Directorate of Public Relations, MoCI
	Number and range of site related coverage in local and international media	SAU archive; local and international media archives
	Number of visits on the website of the pearling testimony	Website
	Number and type of tour operators cooperating with the Site Administration Unit	SAU archive; tour operators
10: Resource Management	Financial Resources	
	Amount of governmental funding available	Accounts (SAU archive)
	Amount of private and corporate funding received	Accounts (SAU archive)
	Annual operating costs	Accounts (SAU archive)
	Annual revenue generated from the site	Accounts (SAU archive)
	Economic Benefit	
	Annual turn-over of private sector businesses on site	Contracts (SAU archive; private businesses)
	Number and origin of people employed on site	Contracts (SAU archive; private businesses)
	Number and origin of inhabitants in the urban properties and their buffer zone	Population Census (Central Informatics Organisation)
	Acceptable increase of real estate values in urban buffer zone	Real estate agents
	Revenue generated from sale of pearls collected at the marine properties	Pearl diving operator
	Human Resources	
	Number and origin of people employed in the Site Administration Unit	Contracts (SAU archive)
	Number and type of workshops and trainings held for personnel and partners of the SAU	Contracts and documentation (SAU archive)

TRANSLITERATION OF ARABIC TERMS

The Arabic words used throughout this text have been transliterated into English using the system set forth by the International Journal for Middle East Studies. The use of this system has, however, been adapted to account for Bahraini colloquial usage. A complete phonetic interpretation of current Bahraini usage has not been attempted, although some description has been made of Bahraini colloquial particularities (writing and pronunciation).

ط	t	ء	'
ظ	ẓ	ب	b
ع	'	ت	t
غ	gh	ث	th
ف	f	ج	j
ق	q	ح	ḥ
ك	k	خ	kh
ل	l	د	d
م	m	ذ	dh
ن	n	ر	r
ه	h	ز	z
و	w, ū when used as a long vowel	س	s
ي	y, ī when used as a long vowel	ش	sh
أ	ā	ص	ṣ
أه	ah	ض	ḍ

Notes

1. (ك) may be pronounced as ch and (ق) as j
2. (ق) is also often pronounced as g or gh
3. (ه) is written throughout the text as –ah and (هـ)–iyyah
4. The definite article (ال) is always al-, even with sun letters
5. Al without a hyphen has been used to denote “family of”, eg. Al Khalifa
6. The names of families have been left to respect their own spelling
7. Terms and locations that have familiar English equivalents have not been transliterated and are used as such
8. All local names of areas that are not widely known have been fully transliterated

GLOSSARY OF ARABIC TERMS

‘Amārah, pl. ‘Amārāt—A venue of various economic activities such as shipbuilding/trading, also a store for fishing or specialised food materials

Bāb, pl. ‘Abwāb—Door(s)

Bāb Bū Farkhah—The term used by the Murad family to describe the door at their main house entrance (door with a smaller door framed within it)

Bādgīr, pl. Buwwādgīr—Wind tower also an Opening in a wall to channel air

Baghlah—A large deep-sea cargo-carrying dhow

Bakhkhār—A smaller store room inside the ‘amārah

Banglah, pl. Banāgil—Room(s) decorated with either elaborate panels or arched niches and slightly elevated from other rooms on the property

Barāsti, pl. Barstiyah—traditional Bahraini house constructed from palm-frond

Bayt, pl. Buyūt—House(s)

Bulṭ—Quay (a traditional jetty)

Dahlīz—L shape entrance to a house that is used for enhanced privacy

Dakkah, pl. Dakkāt—Built in sitting benches to an outer wall

Dānah, pl. Dānāt—Particularly large and beautiful pearl(s)

Dār, pl. Dūr—A place where men gather to spend their time dancing and singing

Daraj, pl. ‘Adrāj—Staircase(s)

Dā’ūs—Narrow dead-end lane

Farij, pl. Fūrijān—Residential cluster or neighbourhood

Farij al-Bannā’in—Neighbourhood of builders

Farsh, pl. Furūsh—Coral stone slab(s)

Faṭām, pl. ‘Aṭamah—A pincher used by divers to compress the nostrils

Ghīṣ, pl. Ghāṣah—Pearl diver(s)

