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# Gonbad-e Qābus

## (Iran)

### No 1398

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

Gonbad-e Qābus

#### Location

Golestan Province  
Islamic Republic of Iran

#### Brief description

Visible from great distances in the surrounding lowlands, Gonbad-e Qābus is the tallest and oldest of what was to become a predominant monumental tomb form for the Iranian-Turkish region. Built in 1006 AD near the ancient Ziyarid capital *Jorjan* to commemorate the reign of the ruler Qābus Ibn Voshmgir, the tower rises to 53 metres. Designed in accordance with intricate geometry and mathematical principles and constructed of unglazed fired brick, the hollow cylindrical shaft, buttressed by ten triangular flanges tapers to a conical roof from the base diameter of 17 metres.

#### Category of property

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

## 1 Basic data

#### Included in the Tentative List

5 February 2008

#### International Assistance from the World Heritage Fund for preparing the Nomination

None

#### Date received by the World Heritage Centre

31 January 2011

#### Background

This is a new nomination.

#### Consultations

ICOMOS consulted several independent experts.

#### Literature consulted (selection)

Aslanapa, O., *Turkish Art and Architecture*, Faber, London, 1971.

Burckhardt, T., *Art of Islam: Language and Meaning*, World of Islam Festival Publishing Company Ltd., London, 1976.

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El-Said, I., & Parman, A., *Geometric Concepts in Islamic Art*, World of Islam Festival Publishing Company Ltd., London, 1976.

Hillenbrand, R., *Islamic Art and Architecture*, Thames and Hudson, London, 1999.

Hoag, J.D., *Islamic Architecture*, H.N. Abrams, New York, 1977.

Michell, G. (ed), *Architecture of the Islamic world: its History and Social Meaning*, Thames and Hudson Ltd., London, 1978.

Pope, A.U., *Introducing Persian Architecture*, Soroush Press, Tehran, 1976.

Saliba, G. (primary contributor), 'al-Bīrūnī, in *Encyclopædia Britannica*, 2011. Retrieved from <<http://www.britannica.com/EBchecked/topic/66790/al-Biruni>>.

#### Technical Evaluation Mission

An ICOMOS technical evaluation mission visited the property from 31 August to 3 September 2011.

#### Additional information requested and received from the State Party

A letter was sent to the State Party on 8 September 2011 requesting clarification on the dome construction, comparative analysis, protection in relation to surrounding height limits, and management. A response was received from the State Party on 25 October 2011 and the information has been incorporated into the relevant sections below. A second letter was sent on 9 December 2011 requesting adjustment of the buffer zone. A third letter was sent on 9 January 2012 requesting information on the status of the management and restoration plan. Responses with supplementary information were received from the State Party on 28 February 2012.

#### Date of ICOMOS approval of this report

14 March 2012

## 2 The property

#### Description

The nominated property covers 1.48 ha and is surrounded by a buffer zone of 17.85 ha. This in turn is surrounded by a landscape zone of 478.71 ha.

The tomb tower is located on a 10 m high mound in the northern part of the town of Gonbad-e Qābus and is 3 km southwest of the ruins of the ancient city of *Jorjan* on the Gorgan River in north-east Iran. The modern city of Gorgan is about 100 km to the south-west; the border with Turkmenistan is around 60 km to the north-west. The Caspian Sea lies around 100 km to the east with the Alborz mountains to the south. The tower is surrounded by a modern town laid out in 1926 by order of the Pahlavi ruler Reza Shah in a flat river plain between the Gorgan and Chehel Chāy rivers. The nominated property includes the tower and the mound on which it stands. According to recent excavations, the tower was built over

archaeological strata dating back to the Iron Age. In old photographs, it is possible to see that the hill was perhaps surrounded by a furrow, similar to a moat. The surrounding buffer zone includes adjacent green space to east and south and extends one block further to east, south and west, and two blocks to the north.

