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## **Dholavira: A Harappan City (India) No 1645**

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### **Official name as proposed by the State Party**

Dholavira: a Harappan City

### **Location**

Village Dholavira  
Tehsil Bhachau  
Kachchh district  
Gujarat  
India

### **Brief description**

The ancient city of Dholavira, the southern center of the Harappan Civilization, is sited on the arid island of Khadir in the Great Rann of Kachchh in the State of Gujarat. Occupied between ca. 3000-1500 BCE, the archaeological site comprises a fortified city and a cemetery.

The city, strategically located between two seasonal streams for harnessing scarce water, comprises the Castle, the Bailey, the Ceremonial Ground, the walled Middle Town and the Lower Town. The entire city is fortified by a wall with bastions at regular intervals. Gates of various configurations, together with streets and houses of different grades, depicts a stratified social order. A sophisticated water management system, including wells, water tanks, reservoirs, drains and dam witnesses the ingenuity and struggle of the Dholavira people for survival and thriving on this harsh island.

Outside the city to the west is the cemetery, of which the great majority of the burials are memorial in nature, testifying to the unique view held by the local people to death. Bead processing workshops and artifacts of various kinds such as copper, shell, stone, jewelry of semi-precious stones, terracotta, gold, ivory and other materials have been found during the 13 field sessions of archaeological excavation between 1989 and 2005, exhibiting the art and technological achievement of the time. Evidence for inter-regional trade with other Harappan cities, as well as with cities in the Mesopotamia region and the Oman peninsula have also been discovered.

### **Category of property**

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a *site*.

## **1 Basic data**

### **Included in the Tentative List**

15 April 2014.

### **Background**

This is a new nomination.

### **Consultations and Technical Evaluation Mission**

Desk reviews have been provided by ICOMOS International Scientific Committees, members and independent experts.

An ICOMOS technical evaluation mission visited the property from 17 to 23 December 2020.

### **Additional information received by ICOMOS**

A letter was sent to the State Party on 24 September 2020 requesting further information about the justification for inscription and comparative analysis, integrity, conservation, boundaries and management.

An Interim Report was provided to the State Party on 27 January 2021, summarising the issues identified by the ICOMOS World Heritage Panel. Further information was requested in the Interim Report including: the property area, the buffer zone, the legal protection of the quarry sites, tourism management, heritage impact assessments, and further research.

Additional information was received from the State Party on 11 November 2020 and on 25 February 2021 and has been incorporated into the relevant sections of this evaluation report.

### **Date of ICOMOS approval of this report**

18 March 2021

## **2 Description of the property**

Note: The nomination dossier and additional information contain detailed descriptions of this property, its history and its state of conservation. Due to limitations on the length of evaluation reports, this report only provides a short summary of the most relevant aspects.

### **Description and history**

So far, there are more than 1,000 Harappan sites discovered in the world. The nominated property is the sixth largest of all. It is the centre of the southern part of the Harappan Civilization and one of the few best preserved urban settlements in South Asia dating from the 3<sup>rd</sup> to mid-2<sup>nd</sup> millennium BCE. The nominated property consists of the archaeological remains of the fortified city of Dholavira and a cemetery located to the west of the city. Within the city there is the Castle in the south. The Bailey is attached to the Castle from west. The Ceremonial Ground is on the north of the Castle, and further north is the walled Middle Town. The Lower Town is on the east of the Middle Town. The entire city is

enclosed by a fortified wall in rectangular layout. Stone was the main building material for the fortifications, building foundations and plinths, combined with mud-bricks and mud mortar.

The city is located between two seasonal streams, the Mansar in north and Manhar in south, for harnessing scarce water. The city is fortified with a wall running on all four sides, except two openings near the northeast and southwest corners, possibly for taking water from the streams into the city; the wall is reinforced by bastions at certain intervals. The orientation is tilted a few degrees counter-clockwise of the cardinal directions. All the other walls, streets and buildings in the city follow this orientation. The lengths of the walls in the city, and streets dividing spaces follow certain ratios such as 1:1, 1:2, and 5:7, reflecting the long-lasting tradition of Harappan city planning.

The Castle nests on the tallest mound in the city, and is heavily fortified, with the imposing north gate being at a commanding height over the Ceremonial Ground, the Middle Town and the Lower Town. In the thickness of the wall the gate consists of two elevated chambers flanking a sunken passageway. A large ten-lettered gypsum inscription is found in the western chamber with the width equal to the width of the passageway, suggesting that this inscription may originally be inlaid on a large wooden board and placed on the lintel of the doorway. There are other gates with similar forms in the castle walls for accessing the Bailey on the west and other parts of the city. A Broadway running east-west divides the Castle into two parts. A network of drains is found for collecting and carrying rain water to the reservoir in the western part of the Bailey. Bead-workshop, water tanks, a step well, and houses of various stages are found in the Castle.

The Bailey shares its eastern wall with the Castle. A number of workshops and houses are found in the east part. The west part is the reservoir for storing rain water collected from the Castle, and in the southeast part is located a large granary.

The rectangular Ceremonial Ground is a relatively flat area originally annexed to the Castle as a residential area, but later cleared for carving out the open space.

The Middle Town is fortified with gates linking to the Lower Town and other parts of the city. A grid street system divides the Town into square units within which houses and workshops are constructed. The streets are ranked according to their width as the arterial streets (4.2-5.8 m), sub streets (3.2-3.5 m), lanes (1.2-1.7 m) and by-lanes.

The Lower Town is not circulated by wall, but is protected by the city wall. An arterial street runs from the Middle Town eastward through the east gate to the Lower Town, and continues to the east end of the town. An N-S arterial street crisscrosses the E-W street to form the grid pattern. The organization system of the streets is the same as the

one in the Middle Town. A workshop for mass bead processing was found in the Lower Town.

The water system of the city, in addition to the rain water collection system in the Castle and Bailey, comprises a dam on the Manhar Stream for collecting the water, a series of reservoirs to the east and north of the Castle, and drains in the Middle and Lower towns.

Outside the city to the west is the Cemetery, which occupies more than 50 hectares. Exclusive of Harappan period, the burials are classified into 6 types, namely rectangular memorials, cairns, composite graves, fractional burials, inhumation, and hemispherical monuments. Except a few fractional burials in which parts of human remains were found, and 1 inhumation, all the constructions are cenotaphs.