Ghurfaḥ, pl. Ghuraf—An elaborately decorated room built on a roof area that is typified by a liwān and roof terrace

Al-Ghūṣ—The Diving

Ghūṣ al-Barīd—The Cold Dive

Ghūṣ al-Kabīr—The Great Dive

Ḥaḍḍrah pl. Ḥuḍḍūr—Fish trap(s) built in the shallow inter tidal areas of the coast

Ḥafīz—A reception room/office

Ḥammām, pl. Ḥamāmāt—Bathroom(s)

Haram—Prayer room

Ḥaṣīr—Palm fiber carpet

Hayr, pl. Hayrāt—Oyster bank(s)

Ḥujrah; pl. Ḥujar—Plain masonry room

Ḥūsh; pl. ‘Aḥwāsh—Courtyard

Ḥūṭah—Animal barn

- Khanjiyyah—A mezzanine room for storage
- Khirs—A seawater pool in the shape of a canal
- Kishtil—Windtower
- Kubār, pl. 'Ikbarah—A structure with solid walls and a roof made of palm branches
- Līwān, pl. Lawāwīn—Colonnade
- Lū'lū', pl. La'ālī—Pearl(s)
- Maḍyif, pl. Maḍāyif—A guesthouse or quarter in a prominent household
- Maḥḥārah, pl. Maḥḥār—Pearl oyster (*Pinctada margaritifera*)
- Majlis; pl. Majālis—A reception space for guests and businessmen
- Majāz, pl. Majāzāt—Foyer connecting the public and private areas of a house that maintains the privacy of the living spaces
- Makhzan, pl. Makhāzin—Storage room in a house for food and personal belongings
- Malqif al-Hawā'—A wind tower and also an opening in wall to channel air
- Maq'ad, pl. Maqā'id—Sitting place(s) inside the ḥarim used for women social gatherings
- Masbaḥ, pl. Masābiḥ—A shower section of a house
- Mashrabiyyah—Decorated window screen used for privacy
- Maṭbakh, pl. Maṭābikh—Kitchen(s)
- Mdbasah—Date Syrup floors
- Mirḥāḍ, pl. Marāḥiḍ—A water closet detached from the house structure
- Mjaddimī, pl. Mjādmah—Denotes the second in command after the nūkhidhah.
- Mukhtaṣar—An office room/private majlis extension
- Najwah, pl. Najwāt—Oyster beds formed on top of submarine mounds in deep water
- Nūkhidhah, pl. Nūwākhdhah—Dhow captain(s)
- Qahwah, pl. Qahāwī—Coffee house(s)
- Qāfūd—(pronounced ghāfūd) describes the high ceilings of a house
- Qallāf, pl. Qalālīf—(pronounced Gallāf, pl. Galālīf) A person who carried out ship building and repair work in the dhow building industry
- Qal'at, pl. Qilā'—Fortress
- Qal'at 'Arād—Arad Fort
- Qal'at al-Bahrain—Bahrain Fort
- Qāl'at Bū Māhir—Bu Maher Fort
- Al-Qalfāt—(pronounced al-Galfāt) the celebrations that were held on the seashore in honour of a newly built dhow
- Al-Qirāḥ—The costal seabed that is visible during low tide
- Al-Quffāl—(pronounced guffāl) the closing of the pearling season marked by the return of the pearling dhows.
- Qumāshah, pl. Qumāsh—Literally means canvas but refers to the red piece of cloth used to carry and preserve the pearls
- Al-Raddah—A pearling season that commences shortly after the conclusion of Ghūṣ al-Kabīr.

Rakbah—Refers to the beginning of the pearling season

Riẓīf—Puller-assistant who helped the siyūb in their work

Rūshinah, pl. Rawāshin—Recessed panel used as a cupboard and to showcase household items

Şabāţ—Bridging element often over a road that connects two properties

Şaṭaḥ, pl. Şuṭūḥ—A fenced roof space or private terrace

Shurfah, pl. Shurfāt—Balcony

Sib, pl. Siyūb—Those in charge of pulling/hauling pearl divers from the depths of the sea

Sīf—Coast (less frequently also called al-Yāl)

Sūq, pl. 'Aswāq—Market(s)

Tabbāb—A multipurpose helper, usually a young apprentice, on board the dhows

Ṭawwāsh, pl. Ṭawwāwish—Pearl merchant(s)

