REQUEST FOR A MINOR BOUNDARY MODIFICATION OF THE PROPERTY AND BUFFER ZONE

QAL’AT AL-BAHRAIN: ANCIENT HARBOUR AND CAPITAL OF DILMUN WORLD HERITAGE SITE

KINGDOM OF BAHRAIN
The Kingdom of Bahrain is pleased to propose a minor boundary modification to the property and buffer zone boundaries of “Qal’at al-Bahrain: Ancient Harbour and Capital of Dilmun” World Heritage Site. This modification consists of an extension to include the palm groves and agricultural areas around the archaeological site within the property boundary and proposes a revised buffer zone adequate to the protection of the enlarged property. The purpose of the extension is to ensure that all attributes identified in the Statement of Outstanding Universal Value are included in the property boundaries and are protected and managed as part of the World Heritage Site.

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‘Qal‘at al-Bahrain: Ancient Harbour and Capital of Dilmun’ site was inscribed on the World Heritage List at the 29th Session of the World Heritage Committee in Durban, South Africa in 2005 under the criteria ii, iii, and iv (UNESCO 2005). The initial inscription, under the name “Qal‘at al-Bahrain Archaeological Site,” consisted of a property area of 16.3 ha of land and a buffer zone of 167.5 ha.

In 2006 a proposal was adopted by the World Heritage Committee for a name change to ‘Qal‘at al-Bahrain: Ancient Harbour and Capital of Dilmun’ in order to highlight the site’s sea components (UNESCO 2006). In 2008 a boundary extension request was approved and the site was to include a second property component, which encompassed the sea channel and sea tower. A visual corridor extending 12 km into the sea was established as an extended buffer zone (UNESCO 2008). The Statement of Outstanding Universal Value (SoOUV) for the Qal‘at al-Bahrain site was adopted retrospectively in 2011 (UNESCO 2011).

According to the Statement of Outstanding Universal Value the OUV is conveyed by a number of attributes which are expressed through the archaeological and underwater components, located within the property, as well as the agricultural component, found within the agricultural gardens and palm groves surrounding the property. The attributes which convey OUV of the site and are currently not included in the property of the site are traditional palm groves, agricultural gardens, irrigation channels, traditional wells, and the ancient landscape with cultural and natural elements and its coastal setting. These attributes are currently located in the buffer zone of the property or, in the case of the agricultural gardens west of the property, excluded altogether (think heritagel 2013).

The request for the extension of the property boundary is based on the notion that all attributes expressing OUV should be included in the property of the site and by doing so amend the previous incorrect delineation and safeguard the attributes found within the agricultural gardens and palm groves. The cultural landscape of Qal‘at al-Bahrain would therefore include both natural and cultural elements represented in the landscape, as stated in the Statement of OUV.
AREA OF THE PROPERTY

The area of the property as inscribed

The area of the property inscribed in 2005 comprised a core zone of 16.3 ha, with a buffer zone of 168.7 ha, making it a total of 185 ha (UNESCO 2005). In 2008 (WHC-08/32.COM/24Rev) a minor boundary modification to include the sea access channel and sea tower was proposed by the State Party and adopted by the World Heritage Committee. Since then, the property encompasses a second property component of 15.7 ha, increasing the WHS property to 32 ha. The entire buffer zone for the site was extended to 1238 ha.

The area of the property as proposed to be modified

The proposed extension of the property is 38.1 ha, which enlarges the existing property to 70.4 ha. The proposed buffer zone extension is 73.8 ha, making the total buffer zone 1311.8 ha.

Coordinates to the nearest second

Table 1. Geographical coordinates to the nearest second for the inscribed property (Kingdom of Bahrain 2008) together with the proposed extension.

<table>
<thead>
<tr>
<th></th>
<th>Property component 1</th>
<th>Property component 2</th>
<th>Proposed property extension</th>
<th>Buffer zone</th>
<th>Proposed buffer zone extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>26°14'04 N</td>
<td>26°14'55 N</td>
<td>26°17'53 N</td>
<td>26°17'53 N</td>
<td></td>
</tr>
<tr>
<td>South</td>
<td>26°13'53 N</td>
<td>26°14'23 N</td>
<td>26°13'34 N</td>
<td>26°13'34 N</td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>50°31'06 E</td>
<td>50°30'54 E</td>
<td>50°30'49 E</td>
<td>50°30'39 E</td>
<td></td>
</tr>
<tr>
<td>East</td>
<td>50°31'28 E</td>
<td>50°31'24 E</td>
<td>50°31'15 E</td>
<td>50°31'15 E</td>
<td></td>
</tr>
</tbody>
</table>