The nominated property is the only remaining evidence of the ancient city of *Jorjan*, which was the capital of the Ziyarid emir Qābus Ibn Voshmgir and his predecessors before being destroyed during the subsequent Mongols' invasions of the 14<sup>th</sup>-15<sup>th</sup> centuries. *Jorjan* County corresponded to the Median *Hyrkania* in 600 BC and was recorded as Varkān or Varkāna in the inscription of Darius in Bisotun. *Jorjan* town was commercially significant in the Roman period due to its location on the Silk Road between Merv and Ctesiphon. The town may have gained importance under the Sassanids when immigrants were settled there and the town was fortified. But its zenith came during the rule of the Ziyarids when it became a centre of arts and science. The fourth Ziyarid emir Qābus Ibn Voshmgir, himself the author of an important literary work, the *Qābusnameh*, commissioned the tower in 1006 AD.

The specific location and monumental nature of the tower enabled it to act as a landmark to guide travellers to *Jorjan* while at the same time commemorating the greatness of the reign of its founder.

Constructed in unglazed fired bricks, the tower is planned using an intricate geometric layout to achieve a tapering, cylindrical tower with a conical brick roof to a total height of 53 metres on a 9.8 metres deep brick foundation, 17 metres in diameter at the base and 15.5 metres at the base of the cone. Based on a plan deriving from the star decagon, the design incorporates ten triangular flanges/buttresses which terminate beneath the corbelled cornice of the dome. The walls are 3 metres thick and are gradually corbelled inwards to achieve the taper. The brick cone which crowns the tower is 18 m from the base of the cornice to its top: this height equals half the height of the tower to the base of the cornice. The brick wall of the cone is gradually corbelled inwards to achieve the conical shape and it is faced both sides with specially made angled facing bricks/tiles which tie into the core and achieve a smooth finish. The tower is described in the nomination as a 'double dome'. In response to ICOMOS' request for clarification, the State Party explained that it is the 'solid connected' type of double shelled dome, where the inner and outer shell are connected to each other and separated slightly at the apex.

The face of the tower is plain except for two inscriptions: one around the top of the tower just below the cornice and one a short distance above the base. These use Kufic calligraphy, are made of relief bricks and were once plastered. They state: *"In the name of God the Merciful the Compassionate." This tall palace for the prince Shams ul-Ma'ali, Amir Qābus Ibn Voshmgir ordered to build during his life, in the year 397 the lunar Hegira, and the year 375 the solar Hegira.'*

The tower is entered up two steps through a narrow, arched entry 5.6 m high into a small recess then through another arch 4.3 m high, above which is decorative *muqarnas* work either side. The walls of the interior were once covered in plaster 1-6 cm thick, of which the remainder is still visible from a height of 7-8 metres up to the apex of the cone.

In the east side of the conical roof there is a small, segmented arch opening 2 m wide and 1.8 m high. It is said that this was to allow entry of the light of the rising sun, in line with the tribal tradition of making a hole in the wall of nomadic tents for this purpose.

No tomb was found during excavations of the base of the structure by Russian investigators in 1899 or subsequently in 1936. Legend has it that the body of Qābus in a glass coffin was suspended within the cone, the morning sun striking his body through the eastern opening.

### History and development

Gonbad e-Qābus survived the Mongols' invasions and the earthquake c.1470 AD, said to have killed many people in *Jorjan*. In the Seljuk period the Turkmens used the ranches in the area for their animals. Under the Qajars, *Jorjan* became known as Astar Abad and developed as one of the famous and commercially important towns of the district.

The border between Iran and Turkmenistan was established in 1881 and in 1882 the Russian consulate established a base on top of Qābus hill, as a customs and security control point, constructing a large building there in 1908. After the October Revolution of 1917 in Russia the site was abandoned until with Russian attempts to again gain control over the area it was conquered by Reza Shah's troops and a new town was laid out there around the tower by German planners in 1926. Agriculture was established in the area and the town expanded with the forced settlement of Turkmen nomads. Since then various ethnic groups have settled in different parts of the town, which has consequently expanded in all directions.