Rich artifacts have been obtained from the excavation campaigns, these include ceramics from all 7 historical stages, around 12,000 beads in various shapes together with processing tools such as 1,588 drill bits of erenite, a signboard with 10 large gypsum signs, hundreds of seals and sealings, stone columns and other architectural elements, nearly one thousand weights made of 55 materials, copper, gold, silver, lead and other metal objects, terracotta figurines, shell artifacts, stone bangles and other lapidary items.

The occupation of the site spans 1,500 years beginning in c. 3000 BCE, and is divided into 7 stages. Stages I-III (3000-2500 BCE) are the Dholavira culture; Stages IV and V (2500-2000 BCE) correspond to the Harappan culture; Stage VI (1950-1800 BCE) corresponds to the late Harappan cultural; and Stage VII (1500-1450 BCE) corresponds to the post Harappan culture. The site was un-occupied briefly between 2000 BCE and 1950 BCE and again for a longer period between 1800 BCE and 1500 BCE.

The remains of the settlement of Stage I (c. 3000-2900 BCE) lie buried beneath the Castle. It was enclosed by a massive wall, and formed the nucleus on which the subsequent settlements of the later stages expanded into a fully-fledged city. The idea of town planning, evidence of copper making, stone dressing, bead making, shell working and ceramics, and use of the standardized bricks and stones, are the features of this stage.

During Stage II (c. 2900-2800 BCE) the fortification walls were reinforced by a massive brick masonry wall from the inner side. A residential area appeared to the north of the settlement. Pottery forms and artifacts diversified as well as increased in both quantity and quality.

Stage III (c. 2800-2500 BCE) witnesses the most extensive expansion of the site. The walled settlement was further reinforced and transformed into the Castle. The Bailey was added to it from the west. In the north, the residential area of Stage II was flattened to form a multipurpose ground. Further north, the extensive walled

Middle Town was established. Large scale reservoirs were created on the east, south and west of the Castle. An outer fortification wall was built to surround the entire city. The Cemetery appeared outside the city to the west during this period.

During Stage IV (c. 2500-2100 BCE) no change on the layout and construction of the city was found, except the sudden stop of decoration of buildings and constructions using colored clay, suggesting that there was a change of power or belief system. The ten-signed inscription of unusually large size was found. All the classical Harappan elements such as pottery, seals, weights, beads, metal items, ivory, shell, faience, steatite, clay and stone were found in abundance. Local pottery types other than Harappan's were also found.

Stage V (c. 2100-2000 BCE) witnesses the decline of the city, as demonstrated by the lack of maintenance of the city, such as the low quality of repair work of the buildings in the city, and the water structures that were damaged during the mid of the Stage V were never repaired to be functioning again. Toward the end of this Stage, an earthquake devastated the city, causing it to be abandoned for a short period of time.

Stage VI (c. 1950-1800 BCE) is a transforming period when the one-time city shrank into a small town, confined to the Castle, the Bailey and Ceremonial Ground. A wall of different construction than previous stages was raised on the north of the Ceremonial Ground to delimit the settlement. New types of ceramics and other items from other regions have been found.

Stage VII (c. 1500-1450 BCE) shows the arrival of a new settler after 300 years of vacancy with totally different architectural form. This circular form of houses that they built can still be seen in a greater part of rural India. There is no urban planning. The site was never occupied after Stage VII.

### **Boundaries**

The nominated property has an area of 103 ha. ICOMOS requested the State Party to clarify the rationale behind the boundary demarcation in order to confirm that all the archaeological resources pertaining to Dholavira City are included in the property area. Additional information provided by the State Party in February 2021 explains that two archaeological surveys of entire Khadir Island were conducted in 1968-1969 and 1987-1989 respectively, both by the Archaeological Survey of India. Based on the results of these surveys all the archaeological remains that contribute to the value of the nominated property are included in the proposed property area. The State Party confirms that there are some archaeological sites outside the proposed property boundaries, such as the ancient quarry sites some 4 km to the northeast of Dholavira City. However, these sites are not contemporary with Dholavira, and as they do not contribute to the values of the nominated property, they are not included in the nomination.

ICOMOS considers that the proposed property boundary covers all the identified attributes demonstrating the proposed Outstanding Universal Value of the site, and is adequate for the protection of the property.

The buffer zone initially proposed by the State Party in the nomination dossier is of 148 ha. The boundary is delimited 300 metres from the boundary of the property area, following the prescription of Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act 2010). Of the buffer zone, the first 100 metres from the property boundary is the Prohibited Area, and the further 200 metres is the Regulated Area.

The additional information from the State Party in February 2021 indicates that the buffer zone has been extended by the Government of Gujarat, covering the entire west strip of the Khadir Island with total area of 4,865 ha, within which are located the ancient quarry sites, the potential port site and a check dam site in the upstream part of Manhar Stream that may relate to the nominated property. A copy of the notification with the map showing the boundary of the extended buffer zone is annexed to the letter.

ICOMOS welcomes the State Party's initiative to extend the buffer zone. ICOMOS notices, however, that as the extended part has not yet been granted legal provision for the protection of archaeological remains, it does not currently offer protection to the archaeological remains in the extended area, nor does it offer an additional layer of protection to the wider setting at this stage.

### **State of conservation**

The documentation and cataloguing of the cultural materials and artefacts found during excavations were performed by the excavation and exploration section and museum and antiquity section of the Archaeological Survey of India, as well as the documentation of conservation interventions.

The nominated property is overall in good condition, due to the conservation interventions conducted simultaneously with the 13 archaeological excavation campaigns between 1989 and 2005, as well as the subsequent annual conservation programme up to the present. The interventions include pointing the masonry with lime mortar, dismantling and resetting of loose, dislodged, or collapsed masonry, coping the wall top with watertight materials, desilting of reservoirs, removal of vegetation, and levelling the ground for improving surface water discharge. Protective measures include construction of dwarf wall with chain link fencing on top, building a culvert over Manhar Stream for accessing the site, laying PCC pathway in front of the East Gate, and providing an iron gate to the nominated property. The archaeological remains that have undergone conservation interventions include the fortification structures, the gates, the reservoirs and water tanks, and other structural remains and workshops of the Castle, the Bailey, the Middle Town and the Lower Town.

Based on the information provided by the State Party and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the state of conservation of the nominated property is good.