Agricultural gardens and palm groves
The proposed property extension of the Qal’at al-Bahrain World Heritage Site consists of palm groves and agricultural gardens, located west, south and east of the Qal’at al-Bahrain property boundary and a buffer zone extending to the west and south of the current buffer zone. The agricultural gardens and palm groves were selected according to the level of preservation of attributes which convey the OUV of the site, their state of conservation and proximity to the site. The buffer zone extension is proposed in order to ensure that building and land use regulations regarding development control could be put in place as protective measures while at the same time creating a green belt for the proposed property extension.

**DESCRIPTION OF THE MODIFICATION**

The proposed property extension of the Qal’at al-Bahrain World Heritage Site consists of palm groves and agricultural gardens, located west, south and east of the Qal’at al-Bahrain property boundary and a buffer zone extending to the west and south of the current buffer zone. The agricultural gardens and palm groves were selected according to the level of preservation of attributes which convey the OUV of the site, their state of conservation and proximity to the site. The buffer zone extension is proposed in order to ensure that building and land use regulations regarding development control could be put in place as protective measures while at the same time creating a green belt for the proposed property extension.

**Geographical Description**

The boundary modification to the east of the property extends towards Qal’at al-Bahrain Avenue, it then follows the road south to the intersection with the path leading to Road No. 3249. Further south, the boundary includes a fraction of the farmland located north and south of Karbabad Avenue. The boundary line then continues towards the roundabout of Qal’at al-Bahrain Avenue, south of the property, and to the eastern entrance to the Qal’at al-Bahrain village.

The proposed boundary extension south of the current property excludes the row of houses which were constructed in the 1970s, with the purpose of relocating the residents whose houses were situated on the archaeological tell within the property of the site. The extension also excludes the new houses which are being built at present, south of Avenue 44, with the purpose of relocating the residents once again, this time at their own request, in light of the low construction quality of the previous houses as well as sand and erosion difficulties.

The southern boundary extension includes the gardens south of the previously mentioned residential area of Qal’at al-Bahrain village; it then follows the southern margin of the gardens westwards, towards the intersection of Avenue 44 and Avenue 42.

To the west of the current property, the extension continues from the southern boundary extension area to the north of Avenue 44, excluding the palm water factory situated at the intersection of Avenue 44 and Avenue 42 and continues west until the Road No. 6025. The palm water factory with its built structure disrupts the continuity of the agricultural landscape and has been excluded from the proposed extension. The factory does however manufacture medicinal waters which are native to Bahrain and are made mostly out of the local palm produce and therefore safeguard an important intangible cultural heritage tradition related to the property.

The proposed property boundary continues north of Road No. 6025, excluding a farmland area to the west, due to poor state of conservation, with two thirds of the land inactive and covered with shrubs. The extension includes the coastal area north-west of the current property.

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Attributes and Features

As recognised in both the Heritage Impact Assessment for the North-Road Development in Bahrain (think heritage! Ministry of Works 2013) and the Integrated Management Plan for Qal‘at al-Bahrain (think heritage! Ministry of Culture 2013) and according to the SoOUV of the site a number of the attributes expressing the site’s Outstanding Universal Value are currently not included in the property of the site. Table 2 indicates the justification of OUV as stated in the brief synthesis and criteria of SoOUV, the specific attributes, and the location of the attributes either in the property components or the buffer zone.

The agricultural gardens and palm groves which have been taken into consideration for the property extension maintain traditional methods of agricultural farming, which date back to the Dilmun period, some 4000 years ago, and are believed to have been cultivated in more or less the same way since. The Nomination Dossier (Kingdom of Bahrain 2004) states that the archeo-botanic analysis of the agricultural land surrounding the site indicates that the agricultural characteristics have undergone very little change since antiquity. Additionally, research conducted on movable and immovable archaeological remains located within the agricultural landscape, provides information on the agricultural land use of the area.

Structures for producing date syrup (madbasa) found at the archaeological excavations show the intentional cultivation of date palms, while archaeological evidence from Qal‘at al-Bahrain site confirms the existence of other cultivated crops (ibid). Dates and other agricultural products were part of the inhabitants’ diet but were also used as a valuable trading product. The evidence of Dilmun dates being exported from Bahrain to Mesopotamia (Bibby 1970) creates a link between the traditional agriculture of the land and maritime trade.