Damage to the brickwork of the tower had occurred during World War I and in 1928 restoration works were carried out. The tower was inscribed as a national monument (reference no. 86) in 1930 and the first documented restoration project was carried out in 1937-9. This included work to the foundation, base of the tower, inscriptions and to the conical roof, as well as to the interior.

In 1994, the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO) office in Mazandaran Province began a landscaping project around the base of the tower. This included construction of an access ramp up to the top of the mound, paths, flower beds and fountains. In 2005, an ICHHTO office was established in Gonbad-e Qābus town just across the street from the tower and in 2006 some minor restoration and cleaning were carried out as emergency conservation work and

the tower materials (bricks and mortars) were sampled for analytical purposes. In 2009 work included soundings to enable study of soil mechanics of the hill of Gonbad-e Qābus and some interior stabilisation of brickwork to walls and floor.

### 3 Outstanding Universal Value, integrity and authenticity

#### Comparative analysis

The State Party has compared the Gonbad-e Qābus with many other tomb towers throughout Iran and Central Asia to Anatolia and finds that it is the earliest and tallest of this type of monument. It appears that the form of subsequent tomb towers (cylindrical towers with conical or domed roof) derived from this monument, but no other example was able to achieve even half the height of Qābus' tower. The comparisons with other tomb towers in Iran are summarised in a table in the nomination dossier and comparative heights are shown in Figure 60. They include the Tower of Pir-e Alamdar, Damghan and the Kashaneh Tomb Tower, Bastam which are on the Tentative List (2007). The comparisons with tomb towers outside Iran are summarised in a table in the nomination dossier and the comparative heights are shown in figure 95. A comparison of the heights of all the comparative examples both inside and outside Iran is shown in Figure 97. The distinguishing feature of Qābus' tower apart from being the oldest surviving example is that the structural design has been exploited to achieve a great height, expressing the great achievements of its founder, whereas the other tomb towers either did not attempt to achieve such height because the founder was insufficiently important, or lacked the technical expertise or funds to build it.

ICOMOS considers that as a commemorative tower, Gonbad-e Qābus (53 m high) could be compared in terms of its technical achievement of great height with even higher commemorative towers or minarets such as the 65 metres high Minaret of Jam (Afghanistan) of 1194, inscribed on the World Heritage List (2002, criteria (ii), (iii) and (iv)); the 60 metres high Kutlug-Timur Minaret (Turkmenistan) inscribed on the World Heritage List (2005 as part of Kunya-Urgench, criteria (ii) and (iii)); and possibly the Kalyan Minaret in Bukhara (Uzbekistan) of 1194, which is 48 m high but believed to have been higher originally. All of these take a circular plan rather than the stellar plan form of Gonbad-e Qābus. Other shorter examples built on a circular plan include the surviving part of the minaret built by Abu Bini Ziyad in 1004/5 at Dehistan / Mishrian, Turkmenistan included on the Tentative List, which is 20 m high but may originally have had a second stage; the Minaret at Vobkent, Uzbekistan of 1196-7, included on the Tentative List, which is 40.3 m high and similar in style to the Kalyan Minaret in Bukhara, and the Hiran Minar, Sheikhpura, Pakistan, included on the Tentative List, which is 30 m high. However the towers of Mas'ud III and his son Bahrām Shāh in Ghazni (Afghanistan) of the early 12<sup>th</sup> century take a similar flanged form to Gonbad-e Qābus deriving from the stellar plan, and originally had another cylindrical stage above

the existing stelliform shaft, reaching a height of over 44 m (shown in a painting by James Atkinson c.1839). The Minaret of Jarkurgan near Termez, Uzbekistan designed by the architect Ali bin Muhammad Serakhsi and erected in 1108-1109 under Qarakhanid rule has a fluted shaft of stellar plan on an octagonal base and is around 19 m high, but appears to have originally had a second stage. It should be noted that tall stellar towers built of stone are found in western Sichuan, China, apparently dating from the 12<sup>th</sup> century or earlier.