Ṭawwāsh al-Bahr—Pearl merchant of the sea

Tājir al-Lū'lū', pl. Tijār al-Lū'lū'—Pearl trader(s)

'Ustādh—A senior carpenter in the shipbuilding industry

Wārish, pl. Wirsh—Parapet(s)

Waqf, pl. 'Awqāf—An Islamic religious endowment often referring to a building or plot of land that is used for religious or charitable purposes

Zarnūk—Narrow, winding pedestrian lanes

Images from the photographic competition „Pearling in Muharraq“

The images listed below, which have been used in this document, were submitted to the Ministry of Culture and Information during the photographic competition “Pearling in Muharraq” in 2009:

Chapter 1 Site Description, Objectives and Assessment

3.2 Integrity and Authenticity

1. Historic photo of pearl merchants and a French client. Submitted by Luna Abd El Karim Ali, “The Pearling Era”

Chapter 2 Management Strategies

2.1 Administrative Structure and Procedures

2. Background of title page. Submitted by Ibrahim Al-Zawadi, “An official document of the Diving Department”

2.2 Statutory Heritage Protection

3. Background of title page. Submitted by Abdullah M. Al-Khan, no title

2.5 Physical Conservation and Development

4. Background of title page. Submitted by Ghassan Chemali, “Heritage Impressions”

2.8 Support for Cultural Traditions

Background of title page. Submitted by Waleed Al-Abbas, “Opening the shells”

2.8. 2 Pearl collection

5. Historic photo of pearl diving. Submitted by Abdulla M. Al-Khan, “Diving for pearls”

2.8.3 Artisanship

6. Tawwash weighing pearls. Submitted by Abdullah M. Al-Khan, no title

REFERENCES

- Bahrain 2030 National Land Use Strategy. (n.d.). Official Website of the Ministry of Municipalities Affairs and Agriculture. Retrieved November 5, 2009, from websrv.municipality.gov.bh/ppd/images/maps/SOM_bahrain.jpg
- Barnes, J. (2007, July 7). An Inspector Calls. *Guardian*. Retrieved January 2, 2010, from www.guardian.co.uk/books/2007/jul/07/architecture.art
- Beaumont, A., & Khamdan, S. (1991). Electrophoretic and morphometric characters in population differentiation of the pearl oyster, *Pinctada radiata* (Leach), from around Bahrain. *Journal of Molluscan Studies*, 57(4), 433-441.
- Bianca, S. (2000). *Urban Form in the Arab World, Past and Present*. New York: Thames & Hudson.
- Bumatai, Y., & Khalil, M. (2006). *Bahrain Civilization through Historical Ages*. Manama: Ministry of Culture and Information, Sector for Culture and National Heritage.
- Culture Information and Tourism. (n.d.). Intro CIO Website. Retrieved May 5, 2009, from http://www.cio.gov.bh/cio_eng/SubDetailed.aspx?subcatid=178
- Directives concerning the use of the name, acronym, logo and internet domain names of unesco (ref.: Resolution 34 C/86). (n.d.). United Nations Educational, Cultural and Scientific Organization(UNESCO). Retrieved December 2, 2008, from www.unesco.org/bpi/pdf/directives_logo_c34_86_en.pdf
- El-Masri, S., & Yarwood, J. (2006). *Al Muharraaq*. Manama, Bahrain: Miracle Publishing.
- Hakim, B. S. (1986). *Arabic-Islamic Cities, Building and Planning Principles* (1 ed.). London: Kegan Paul International.
- Hitchcock, D., & Bell, S. (2004). Physical Impacts of Marine Aggregate Dredging on Seabed Resources in Coastal Deposits. *Journal of Coastal Research*, 20(1), 101-114.
- Income distribution of households according to income groups and several classification variables. (2009, June 30). Central Informatics Organization, Household and Expenditure and Income Survey 2005-2006. Retrieved August 25, 2009, from www.cio.gov.bh/StatPublication/11RecurrentRequest/Capital-req2007.pdf
- Khamdan, S. (1993, April 24). The reproduction, larval rearing and production of triploid embryos and spat of the pearl oyster *Pinctada radiata*. The second Arab conference on perspective of modern biotechnology. Lecture conducted from Biodynamics International, Jordan.
- Khamdan, S. (1988). *Bahrain pearl oyster, genetics and systematic* (MSc Thesis) . Bangor: UCNW.
- Lewcock, L., & Hughes, R. (1981). *Conservation Techniques for the Monuments of the State of Bahrain*. Paris: Unesco.
- Lewcock, R. (1982). *Conservation, restoration and presentation of monuments and archaeological sites of the Islamic period*. Paris: UNESCO World Heritage Centre.
- Nayar, N., & al-Rumaidh, M. (1993). *Studies on the Pearl Oysters of Bahrain Waters*. Manama: Bahrain Centre for Studies and Research.
- Population of the Kingdom of Bahrain by Governorate, Nationality&Sex. (2007, January 7). Intro CIO Website. Retrieved February 19, 2009, from http://www.cio.gov.bh/cio_eng/Default_stats.aspx
- Saidah, R., & Lewcock, R. (1980). *Conservation, Restoration and Presentation of Archaeological Monuments and Sites of the Pre-Islamic and Islamic Periods*. Paris: UNESCO World Heritage Centre.
- Shaer, M. (2007). (Report) field Visits to Archaeological and Heritage Sites in Bahrain. Amman: Department of antiquities of Jordan.
- Smith, G., Weitz, N., Christoph, S., Viljoen, A., Luger, S., & Maartens, L. (2008). Fate of Fine Sediment from Dredger-Based Mining in a Wave-Dominated Environment at Chameis Bay, Namibia. *Journal of Coastal Research*, 24(1), 232-247 .
- The current population of Muharraaq. (n.d.). Official Website of the Central Informatics Organization. Retrieved February 19, 2009, from http://www.cio.gov.bh/cio_eng/Default_stats.aspx
- UNESCO. (2008). *Operational Guidelines for the Implementation of the World Heritage Convention* (No. WHC. 08/01). Paris: UNESCO.