The coastal setting of the western gardens is a reminder of the natural and strategic setting of the site which was the centre of commercial activities. Traders on their voyages considered the island “fertile land, with palm trees and natural inland and deep water springs making it the ideal stop over to acquire sweet water, vegetables and fruit for [their] voyage” (Noor Al-Nabi 2012, p.15).

The traditional agricultural gardens’ significance is also illustrated in the existence of archaeological remains of both agricultural practices, such as the historic irrigation channels and urban elements. In the past the picturesque gardens were sustained by artesian springs, hand-pumped or emerging naturally from the ground to create a complex system of irrigation by flooding. The cultural landscape consists of traditionally irrigated date palm groves, which have survived for centuries, thanks to their multi-layered systems by which the tall palm trees provide shade with their foliage to the lower plants in the agricultural gardens which are separated into smaller plots in order to regulate irrigation (Kingdom of Bahrain 2004).

### Table 2. Attributes expressing OUV.

<table>
<thead>
<tr>
<th>No.</th>
<th>Justification of OUV</th>
<th>Attributes</th>
<th>Property</th>
<th>Buffer Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Qal‘at al-Bahrain: Ancient Harbour and Capital of Dilmun is an archaeological site comprising four main elements: an archaeological tell (an artificial hill formed over time by successive occupations)</td>
<td>Archaeological remains in tell; Visible features of tell in landscape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>a sea tower about 1600m north-west of the tell; Remains of sea tower</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>a sea channel of just under 16 hectares through the reef near the sea tower; Remains of sea channel</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>… palm groves. The palm groves and traditional agricultural gardens surround the site within the whole area of the land component of the buffer zone, being particularly noticeable on the western and northern sides, but also occurring on the eastern and south-eastern and northern sides, but also occurring on the eastern and south-eastern sides.</td>
<td>Palm groves; agricultural gardens; Irrigation channels; Traditional wells</td>
<td></td>
<td>BZ</td>
</tr>
<tr>
<td>5</td>
<td>… exceptional example of more or less unbroken continuity of occupation over a period of almost 4,500 years...</td>
<td>Archaeological tell and sea components including later additions I.e. Portuguese fortress</td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>… archaeological tell, the largest known in Bahrain, is unique within the entire region of Eastern Arabia and the Gulf as the most complete example currently known of a deep and intact stratigraphic sequence covering the majority of time periods in Bahrain and the Gulf</td>
<td>Archaeological tell, both excavated and unknown features</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>...an outstanding example of the might of Dilmun</td>
<td>Central excavation area; city wall</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>... and its successors during the Tylos and Islamic periods, as expressed by their control of trade through the Gulf channel</td>
<td>Central excavation area; city wall; coastal fortress; sea tower and sea channel</td>
<td>1, 2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The sea tower, probably an ancient lighthouse, is unique in the region as an example of ancient maritime architecture</td>
<td>Sea tower</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>... and the adjacent sea channel demonstrates the tremendous importance of this city in maritime trade routes through out antiquity</td>
<td>Sea channel</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Qal‘at al-Bahrain, was the centre of commercial activities linking the traditional agriculture of the land (represented by the traditional palm groves and gardens which date back to antiquity and still exist around the site) with maritime trade between such diverse areas as the Indus Valley and Mesopotamia in the early period (from the 3rd millennium BC to the 1st millennium BC) and China and the Mediterranean in the later period (from the 3rd to the 16th century AD)</td>
<td>Palm groves; traditional agricultural gardens; sea bay (harbour basin); access</td>
<td>2 BZ</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>The meeting of different cultures which resulted is expressed in the testimony of the successive monumental and defensive architecture of the site, including an excavated coastal fortress dating from around fortress AD, and the large fortress on the tell itself dating from the 16th century, which gives the site its name as Qal‘at al-Bahrain</td>
<td>Stratigraphy of site; Central excavation area; coastal fortress; Portuguese fortress (called Qal‘at al-Bahrain); name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>...the wonderfully preserved urban fabric and the outstandingly significant and diverse finds demonstrate a mêlée of languages, cultures and beliefs</td>
<td>Central excavation area; unaexcavated remains (supported exhibition in site museum)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>For example, a madbasa (an architectural element used to produce date syrup) within the tell is one of the oldest in the world, and reflects a link to the surrounding date palm groves, demonstrating the continuity of traditional agricultural practices from the 1st millennium BC</td>
<td>Madbasa (in Portuguese Fort and Coastal Fortress); palm groves</td>
<td>1, 2 BZ</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The site, situated in a very strategic location, was an extremely significant part of the regional Gulf political network, playing a very active political role through many different time periods</td>
<td>Coastal setting</td>
<td>1, 2 BZ</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>... which left traces throughout the different strata of the tell</td>
<td>Stratigraphy of archaeological tell</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Qal‘at al-Bahrain is a unique example of a surviving ancient landscape with cultural and natural elements</td>
<td>Both site components and buffer zone, in particular agricultural areas</td>
<td>1, 2 BZ</td>
<td></td>
</tr>
</tbody>
</table>
Traditional palm grove