The ultimate development in terms of exploiting the stellar plan form to achieve great height is the 72.5 m high Qutb Minar, Delhi of 1202, inscribed on the World Heritage List (1993, criterion (iv)). The minaret tapers to a diameter of 2.75 m at the top from 14.32 m at its base. This comparison suggests that the structural form that derived from the geometric stellar plan of Gonbad-e Qābus was a technical prototype for achieving a tower of maximum height as well as in terms of the symbolic form used subsequently for tomb towers, which were all of far less height.

In response to ICOMOS' request for the comparative analysis to be deepened in relation to this, the State Party explained that since minarets and tomb towers are quite different within the school of Iranian architecture only the buildings used as tomb towers, within and outside of Iran, are described and analyzed in the comparative analysis and justification parts of the nomination dossier. Tall slim towers (*Menar/Minar*, *Menareh* (minaret) or guiding *Mil*) were built during the pre-Islamic era on specific routes and locations as landmarks for travellers. The same kind of structures were also constructed as minarets beside mosques and tombs to mark the building itself and provide a place for muezzins. The State Party states that the only common point between the *minarets* and tomb towers is their occasional application as a guiding landmark for travellers.

ICOMOS considers that greater enquiry should be made into the origin of the Gonbad-e Qābus design. It is known that Qābus supported the great mathematician and astrologist Abū al-Rayhān Muhammad ibn Ahmad al-Bīrūnī (973–c.1052) who dedicated his work *Al-Āthār al-bāqīyyah 'an al-qurūn al-khāliyyah* (*The Chronology of Ancient Nations*) to Qābus in *Jorjan* c.1000 (Saliba 2011). A subsequent patron of al-Bīrūnī was Mahmūd of Ghazni to whose son, Mas'ūd, al-Bīrūnī dedicated *Al-Qānūn al-Mas'ūdi* (*The Mas'ūdic Canon*). Later descendants in this dynasty, Mas'ud III and his son Bahrām Shāh built the two commemorative towers at Ghazni (referred to above) which are of similar stelliform plan as Gonbad-e Qābus. At Ghazni al-Bīrūnī, who was also the author of *Tahdīd nihāyat al-amākin li-tashīh masāfāt al-masākin* (*Determination of the Coordinates of Places for the Correction of Distances between Cities*) solved the spherical trigonometric problem of determining the direction of Mecca along the local horizon at Ghazni. A similar calculation may have determined the location of Gonbad-e Qābus to the south-west of *Jorjan*. In addition

the significance of the use of a star decagon plan has not been explored in terms of number symbolism and whether this relates to how Qābus wished to be perceived as a ruler.

ICOMOS considers that Gonbad-e Qabus is one of the first buildings in Iran that can be associated with the advent of Central Asian Turks. Vibrantly monumental, it presages the great Seljuk buildings of the late 11<sup>th</sup> century. Built by order of Qābus ibn Voshmgir, the most vigorous and enlightened of the Ziyarids, it marked his court as a centre for the arts. Qābus was a scholar and patron of scholars, a poet and patron of poets, a calligrapher, astrologer, linguist and doughty warrior. The tomb tower is the earliest and most expressive of a series of some fifty monumental tomb towers still standing, all of which are of considerably lower height. These cover a period of seven hundred years and vary enormously in size, form and ornamentation. They have been found in nearly every part of Iran. Apart from those covered in the nomination dossier, they include others where the body of the tower is composed of an engaged cluster of almost round shafts as at Jarkurgan and at Kāshmar or coupled columns as at Rabat-e Malek. A few towers are octagonal, beginning with the Gonbad-e Ali at Abarquh (1036), the pair at Kharagan (1067-1093) continuing through the 14<sup>th</sup> century in tombs at Qumm and the Imamzada Jafar at Isfahan (1341) and even later. Some are square, such as the Gonbad-e Surkh at Maragha (11<sup>th</sup> century) and the tomb of Shahzada Muhammed at Sari in Mazandaran (15<sup>th</sup> century).

In conclusion ICOMOS notes that the comparative analysis has been undertaken by the State Party in relation to some properties bearing similar values to those of Gonbad-e Qābus, inscribed or not on the World Heritage List and at national, regional and international level, but could also have considered others as discussed.