#### **Factors affecting the property**

Based on the information provided by the State Party in the nomination dossier as well as the Disaster Management Plan, which is a part of the Site Management Plan, and the observations of the ICOMOS technical evaluation mission, ICOMOS considers that the main factors affecting the property are natural disasters such as earthquake, cyclones and occasional downpours, as well as tourism visitations.

The nominated property is located in a highly sensitive seismic zone. Severe earthquakes were recorded in the past. The most recent strike was more than 7 on Richter scale one in 2001, which caused partial collapse of two gate pillars of Stage VII.

The site is located in the desert region with average annual rainfall less than 25 mm. Cyclones and monsoon rainfalls occasionally hit the site in the form of downpours, causing surface erosion and the silting up of excavated parts, such as reservoirs and drains. However, such events are extremely rare in the past. A drainage system has been installed in sensitive parts of the site to address this problem, however, close monitoring and maintenance should be undertaken to ensure its functionality.

Being located in hot and arid zone, the surface temperature of the site in summer months often exceeds 40°C. Therefore, most visitations occur in winter months from November to February of the subsequent year when the temperature is lower. This has caused uneven distribution of visitation, which may put added pressure on the site. In its additional information letter in February 2021, the State Party has confirmed that as currently the number of visitors is low, visitation does not pose any threat to the preservation of the site.

In the future, a significant increase in the number of visitors is expected due to 3 factors: the Ministry of Tourism has declared the nominated property an Iconic Tourist Site of India; the construction of a new road linking Khadir Island to Bhuj, the district capital and closest airport, which will reduce the time to drive to Dholavira from 6 hours to 1.5 hours; and World Heritage status, should the site be inscribed on the World Heritage List. Adverse impact on the archaeological remains may occur due to increased visitation. The Visitor Management Plan has been developed, and is being implemented. In the plan, however, strategy or policy for preventing the nominated property from adverse impact by large number of visitors is not included. Furthermore, the carrying capacity has not been established for the nominated property as a whole and for vulnerable areas within the site.

There are other minor factors affecting the property, including vegetation growth, slow deterioration of exposed materials, vandalism and looting. These threats are under control by the site management authority.

### **3 Proposed justification for inscription**

#### **Proposed justification**

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

- The nominated property is one of the very few best preserved and *in situ* urban settlements in South Asia dating from the 3<sup>rd</sup> to mid-2<sup>nd</sup> millennium BCE.
- Dholavira is one of the very few large Harappan settlements where an entire sequence spanning the history of Harappan cities is observed.
- The nominated property testifies the interchange of human values through its city planning, construction protocol and cultural uniformity with other Harappan cities during its initial and prosperous phases, the internal trade with other Harappan cities and external trades with the Magan (modern Oman peninsula) and Mesopotamian regions.
- The configuration of the city of Dholavira, during its heydays, is an outstanding example responding to a stratified society having the principle qualities of planned and segregated urban residential areas based on possibly differential occupational activities.

#### **Comparative analysis**

The comparative analysis is presented in three parts: comparisons with contemporary archaeological sites of national importance in India, comparisons with important Harappan sites in other countries, and comparison with contemporary World Heritage sites as cradles of early civilizations of the world.

The comparison with sites of national importance in India is seen to show that the nominated property is set apart from 6 other sites of Harappan culture through its urban planning and water management system, its rich artefacts and remains, its stratified society and the presence of funerary monuments.

Comparison with other Harappan cities in the South-Asian sub-continent shows that one of the unique features that makes the nominated property stands out from other Harappan cities is its multi-layered defence system. In addition to the overall city walls, the Castle, the Bailey and Middle Town are also fortified, with uniquely configured and planned gateways. The water management of the city, particularly one that used a sophisticated draining system and a dam for harnessing surface water, coupled with a series of reservoirs for storage, is the most advanced known from the Harappan Civilization. The

large quantity of diversified commodities produced in Dholavira and the trade with neighbouring regions testify to the strategic role it played in Harappan culture. The extensive use of stone for both city construction and burial is unique among Harappan cities.

In comparing Dholavira with representative sites of other contemporary civilization in the world, the State Party argues that the Harappan city of Dholavira distinguishes itself as a unique property that significantly demonstrates the attributes of urban planning with fortification and defence mechanisms, a stratified society reflected in architecture and planning, architectural design in terms of gateways and residential areas, a water management system, art and technology, interregional trade and supply of raw materials.

In its letter of September 2020, ICOMOS requested the State Party to better contextualize the history of the property in order to reinforce the comparative analysis. The State Party responded in the additional information letter in November 2020 with a detailed comparison in terms of town planning, components of the city and features, water management system, weights and measures, craft activities, and evidence of disposal of dead. In particular, further comparison was made with Lothal, another contemporary Harappan site in the region. These additional comparisons, together with the information from the nomination dossier, illustrate clearly both the similarity and distinctness of the nominated property in comparison with other contemporary Harappan cities.

ICOMOS considers that the comparative analysis adequately demonstrates the essential role the nominated property plays as the centre of the southern part of the Harappan Civilization. Dholavira City contributes significantly to the overall understanding of this civilization.

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ICOMOS considers that the comparative analysis justifies consideration of this property for the World Heritage List.

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#### **Criteria under which inscription is proposed**

The property is nominated on the basis of criteria (ii), (iii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the cultural uniformity of the nominated property with other contemporary Harappan cities was achieved through contact with other Harappan settlements; the idea of town planning introduced from the Sindh Region, which further influenced other nearby settlements like Surkotada, and Junjira in Gujarat, demonstrated interchange of human values; and the activities of mass production of crafts, intensive trade with other regions,

and controlling of its vast hinterland testified the interactions among peoples.

While acknowledging the existence of the trade between the nominated property and cities of other civilizations, ICOMOS considers that there is insufficient evidence to show how Dholavira would have influenced its two trading partners or vice versa. ICOMOS considers that this criterion has not been justified.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion is justified by the State Party on the grounds that the nominated property covers the entire time span of Harappan Civilization from the 3<sup>rd</sup> to the 2<sup>nd</sup> millennium BCE. The rich items unearthed illustrate the idea of city planning, stratified society, ways of life, art, and technologies in architectural design and construction, burial structures, production such as manufacturing of pillar elements and beads, water management, metallurgy, and trade.