Traditional agricultural garden

Irrigation channel

Multi-layered plantation system
View from the Qal'at al-Bahrain fort, western farmland

Costal setting

Palm grove with traditional fence
Current Use and Cultivation

Traditional agricultural practices are still in use in the selected agricultural gardens and palm groves, preserving the authenticity of the agricultural landscape and its use. The multi-layered system of crop cultivation is largely preserved. The open vegetable fields, south of the property preserve the traditional form of cultivation, however due to the lack of palm trees they use protective nets to create shade for the crops.

The farms produce indigenous as well as introduced crops. They consist of date palm trees, a variety of fruits (pomegranate, mango, citrus, banana, melon, papaya, knaar fruit, fig, mulberry, jackfruit, tamarind, sapota and almond), as well as vegetables (aubergines, broccoli, cabbage, carrot, cauliflower, chilli, coriander, cucumber, garlic, lettuce, mint, okra, onion, parsley, potatoes, radish, red and green spinach, and tomatoes). The traditional agricultural gardens maintain biological diversity and some crops which are no longer cultivated in other parts of the island, such as pomegranate, mango, and banana trees, can still be found in these gardens. Livestock such as chicken, cattle, sheep, goats and horses are bred in a number of farms.

Another important feature of traditional agricultural practices is the surface irrigation, using open channels to transport water by means of gravity to palm trees and other crops. The farmers no longer extract water manually from the natural springs, they rely on diesel pumps to extract ground water into bore wells in addition to using treated sewage effluent (TSE). The TSE was introduced in order to ensure the survival of the agricultural tradition in Bahrain, considering that the natural sweet water springs are largely depleted and the rising levels of water salinity are endangering the crops.

State of Conservation

The extension to the east of the property includes farmland which is directly adjacent to the site and consists of historic palm groves and open vegetable gardens with traditional forms of cultivation and above ground irrigation systems. According to the Heritage Impact Assessment (2013), the northernmost farmland area of the proposed eastern property extension consists of well-preserved agricultural gardens with dense palm and fruit trees. The farmland also includes archaeological remains of buildings, historic irrigation channels which remain in use, water basins and pools, and small animal stables as well as a residential building. The coastal setting of the eastern farms has been lost, as well as part of the farmland, due to land reclamation.

The south-eastern farmland directly adjacent to the property maintains a good state of conservation and creates the visual backdrop for the current property area and has therefore been included in the proposed property extension. However, the gardens further south lack authenticity due to the discontinuation of traditional cultivation practices as large scale sprinkler systems are utilised. Considering the substantial loss of attributes of OUV, this farmland north of Shaikh Khalifa Bin Salman Highway has not been included in the proposed extension.

The southern agricultural landscape consists of open vegetable fields with fewer palm trees, livestock breeding grounds and historically preserved irrigation channels which are in good state of conservation. The rural setting of the agricultural gardens has been preserved, the traditional agricultural practices are maintained, the farms contain traditional vegetation and man-made landscape features.

The western landscape is particularly picturesque with its dense palm groves, well-maintained traditional gardens, preserved irrigation channels, thriving vegetation and a coastal setting in the northern area. The rural setting of the farms is sustained; the farms are actively farmed using traditional practices and vegetation.
Buffer Zone Description

The proposed extension of the buffer zone is to the west and south of the current buffer zone. The modification was decided according to a visual analysis on site, as well as to the Heritage Impact Assessment (2013) report which was conducted for the northern coast of Bahrain, including the Qal’at al-Bahrain site. The existing buffer zone east of the property area extends sufficiently to serve as a buffer zone for the property extension and there is no need for boundary alterations.