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

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#### **Justification of Outstanding Universal Value**

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

- Gonbad-e Qābus is a masterpiece and outstanding achievement in early Islamic brick architecture due to the structural and aesthetic qualities of its specific geometry.
- The property is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia, representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.
- The property is exceptional evidence of the power and quality of the Ziyarid civilisation which dominated a major part of the region during the 10<sup>th</sup> and 11<sup>th</sup> centuries, and having being built for an emir who

was also a writer, marked the beginning of a regional cultural tradition where tombs are built for the literati.

- The monument is an outstanding example of an Islamic tomb tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

ICOMOS considers that this justification is appropriate and the point about innovative structural design has been further demonstrated by ICOMOS in relation to the influence of the structural design on subsequent high towers.

#### **Integrity and authenticity**

##### **Integrity**

The State Party states that the visual and structural integrity of the Gonbad-e Qābus tower is maintained. However the surroundings have been changed in that a new town has grown up around the mound on which it is located and landscaping works have been carried out on the mound. In particular, electricity posts and cables, fencing and the lighting system around the site compromise the visual integrity of the property. The interior has lost its decorative features.

ICOMOS considers that the exterior flanges and inscription band are in good condition, but the insertion of the ramp and the design of the retaining wall on the hillside have slightly damaged the form of the mound on which it stands. It is essential that the visual integrity of the tower in terms of its dominant location be maintained through height restrictions on surrounding buildings and protection of views to the monument.

##### **Authenticity**

The State Party states that the design and materials of the tower retain their authenticity without incompatible interventions, and that the setting in terms of its distance from the historical town of *Jorjan* and location in the low lands of the Gorgan plain is unchanged. Since the use of the tower has not been definitely determined, it is necessary to rely on the inscription that indicates it was created as an exceptional monument illustrating the exceptional knowledge and art of its founders.

ICOMOS considers that the property expresses its value as an exceptional geometric structure and icon in the small town of Gonbad-e Qābus, clearly visible from many directions. It continues to express features of an Islamic commemorative monument combining traditions of Central Asia and Iran.

ICOMOS considers that the form and design of the monument are preserved. It is cherished by the people of the region and has been maintained with regular repairs. The interior has been impoverished with looting and vandalism; the original floor has been changed; the walls have been partly stripped of finishes to reveal the brick walls. Further investigation using non-destructive

techniques such as geo-radar is required to determine whether there is a tomb in the base of the structure. The exterior brickwork retains its authenticity in spite of past repairs which used new bricks as these are negligible in relation to the size of the whole structure. The monument is recognised as a funerary building and is in active use as a holy place for visits by local people and foreigners. The legends and traditions associated with the tomb continue and are important to the local people. Festivals and ceremonies take place in front of the tomb and in the park around it. The immediate surroundings of the monument have been changed in recent times but the setting of the tomb with a dominating position in the silhouette is still valid.

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

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

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

*Criterion (i): represent a masterpiece of human creative genius;*

This criterion is justified by the State Party on the grounds that Gonbad-e Qābus as the first example of monumental tomb structures that employs a conical dome construction is a masterpiece which has extensively contributed to the development of Islamic architecture. It is also considered to be among the best proportioned and most representative brick-made tomb towers of the early Islamic centuries which with its specific geometry, particularly the change from circle to the 10 flanged form, not only contributed immensely to the knowledge of the structural stability of tomb towers but is also aesthetically exceptional. The inscriptions of the tomb with their Kufic calligraphy originating in the Razi style of the Ziyarid period, is another outstanding feature which influenced greatly the following historic periods.

ICOMOS considers that the contribution made by the tower to the knowledge of structural stability was not in fact used in subsequent tomb towers, which the State Party has shown to all be of less than half the height of Gonbad-e Qābus, but was used in the structure of commemorative minarets such as the Minarets at Ghazni and ultimately the Qutb Minar at Delhi. On the other hand, the symbolic conically roofed form of Gonbad-e Qābus clearly did influence the form of subsequent tomb towers.