ICOMOS considers that the nominated property being occupied for more than 1,500 years, witnesses the entire trajectory of Harappan Civilization. It not only showcases the common features of typical cities of the Harappan Civilization, but also demonstrates its own particular characteristics, such as the strategic location for harnessing scarce water on this arid island, for controlling raw materials, and for facilitate trading; the sophisticated and advanced water management system; the preconceived town planning, the multi-layered defensive system; extensive use of stone in construction; techniques for stone element processing; the scale of bead manufacturing; and the unique burial tradition, which contribute significantly to a wider understanding of the whole picture of Harappan Civilization. ICOMOS considers that this criterion is justified.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that the city planning and configuration of fortification adapting to local geographic and geomorphological conditions, as demonstrated by the siting of the city, the orientation, ratios and proportions of the buildings and constructions, and placement of both settlements and workshops within the city, are outstanding examples of the Harappan Civilization.

ICOMOS considers that while the adaptation of town planning to local conditions was a common practice for all Harappan cities, the preconceived city planning of Dholavira, with its multi-layered fortifications, sophisticated water reservoirs and drainage system, and the extensive use of stone as a building material, together differentiate it from other Harappan cities. As a result,

Dholavira can be seen as an outstanding example of Harappan urban planning. ICOMOS considers that this criterion is justified.

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ICOMOS considers that the nominated property meets criteria (iii) and (iv), and that criterion (ii) has not been justified.

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### **Integrity and authenticity**

#### **Integrity**

The integrity is based on the completeness of the Dholavira City and associate cemetery outside the city. The State Party considers that all the necessary attributes of the nominated property, such as proto-historic systems of urban planning, water management systems, architectural elements and design, traditional knowledge of art and technology, are preserved *in situ*. All the components and elements that contribute to the potential Outstanding Universal Value of the property are within the nominated area and are intact in all respects.

The State Party has expanded the buffer zone from 148 ha to 4,865 ha, covering the entire west strip of the Khadir Island. This initiative demonstrates the State Party's recognition of the importance of the wider setting of the nominated property.

ICOMOS considers that all the essential attributes are within the nominated property area. ICOMOS commends the State Party for extending the buffer zone to include the ancient quarry sites and other archaeological sites, and ensuring their protection, as being important contextual elements for the understanding of the nominated property. ICOMOS considers that the conditions of integrity have been met.

#### **Authenticity**

The authenticity of the nominated property is based on the truthfulness and completeness of the attributes that convey its potential Outstanding Universal Value, which include the overall form and design, materials, location and setting of the Dholavira City. Because the site has never been occupied after 1500 BCE, the historical landscape remains largely unchanged, with the location of the site, the spatial relationship between the city and the two seasonal streams, as well as between the city and the cemetery, the town planning, and the elements parts of the sites all being authentically preserved. The past conservation practices have respected the principle of minimal intervention in general.

ICOMOS considers that the excavated remains along with the sub-surface remains of the city of Dholavira are authentically preserved.

ICOMOS considers that the conditions of integrity and authenticity have been met.

### **Evaluation of the proposed justification for inscription**

ICOMOS considers that the comparative analysis justifies the consideration of this nominated property to the World Heritage List.

ICOMOS considers that the nominated property meets criteria (iii) and (iv), but that criterion (ii) has not been demonstrated.

ICOMOS considers that the conditions of integrity and authenticity have been met.

#### **Attributes**

The attributes that contribute to the proposed Outstanding Universal Value of the nominated property are: the strategic location of the Dholavira City for water harnessing, for accessing raw materials and for trading; the layout of the city and the spatial relationship between the city and the cemetery that reflect the Harappan planning tradition and social stratification; the water management system in the city as indicator of the technological advancement; and all the underground and above ground archaeological evidence of the fortification walls, the Castle, the Bailey, the Ceremonial Ground, the Middle Town, the Lower Town, the series of reservoirs, the dam, and the Cemetery.

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ICOMOS considers that the attributes have been carefully identified and support the proposed Outstanding Universal Value.

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## **4 Conservation measures and monitoring**

### **Conservation measures**

Conservation interventions have been conducted since the beginning of the archaeological excavation in 1989 and continued after the completion of the excavation to the present. As a result, the unearthed parts of the site have been consolidated and stabilized, and in some parts, reconstructed for both conservation and interpretation purposes. The conservation interventions have been carried out following the internationally accepted principles such as minimum intervention. All the interventions have been well documented.

Parts of the excavated areas have been back-filled for protecting the fabrics from weathering.

Protective drains and drain pipes have been installed to prevent surface erosion and silting up of the reservoirs, water tanks and other low-lying areas of the site from rainfalls.

The Conservation Plan has been developed as a part of the Site Management Plan in which an extensive list of conservation interventions is provided. ICOMOS requested the State Party to provide further information on the funding and human resources available for

undertaking these activities. The State Party responded in the additional information in November 2020, confirming that sufficient fund and human resources have been allocated by the Archaeological Survey of India, and the conservation activities will be undertaken according to the annual plan as prescribed in the conservation plan.

ICOMOS considers that the current conservation measures are adequate for the protection of the site.

### **Monitoring**

The monitoring system established by the State Party links directly to the conditions of the attributes that testify the values of the site. The indicators are grouped into 5 categories, including the state of conservation, conservation works, visitor management, research and development, and buffer zone development. While the main institutional monitoring body is the Vadodara Circle and Bhuj Sub-Circle office of Archaeological Survey of India, Ministry of Tourism and Ministry of Environment and Forest jointly monitor the development associated with tourism and wildlife. The frequency of data collection is mainly quarterly, but adjustable to specific events such as monsoon rainfall or other urgent matters.

ICOMOS considers that while the current system is adequate to monitor the main aspects of the site, an instrumental monitoring system should be installed at key parts of the site to improve the focus and precision of monitoring, as well as to alert the site staff to any unauthorized access at earliest possible opportunity to prevent looting. Careful monitoring of the site drainage is also essential to inform the site staff on the effectiveness of this preventive measures, based on which regular maintenance and further improvement can be made. Capacity building for the site staff is recommended so that the daily monitoring and maintenance could be performed by site personnel. Streamlining of the monitoring system with the Periodic Reporting questionnaire would also be useful.

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ICOMOS considers that the current conservation activities and monitoring schemes are suitable, but could be improved through instrumental monitoring and capacity building.