- Vousden, D. (1985). A Feasibility Study of the Revival of the Pearl Oyster Fishery off the Coast of Bahrain. Manama: Environmental Protection Technical Secretariat.
- Vousden, D. (1985). The First Scientific Expedition into the Oyster Beds off the North Coast of Bahrain. Manama: Environmental Protection Technical Secretariat.
- Al-Khuzai, J., Sheppard, C., Abdulqader, E., & al-Khuzai, S. (2009). Sub-tidal Habitats. Marine Atlas of Bahrain (pp. 115-167). Manama: Miracle.
- Al-Khuzai, S. (2008). Oyster beds survey - final report. Manama: Reem Environmental Consultancy.
- Al-Sayed, H., al-Rumaihi, E., & al-Rumaidhm, M. (1993). Some morphometric measurements and population structure of the pearl oyster *Pinctada radiata* at two different coasts in Bahrain. Manama: Bahrain Centre for Studies and Research.
- Yarwood, John. (1988). Al Muharra: architecture, urbanism and society in an historic Arabic town. University of Sheffield.
- (2008). A Firm Foundation (The Report) Bahrain. London: Oxford Business Group. (Original work published 2007)
- (1999). Architectural features of traditional cities in Bahrain. Manama: Ministry of Housing, Municipalities and Environment, Kingdom of Bahrain.
- (2009). Bahrain Oil and Hazardous and Noxious Substances Spill Contingency Plan. Manama: SEACOR Environmental Services International Ltd..On Behalf of the Marine Emergency Mutual Aid Centre
- (2007). Bapco Oil Spill Contingency Plan. Manama: The Bahrain Petroleum Company BSC.
- (1999). Burra Charter: for Places of Cultural Significance. Burra: Australia ICOMOS Incorporated.
- (2006). Capacity - Building For Enhancement of Urban Governance / Urban Design Projects for Traditional Areas in Bahrain (Stage One: Strategies & Policies). Manama: Ministry of Municipalities Affairs and Agriculture, Kingdom of Bahrain & United Nation Development Program.
- (2007). Emerging Bahrain, 2007 2007 (The Report) (3 ed.). London: Oxford Business Group.
- (2007). Visitor statistics and estimates. Manama: Ministry of Culture and Information, Tourism Sector, Kingdom of Bahrain.
- (2009). Visitor statistics and estimates. Manama: Ministry of Culture and Information, Tourism Sector, Kingdom of Bahrain.