ICOMOS considers that the Gonbad-e Qābus is an aesthetically exceptional monumental tomb tower and can be considered as an architectural masterpiece.

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ICOMOS considers that this criterion has been justified.

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*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 creative architecture of Gonbad-e Qābus played a significant role in the development of the architecture, technology and monumental aspects of the tomb towers of the Iranian territory, Anatoly and Central Asia. Gonbad-e Qābus was a prototype for the development of the construction of tomb towers, becoming a significant reference in the history of Islamic architecture. Gonbad-e Qābus being the place of architectural cultural exchange between the Central Asian nomads and the ancient Iranian civilisation could be considered as a common heritage between the Turks and Iranians and a significant point in the beginning of the Islamic era.

ICOMOS considers that the conically roofed form of Gonbad-e Qābus representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia. Mausoleums built for the Seljuks in Anatolia perpetuated the model of Iranian Gonbad-e Qābus though in stone rather in brick; they are known in Turkey as *Kümbet*.

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ICOMOS considers that this criterion has been justified.

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

This criterion is justified by the State Party on the grounds that Gonbad-e Qābus represents exceptional evidence to the power and quality of the Ziyarid civilization which dominated a major part of the region during the 10<sup>th</sup> and 11<sup>th</sup> centuries. The tower also stands for the cultural tradition as well as funerary building technology of the time epitomizing the paradisiacal quality of the ascension toward the heavens, a tradition which was then widely expanded throughout the region. The significance of Gonbad-e Qābus amongst the early Islamic tomb towers is not merely due to its relation with a Ziyarid Emir but also is owed to its attribution to one of the most renowned literate writers of the so-called Khorassan school of writing and creation of *Qābusnameh* (a new method in story telling), considered to be among the most important sources of Farsi-e dari (dari Persian) in the world, as a valuable intangible heritage of mankind. Therefore Gonbad-e Qābus is in fact the starting point in a regional cultural tradition in which tombs are built for the writers and literates, a tradition which is continued to the present time.

ICOMOS considers that the property is exceptional evidence of the power and quality of the Ziyarid dynasty, whose territory stretched around the southern border of the Caspian Sea. From there the Ziyarids, in succeeding the Samanids as patrons of the arts, science and literature and bridging the Zoroastrian culture of Mazandaran and

that of the Muslim Ghaznavids, dominated a major part of the region during the 10<sup>th</sup> and 11<sup>th</sup> centuries. As a commemorative tomb tower, it is also exceptional evidence of the tradition which lasted several centuries (11<sup>th</sup> – 15<sup>th</sup>) throughout the region, of building monumental tomb towers.

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ICOMOS considers that this criterion has been justified.

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*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 Gonbad-e Qābus is an outstanding example of Islamic architecture in the region which played a significant role, illustrating an exceptional case in further dissemination of the concept and architecture of the tomb towers in Iran, Anatolia, and Central Asia. Its innovative structural design supporting the stability of this over one thousand years old brick-made monument and initiating a specific building technology to erect a 53 meters height tower with 9 meters deep brick made foundation for the first time in history, have made Gonbad-e Qābus an exception among the similar towers in the world.

ICOMOS notes that the design of Gonbad-e Qābus tower is based on the architectural method of squares within a circle. It comprises five inscribed squares. The same geometry was used in the design of free-standing minarets isolated from the mosque such as are found in Afghanistan and India; a type exemplified in the star-shaped octagonal minaret built by Mas'ud III in 1114 / 15 AD in Ghazni, and subsequently used in burial towers built for Seljuks in Anatolia. The Gonbad-e Qābus tower provides a clear overview of the architectural development of burial towers and other architectural elements in sacral Islamic architecture in Iran, Anatolia and Central Asia.

ICOMOS considers that the monument is an outstanding example of an Islamic commemorative tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

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ICOMOS considers that this criterion has been justified.