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## **5 Protection and management**

### **Documentation**

All the archaeological explorations and excavations were recorded by the Indian Archaeological Review, an annual record of conservation works maintained by the Archaeological Survey of India (ASI), and are downloadable from the ASI website. These reports not only recorded the archaeological activities, but also served as inventory of the items unearthed from the site. Starting from 2000, in addition to archaeological excavation reports conservation reports are also compiled annually up to 2018. The inventory, records and archives are stored at the office

of the Senior Conservation Assistant at the Bhuj Sub-circle office, the Superintending Archaeologist at the ASI Vadodara Circle office and Archaeological Survey of India Headquarters in New Delhi.

The State Party has conducted a series of research on unearthed artefacts, such as bead drilling techniques, ernestite drill bits, lithic implements and ceramics. Non-destructive techniques like GPR, multispectral drone survey have already been conducted for documentation and better understanding the site. In future, non-destructive surface studies employing geophysical techniques may be undertaken, and excavation may be conducted in specific areas based on the outcome of such surveys.

ICOMOS considers that a future research strategy should be established to better relate research to where further understanding of the archaeological sites in the buffer zone is needed.

### **Legal protection**

The nominated property enjoys the top level of legal protection. It has been designated as an "ancient monument" of national importance on 27<sup>th</sup> August 2003 by Gazette Notification no. 776 of 2003-04, Regd. No. D.L- 33004/99. It is protected by 5 heritage laws and a conservation policy at national level. These are: the Ancient Monuments and Archaeological Sites and Remains Act 1958 (AMASA) , amended in 2010; Ancient Monuments and Archaeological Sites and Remains Rules 1959 (AMASR); AMASR 2011; the Antiquities and Art Treasures Act 1972; the Antiquities and Art Treasures Rules 1973; the National Monuments Authority (Appointment, Functions and Conduct of business) Rule 2011, and the National Conservation Policy 2014. Based on these legal instruments, the property area is delineated, and is protected by a Prohibited Area measuring 100 metres in all directions from the boundary of the property area, and a Regulated Zone of 200 metres in all directions from the boundary of the Prohibited Area is demarcated. The Prohibited Area and Regulated Area together form the buffer zone of the nominated property.

The additional information from the State Party in February 2021 indicates that the buffer zone has been extended by the Government of Gujarat. In the official notification for the extension of the buffer zone it states that the buffer zone overlaps with Kachchh (Kutch) Desert Wildlife Sanctuary. It further states that in the said buffer area, the existing provisions for obtaining necessary approvals from the competent authority shall remain the same.

ICOMOS in its Interim Report also requested the State Party to provide detailed information on the latest legal status of the ancient quarry sites to the northeast of the nominated property. The State Party responded that the proposal had been made on January 2021 by the Ministry of Culture representing the Central Government to declare the two quarry sites as being of national importance, in order to put them under protection of the

Ancient Monuments and Archaeological Sites and Remains Act 1958. Currently the proposal is under two-month public consultation. Once the process is complete, official notification will be issued.

ICOMOS considers that the current legal protection for the nominated property area is adequate. ICOMOS welcomes the initiative of the State Party to extend the buffer zone. ICOMOS notices that currently no new legal provision for the protection of archaeological remains has been granted to the extended part of the buffer zone. Therefore, ICOMOS recommends the State Party to declare the extended part of the buffer zone as Regulated Zone under the Ancient Monuments and Archaeological Sites and Remains Act 1958 (AMASA), amended in 2010, in order to ensure that any development in this area is subject to approval by competent authority. Alternatively, a new legal provision at national or state level should be developed and granted to the extended area in order to offer adequate legal protection to the cultural heritage within the area.

ICOMOS also welcomes the State Party's effort on declaring the ancient quarry sites under national legal protection, and urges the State Party to approve the proposal at the earliest possible time.

#### **Management system**

The nominated property is owned by the Archaeological Survey of India (ASI), an attached office and organization under the Ministry of Culture. ASI plays the essential role in the management, protection, conservation, maintenance, and monitoring of the property.

The buffer zone is managed by a number of stakeholders, including the Archaeological Survey of India and its local branch, Ministry of Environment and Forest and its local branch, Ministry of Tourism and its local branch, local governments at the state, district and village levels, and a tourism company.

Noticing that progress has been made on site management since the submission of the nomination dossier and the ICOMOS technical evaluation mission, and that the buffer zone has been expanded, with new legal statutes are being granted to the two ancient quarry sites, ICOMOS requested in its Interim Report an update on the management mechanism of the nominated property and buffer zone. The State Party replied in the additional information letter in February 2021, indicating that the proposed property area and extended buffer zone are managed by the Regional Apex Committee and Local Level Committee. A copy of the notification by the Government of Gujarat on the constitution of the two committees as well as their roles and responsibilities was provided. According to the notification, the Regional Apex Committee is chaired by the Chief Secretary, Government of Gujarat, with Regional Director (West), ASI as the Member Secretary. The members are the heads of relevant central government ministries and local government departments. The committee meets twice a

year to monitor and review the critical management issues and policies of the property area and of the buffer zone, and decide and resolve infrastructures issues such as road, water supply, electricity, sanitation, and tourism infrastructures in the nominated property and buffer zone. The Local Level Committee is chaired by the Kachchh District Magistrate, with Superintending Archaeologist Vadodara Circle (ASI) as the Member Secretary. The members are the Regional Director (West), ASI, Kachchh District Development Officer, Field expert(s), and local community representative. This committee meets once every month to address issues related to overall site management, conservation intervention, capacity building, visitor access, facility development and land ownership.

The 3-year Site Management Plan dated 2020, approved and implemented by the Archaeological Survey of India, includes 7 parts. After introduction and description of the significance of the site, the conservation plan, Visitor Management Plan and Disaster Management Plan are provided, and mechanism of buffer zone management is proposed. Finally, implementation strategies are proposed, with a list of actions to be conducted in the next 3 years.

The conservation plan is developed based on a detailed and comprehensive condition survey, with a list of pragmatic actions to be undertaken. The centre of the Visitor Management Plan is the control of visitor movement within the property in order to curb the adverse impact of the visitors on the sensitive parts of the archaeological site. Three alternative routes are proposed based on the time the visitors wish to be on site. Pathways for regulating visitor movement and protecting the fabric are proposed. The Disaster Management Plan identifies four major natural hazards and one human induced hazard: earthquake, progressive decay, torrential rains, wind, and stepping of visitors. Measures for mitigating hazards are proposed. The implementation strategies are proposed with actions to be taken in the next 3 years, mainly concentrated on the conservation intervention, control of visitor movement, site amenity, and interpretation. To date, some of the proposals of the Site Management Plan have been implemented, as reflected in the related sections of this report.