The buffer zone is to include a minor extension to the south of the existing boundary, towards Avenue 24, incorporating into the buffer zone an archaeological area and a small agricultural area which were previously not included and which create a backdrop for the southern gardens in the proposed extension. The archaeological area is under the protection of the Ministry of Culture’s heritage legislation and contains archaeological remains that are believed to be linked to the Qal’at al-Bahrain property. The extension includes also a small garden area which is not of high significance to the site, however, it constitutes part of the green belt in the vicinity of the property and should, therefore, be included as part of the buffer zone area, with the intention of creating a protective green belt for the property, while at the same time ensuring the land use and building restrictions legislation are applied to it.

The proposed western boundary extends the existing buffer zone boundary, following the Al Nakheel Highway, until the western edge of Karranah Primary Girls School. The boundary then extends north, following Road No 6037 and borders the Karranah northern residential area.

West of the existing buffer zone the proposed buffer zone boundary will incorporate agricultural areas which are not part of the proposed property extension, due to the poor state of conservation and lack of attributes conveying the OUV of the site. These gardens do however form a protective green belt around the proposed property extension and should be included as part of the buffer zone in order to protect the wider setting of the agricultural landscape by applying building and land use regulations and preventing any high-rise development.

South-west of the existing buffer zone the proposed extension would include an area which is designated for residential buildings by the zoning plan, with the purpose of maintaining development control and maintaining view access from and towards the site.

Finally, to the north of the existing buffer zone the proposed buffer zone will include the coastal area, part of the sea as well as a portion of the Nurana reclamation. The buffer zone would extend 10 meters onto the reclamation for the purpose of ensuring visual protection of the site by creating a green landscape buffer around the future envisaged developments.

Proposed buffer zone border to the south
Archaeological area to the south
Nurana reclamation
The property extension is proposed considering to ensure that all attributes which make manifest the OUV, as mentioned in the previous chapter, are included in the property boundaries of the World Heritage Site.

Furthermore, the Nomination Dossier (Kingdom of Bahrain 2004) refers to the palm groves and agricultural gardens of Qal’at al-Bahrain as an “indissociable element” of the site, in relation to the landscape but also the economy of the island. It further states that “…the palm grove, directly linked to the archaeological tell contributes to its specific cultural identity and is definitely an important element of its cultural landscape” (ibid).

The brief synthesis of SoOUV for the site (UNESCO 2011) names four elements the site consists of: “1. an archaeological tell (an artificial hill formed over time by successive occupations; 2. a sea tower about 1600 m north-west of the tell; 3. a sea channel of just under 16 hectares through the reef near the sea tower; 4. The palm-groves and traditional agricultural gardens surround the site within the whole area of the land component of the buffer zone, being particularly noticeable on the Western and Northern sides, but also occurring on the Eastern and South-Eastern sides.”

Therefore, it can be said that the agricultural landscape has been recognised as a significant element of the site and its OUV since the site’s initial inscription and should be integrated into the property boundaries of the site.

The minor boundary modification of the Qal’at al-Bahrain site is proposed with the understanding that the OUV has not been fully expressed through the current property area, as it does not include the attributes found in the agricultural landscape surrounding the site and that a boundary modification can correct this oversight.

Furthermore, regarding the integrity of the site, it is stated in the SoOUV (UNESCO 2011) that “the surrounding adjacent landscape (both terrestrial and marine) is preserved and nearby developments, notably urban developments, have not compromised the visual or physical integrity of the property,” however, in order to maintain the visual and physical integrity of the site, considering the growing urbanisation and industrialisation issues, the property boundary as well as the buffer zone need to be extended with adequate legal protection applied to them.

Palm tree creating a shade for the crops underneath

Date palm trees and banana trees
Heritage Legislation

The Qal'at al-Bahrain World Heritage Site currently consists of two property components which are registered as National Monuments according to the Kingdom of Bahrain Legislative Decree No. 11 of 1995, concerning the Protection of Antiquities and Royal Decrees 21 of 1983, 26 of 2006 and 24 of 2008.

The Ministry of Culture is preparing an amendment to the Heritage Law, Decree 11 1995, which will be ready for promulgation in the second quarter of 2014. In order for the cultural landscape of Qal'at al-Bahrain to be protected at the highest national level, the designation has been made by the Ministry of Culture to include a new subcategory, Cultural Landscape, to the existing category of Immovable Monuments which currently consists of two subcategories: Archaeological Heritage and Historic Buildings and Houses. Cultural Landscapes, as Immovable Monuments will fall under the protection of the Ministry of Culture once the Amendment to the Heritage Law has been passed.