At present, a minimum staff of one senior conservation assistant, one archaeological assistant, one foreman, three monument attendants, three security guards armed and unarmed (8 positions), two cleaning staff, four casual workers on work-charged basis, are permanently posted at the site to ensure that daily maintenance and security of the property is in place.

ICOMOS considers that the current participatory management mechanism is overall adequate for the protection of the proposed Outstanding Universal Value of the nominated property. ICOMOS considers, however, that the management system could be enhanced through the development of a legal instrument or management guidelines for the site management committees to ensure



the protection of the archaeological remains in the extended area of the buffer zone. Heritage Impact Assessment should be incorporated into the decision making process. Furthermore, the Site Management Plan has been approved and implemented only by the Archaeological Survey of India, one of the stakeholders of the management committees.

ICOMOS is concerned that these management issues, if unaddressed, may contribute to the vulnerability of archaeological remains in the extended buffer zone in relation to infrastructure development and tourism. Guidelines for development and conservation need to be drafted for the extended buffer zone. This is particularly important in respect of controlling infrastructure development, while supporting appropriate improvements to the livelihood of the local community.

### **Visitor management**

A Visitor Management Plan is incorporated as a part of the Site Management Plan. According to the plan, new facilities will be constructed, and a full-fledged site museum is proposed to be constructed for displaying all the artefacts excavated from the site. The site has been declared by the Ministry of Tourism as an Iconic Tourist Site, which brings financial support from the central government to the State. Recommendations on regulating visitor movement at the site, interpretation, training of tourist guide, promoting awareness are proposed. Based on the information from the ICOMOS technical evaluation mission and additional information received from the State Party in February 2021, some of the proposals have already been implemented at the time of drafting of the current evaluation.

Currently, tourism facilities have been located in the Archaeological Survey of India facilities at the entrance of the site. These include a site museum, which also serve as interpretation and education centre, a cafeteria, a parking lodge, a washroom, dustbins, rain shelters, and water points. Signage and benches have been installed on site. Movable wooden barricades have been put in place at the vulnerable locations like staircase to the entrance at Eastern Gate, and remains at Castle and Bailey, in order to prevent visitors from stepping on. The pathway for visitation has been paved to keep visitors from wondering freely on site, but upgrading is needed. A brochure with trilingual movement plans is provided, together with site map and signage, to ensure that visitors are informed of the vulnerability of the site and stay on the designated tracks. The movement plans offer visitors three options depending on the time they wish to spend on site, i.e. 2, 4 and 6 hours.

As mentioned in the additional information letter received from the State Party to ICOMOS Interim Report, the new museum and other facilities, as proposed in the Visitor Management Plan, are to be constructed in a 10-acre plot of land, outside the boundary of the nominated property to the east, which has been allocated by the Government of Gujarat to the Archaeological Survey of India. The State

Party stresses that these developments will be subject to the legal provisions, and prior to their execution, Heritage Impact Assessment will be carried out to ensure that neither visual impact nor any damage to any potential archaeological deposit is caused. Furthermore, the proposed museum and infrastructure building will follow the vernacular traditions and materials.

ICOMOS considers that the current Visitor Management Plan is adequate. Envisaging a significant increase of visitor number in future, ICOMOS considers that carrying capacities should be established for the entire site, and for the sensitive parts of the site. Based on these, policies and measures for controlling the number of visitors within safe levels should be developed.

### **Community involvement**

Currently annual events are held to engage the local village residents. School children are brought to the site for various activities. International days are celebrated to develop a sense of community as well as to promote engagement with the site and the custodians and create awareness. Local people have been involved in the excavation and conservation campaigns, and routine site works. Mechanism for community involvement is in place through the establishment of the two management committees and prescription of the Site Management Plan.

ICOMOS considers that the current community involvement is encouraging. ICOMOS recommends that the local residents be provided capacity building opportunity in terms of tour guides or homestay management so that the population can benefit more from the development of the site.

### **Evaluation of the effectiveness of the protection and management of nominated property**

The archaeological exploration, excavation, and conservation interventions have been well documented. The legal protection of the property area, the Prohibited Area and the Regulated Area is adequate. The management of the property area is effective, with sufficient fund and human resources. The committees for managing the property area and buffer zone have been established, with major stakeholders as the members, and the roles and mandates have been clearly set out. The current visitor management is adequate. And the local communities benefit from the conservation, management and tourism development of the site.

ICOMOS considers, however, that legal provision should be developed and granted to the extended area of the buffer zone. Alternatively, the current Regulated Area should be enlarged to the extended area in order to bring the existing legal protection to this area. Guidelines for development and conservation need to be drafted for the extended buffer zone and adopted by the management committees, with Heritage Impact Assessment mechanism incorporated into the management system of the property. Carrying capacity for the nominated property as a whole and for the sensitive parts should be

established, based on which policies and measures should be developed to prevent adverse impact from tourism in future. A long-term research strategy should be developed in order to better understand the values of the archaeological sites in the extended buffer zone. Capacity building should be made to the local residents so that they can have the skills to benefit more from the site development, and contribute to the conservation of the site.

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ICOMOS considers that the current protection and management is overall adequate, however improvements should be made in terms of legal protection and management mechanisms that apply to the extended buffer zone.

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## 6 Conclusion

ICOMOS considers that Dholavira, the southern centre of the Harappan civilization, contributes significantly to an understanding of the urban planning achievements of this early human civilization.

While sharing the common features of typical cities of the Harappan Civilization, such as standardization of ceramics, seals and sealings, cubical weights, chert blades, shell artefacts, and metallurgy, Dholavira demonstrates its particular characteristics, such as outstanding water harnessing and management techniques, extensive use of stone for construction, preconceived town planning, multi-layered defensive systems, stratified social order, extensive scale and quality of bead manufacturing, and unique burial traditions. Evidence of trade with the Mesopotamia region and the Oman Peninsula has been discovered. The information obtained from Dholavira enriches significantly our existing knowledge of Harappan civilization. Being one of the key representative sites of this civilization, Dholavira showcases how people in this region lived, thrived and adapted to this environmentally harsh but resource rich place 5,000 years ago, and exemplifies the wisdom of these people in the South-Asian sub-continent.

The nominated property meets criteria (iii) and (iv), and conditions of integrity and authenticity.

The main threats to the site are earthquake, occasional heavy rainfall and potential impact from visitors. The nominated property is in good state of conservation. The legal protection is adequate for the property area, Prohibited Area, and Regulated Area. The participatory management committees have been established. The current visitor management is satisfactory. The local residents benefit from the site development.

ICOMOS considers that protection and management of the nominated property would be enhanced by the development of legal provision for the archaeological remains in the extended area of the buffer zone as well as of guidelines for development and conservation needs; Heritage Impact Assessments should be integrated in the

management mechanism; carrying capacity for the tourism management; long-term research strategy; instrumental monitoring system; and capacity building for the site staff and local residents should also be developed.

## 7 Recommendations

### Recommendations with respect to inscription

ICOMOS recommends that Dholavira: a Harappan City, India, be inscribed on the World Heritage List on the basis of **criteria (iii) and (iv)**.

### Recommended Statement of Outstanding Universal Value

#### Brief synthesis

Dholavira: a Harappan city, is one of the very few well preserved urban settlements in South Asia dating from the 3<sup>rd</sup> to mid-2<sup>nd</sup> millennium BCE. Being the 6<sup>th</sup> largest of more than 1,000 Harappan sites discovered so far, and occupied for over 1,500 years, Dholavira not only witnesses the entire trajectory of the rise and fall of this early civilization of humankind, but also demonstrates its multifaceted achievements in terms of urban planning, construction techniques, water management, social governance and development, art, manufacturing, trading, and belief system. With extremely rich artefacts, the well preserved urban settlement of Dholavira depicts a vivid picture of a regional centre with its distinct characteristics, that also contributes significantly to the existing knowledge of Harappan Civilization as a whole.

The property comprises two parts: a walled city and a cemetery to the west of the city. The walled city consists of a fortified Castle with attached fortified Bailey and Ceremonial Ground, and a fortified Middle Town and a Lower Town. A series of reservoirs are found to the east and south of the Citadel. The great majority of the burials in the Cemetery are memorial in nature.

The configuration of the city of Dholavira, during its heyday, is an outstanding example of planned city with planned and segregated urban residential areas based on possibly differential occupational activities, and a stratified society. Technological advancements in water harnessing systems, water drainage systems as well architecturally and technologically developed features are reflected in the design, execution, and effective harnessing of local materials. Unlike other Harappan antecedent towns normally located near to rivers and perennial sources of water, the location of Dholavira in the island of Khadir was strategic to harness different mineral and raw material sources (copper, shell, agate-carnelian, steatite, lead, banded limestone, among others) and to facilitate internal as well as external trade to the Magan (modern Oman peninsula) and Mesopotamian regions.

**Criterion (iii):** Dholavira is an exceptional example of a proto-historic Bronze Age urban settlement pertaining to the Harappan Civilization (early, mature and late Harappan phases) and bears evidence of a multi-cultural and stratified society during the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BCE. The earliest evidence can be traced back to 3000 BCE during the early Harappan phase of the Harappan Civilization. This city flourished for nearly 1,500 years, representing a long continuous habitation. The excavated remains clearly indicate the origin of the settlement, its growth, zenith and the subsequent decline in the form of continuous changes in the configuration of the city, architectural elements and various other attributes.

**Criterion (iv):** Dholavira is an outstanding example of Harappan urban planning, with its preconceived city planning, multi-layered fortifications, sophisticated water reservoirs and drainage system, and the extensive use of stone as a building material. These characteristics reflect the unique position Dholavira held in the entire gamut of Harappan Civilization.

#### Integrity

The ancient Harappan city of Dholavira was discovered in 1968 and excavated for 13 field seasons between 1989 and 2005. The unearthed excavations were simultaneously preserved and conserved, and display all physical attributes contributing to the Outstanding Universal Value of the property, that is to say the proto-historic systems of urban planning, water management systems, architectural elements and design, traditional knowledge of art and technology preserved *in situ*. All the attributes that convey the Outstanding Universal Value of the property are located in the property area. Physical evidence of the entire 1,500 years of inhabitation are spanning from pre-Harappan to post-Harappan stages. The excavated remains at Dholavira, to a large extent, illustrate attributes associated with industrial activities (e.g. bead manufacturing) and are indicative of the sophisticated life and exploitation of natural resources for nearly 1,500 years, trade, interregional relations and exchanges, the physical manifestations of these are largely found *in situ*. Conservation measures and consolidation of few areas have been carried out to prevent deterioration and have also been stabilized for ensuring preservation of its physical attributes. Guidelines for development and conservation need should be developed in the extended buffer zone.

#### Authenticity

The archaeological remains of the city of Dholavira include fortifications, gateways, water reservoirs, ceremonial ground, residential units, workshop areas, and cemetery complex, all clearly representing the Harappan culture and its various manifestations. The urban planning is evident from the *in situ* remains of the city that demonstrate systematic planning. The authenticity of the archaeological site is preserved through minimum interventions and scientific conservation principles and methods and in maintaining the exposed structures in

their original configurations and *in situ* conditions and no additions or alterations have been made to the structural remains.

The excavated remains bear testimony to the style of construction, contextual evidence for architectural elements, and layout of a bead manufacturing workshop, that have been retained *in situ* to preserve their authenticity. The evidence of the configuration of the city, which has been well documented and preserved during excavation works, also bears testimony of the extensive planning, understanding of ratios and proportions and principles, alignment of the entire city in relation to cardinal directions, water harvesting, storm water drains, craftsmanship. These features are preserved extensively due to their construction in stone masonry with mud brick cores, and architectural features are in a good state of conservation.

#### Management and protection requirements

The archaeological site of Dholavira is protected and managed by the Archaeological Survey of India, an attached office and organization under the Ministry of Culture, Government of India. The property is protected by national level laws that is to say the Ancient Monument and Archaeological Sites and Remains Act 1958 (AMASR), amended therein in 2010; Ancient Monument and Archaeological Sites and Remains Rules of 1959; Ancient Monument and Archaeological Sites and Remains Rules of 2011 and The Antiquities and Art Treasures Act 1972 and Rules 1973. Decisions pertaining to its conservation, maintenance and management are governed by the National Conservation Policy for Monuments, Archaeological Sites and Remains 2014. Being designated as an "ancient monument" of national importance, the ancient site of Dholavira is protected by a Prohibited Area measuring 100 meters in all directions from the limits of the protected monument, and further beyond it, a Regulated Area of 200 meters in all directions, from the limits of the Prohibited Area. All activities in the areas adjacent to the ancient site of Dholavira remain subject to prohibition and regulation in the respect prohibited and regulated areas as per provisions of the Ancient Monuments and Archaeological Sites and Remains Rules 2011. The buffer zone covers the entire west strip of the Khadir Island, which ensures the protection of the wider setting of the property. The buffer zone, of which parts cover three Prohibited and Regulated Areas, overlaps with Kachchh (Kutch) Desert Wildlife Sanctuary which is protected by Forest Act (Wildlife Protection Act 1972). The Government of India is in the process of listing the ancient quarry sites in the buffer zone as of national importance.