Concerning the protection and maintenance of the natural heritage of the agricultural gardens and palm groves of Qal'at al-Bahrain, the national legislation on environmental resources is applied. Legislative Decree No. 21 of 1996 concerns control over the environmental aspect, and the right to develop and implement policies for environmental protection. Further, Legislative Decree No. 21 of 1983 concerning the Protection of Palm Trees (Article 1) states that cutting down or causing the cessation of growth of palm trees is prohibited.

Land Ownership

A Memorandum of Understanding (MoU) draft has been created between the Ministry of Culture and the owners of the properties whose land is located within the area designated for the extension of the site property. The MoU explains the particularities of the responsibilities of each party, the benefits as well as the legal measures which would be taken in case one of the parties violates the understanding.

Buffer zone

The current buffer zone is under the protection of the Royal Decree 26 of 2006. This Decree instructs the Ministry of Municipal Affairs and Agriculture to refrain from any land reclamation in the extended buffer zone and prevent the construction of buildings that exceed 3 storeys. The majority of the buffer zone is currently designated as unplanned land.

Legislative Decree No (11) of 1995, of the Heritage Legislation concerning the Protection of Antiquities, provides legal protection for areas surrounding protected areas.

IMPLICATIONS FOR LEGAL PROTECTION

Article 7. states that: “No planning or partition projects in the areas of which artefacts are found shall be approved except after obtaining the permission of the competent authority of archaeology which will determine the areas where archaeology landmarks are found to be published in the Official Gazette and notify the authority concerned with planning and partition”.

Article 8. further states that: “Building or rebuilding permits shall not be given for areas close to archaeological sites and historical buildings except after obtaining the permission of the competent authority to ensure the construction of modern building which shall suitably confirm with archaeological features.”

This article provides the theoretical background for the justification of a buffer zone of the entire site, which will also correspond to the cultural landscape. The restrictions for the buffer zone of the WHS are to be integrated in the Land use and Zoning regulations which are subcategories of the Physical Planning Legislation of 1994 at their forthcoming revision in late 2014.
The Integrated Management Plan (MP) for Qal‘at al-Bahrain World Heritage Site for 2013-2018 already indicates the necessity for the integration of the cultural landscape into the property and the enlargement of the existing buffer zone. It has been formally adapted by the Minister of Culture and is currently implemented. The MP recognises agricultural heritage as an essential part of the WHS and addresses the management of the agricultural landscape as one of the core elements, together with the archaeological and underwater archaeological elements. The MP is structured in five strategic objectives: 1. Legal and De Facto Protection; 2. Conservation Management; 3. Administration and Finance; 4. Research; 5. Interpretation, Presentation and Promotion.

The MP recognises that potential threats to the gardens are caused both by natural and human factors. The natural factors include high levels of ground salinity, ground water depletion as well as vermin infestation, while the unplanned urban development, negligence and lack of cultivation of the land are threats imposed by human impact.

The General Directorate for Agricultural Affairs within the Ministry of Municipalities Affairs and Urban Planning performs research, maintains the drainage systems within the gardens and conducts monitoring activities which include: 1. Controls of vermin infestation, with an emphasis on palm trees; 2. Annual checks of the level of soil salinity, as well as water abstraction and quality (including bore well salinity); 3. Monthly check of ground water levels; 4. Analysis of soil composition and chemical characteristics (on request); 5. Recording of animal breeding activities and veterinary services; 6. Recording amounts of subsidies and sponsorship for modernisation of agricultural practices; 7. GIS-based mapping of palm trees; 8. Keeping statistics of crop production and market pricing on a national level.

The MP implies that an interpretation programme should consider potential pathways, and adequate fencing which would enable visitors to view the gardens without walking through the farmland, which could cause damage to the gardens. The agricultural gardens and palm groves are all in private ownership and are mostly inaccessible to visitors; however a pathway west of the existing property enables access to the gardens as well as the coast.

It is envisioned that after the minor boundary modification is approved, the management of the site will continue implementing the above mentioned management goals concerning the agricultural gardens and palm groves in cooperation with the property owners and tenants.
MAP 1: Both delimitations of the property and both delimitations of the buffer zone.
MAP 2: Both delimitations of the property and both delimitations of the buffer zone detail.
MAP 3: Proposed revision of property boundary and buffer zone boundary.
PHOTO CREDITS

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Page 5    Agricultural gardens and palm groves.
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