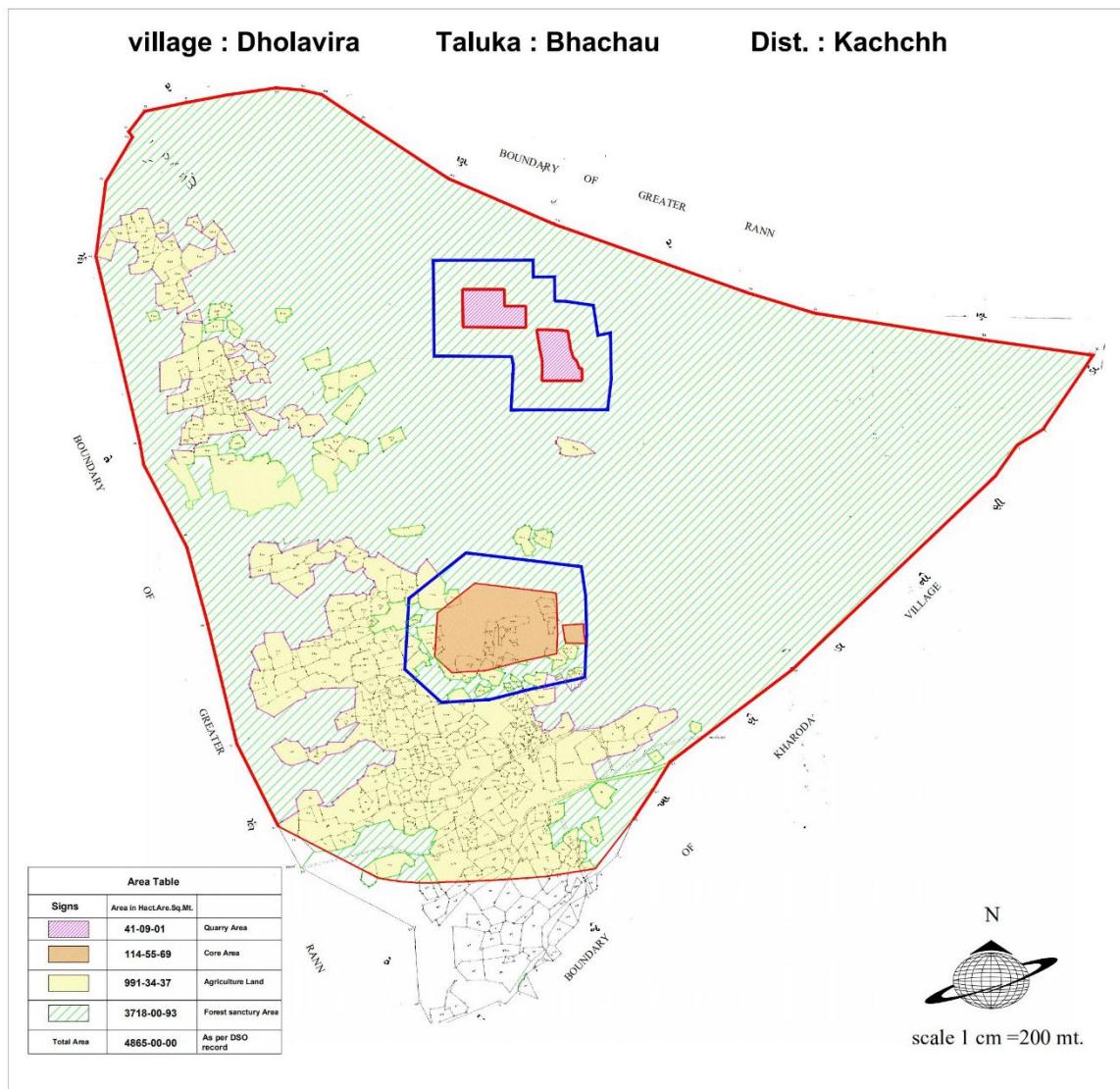
The property area and buffer zone are managed by the Regional Apex Committee and Local Level Committee, with major stakeholders as the member. These participatory mechanism ensures the dialogue among different interest groups. The Site Management Plan has

been approved and implemented by the Archaeological Survey of India.

#### **Additional recommendations**

ICOMOS further recommends that the State Party give consideration to the following:

- a) Submitting a set of maps that follow the standard specified in Paragraph 132 and Annex 5 of the *Operational Guidelines for the Implementation of the World Heritage Convention* showing the expanded buffer zone. These maps should clarify that the 10-acre plot of land allocated by the State Government of Gujarat to the Archaeological Survey of India for constructing the museum and tourism amenities is not a part of the World Heritage property,
- b) Declaring the ancient quarry sites in the buffer zone as of national importance,
- c) Extending the Regulated Area, or granting a new legal provision, to the extended buffer zone for the protection of the archaeological remains and settings in this area,
- d) Developing guidelines for development and conservation needs in the extended buffer zone,
- e) Developing a long-term research strategy for the property and its buffer zone in order to better understand the values of the known archaeological sites in the extended buffer zone and to identify further areas of archaeological potential,
- f) Incorporating Heritage Impact Assessment mechanism into the decision making process of the management system,
- g) Installing an instrumental monitoring system for a more robust monitoring,
- h) Undertaking capacity building for site staff on conservation techniques and monitoring skills,
- i) Establishing carrying capacity for the entire site, as well as for sensitive areas of the site,
- j) Developing visitor number control policies and measures based on the established carrying capacity for anticipated increased visitation,
- k) Undertaking capacity buildings for local residents so that they can have the necessary skills to contribute to the conservation of the site, and to benefit more from the site development;



Map showing the boundaries of the nominated property and its revised buffer zone  
(February 2021)