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ICOMOS considers that the nominated property meets criteria (i), (ii), (iii) and (iv) and conditions of authenticity and integrity and that Outstanding Universal Value has been demonstrated.

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#### **Description of the attributes**

The attributes carrying the Outstanding Universal Value of the property are:

- the innovative structural design of the tower, reflecting Iranian mathematical science;
- the 53 m height of the tower demonstrating the structural success of the stelliform plan;

- the conical roofed form of the tower, reflecting influence from the traditional nomadic tent form;
- the extremely fine brickwork of the tower demonstrating the skill of craftsmen of that time;
- the inscriptions linking the founding of the tower to Ziyarid ruler and literati Qābus Ibn Voshmgir;
- the landmark location of the tower in the plain near ancient *Jorjan*;
- the clear visibility of the tower from considerable distances.

## **4 Factors affecting the property**

### **Development pressures**

According to the State Party, the property is not threatened by development due to its designated protection status and controls in the surrounding area. In 2010 there were 11 people living within the property boundary, and 700 within the buffer zone.

ICOMOS notes that the nomination dossier mentions a legal case in 2008 concerning the Qābus Commercial Complex, the height of which was subsequently reduced.

ICOMOS considers that the small town is a living structure and development is on the move. There are some 6-8 storey constructions and the tendency is to build more of these. Special care is needed to protect the silhouette of the tomb tower within the town.

### **Tourism pressures**

The table in the nomination dossier indicates that tourist numbers have increased in Gonbad-e Qābus town from 95,689 in 2006-7 to 129,141 in 2008-9. The area around the base of the tower is used for cultural events. However according to the nomination dossier, there is no pressure from tourism. Some graffiti around the tower is noted. It is planned to address this through public education.

### **Environmental pressures**

The State Party states that the tower has been affected by rising damp due to a number of factors that have arisen since the new town was created around Gonbad-e Qābus in the 1920s. These include a rise in the level of groundwater as well as inadequate control of drainage around the tower and unsuitable landscaping works. The use of unsuitable repair materials has contributed to retention of moisture within the structure. In order to address these problems a canal 50cm wide by 100cm deep was built around the building. This has not proved successful and further works are planned to address all the contributing factors.

Erosion of brickwork due to wind and extreme temperature variation and possibly vehicle traffic pollution is also evident. It is planned to pedestrianise the roadway around the tower.

There is also biological growth, bird and insect depositions on the conical roof of the tower. It is planned to clean this off regularly.

ICOMOS notes that no new roads or road widening are proposed around the property.

ICOMOS considers that because of the harsh weather conditions, environmental monitoring equipment should be installed at the site.

#### Natural disasters

The area is considered to be earthquake prone. Damage due to past earthquakes is evident in the form of cracking over the entrance to the tower. This is monitored and is considered stable. The structural stability of the brickwork in the face of earthquakes is attributed to the original use of gypsum mortar in the brickwork. Lime mortar used in past restoration works has either detached or cracked.

ICOMOS considers that the frequency and magnitude of earthquakes needs to be assessed in order to understand the weak points of the structure. A soil interaction study should be done to identify the soil parameters under dynamic and static loading; developing a 3D finite element model that accounts for the superstructure and soil stratification underneath the foundation and to evaluate the stresses and deformation of the superstructure taking into consideration the soil effect. A mathematical model should be developed for the tower using the infinite element technique in order to study the tower behaviour under various loading conditions and to evaluate the structural safety of the tower based on these calculations and to put recommendations, if required, for strengthening and retrofitting the tower.

#### Impact of climate change

ICOMOS considers that this needs to be addressed in relation to the rising damp issue.

ICOMOS considers that the main threats to the property are rising damp and earthquakes. The possible future degradation of the monument's visual integrity through the construction of high buildings impacting on its dominant position is also a factor. The State Party has addressed this issue by declaration of a protective Landscape Zone around the property and its buffer zone.

## 5 Protection, conservation and management

### Boundaries of the nominated property and buffer zone

The boundary of the property includes the mound on which the tower stands. The adjacent parkland is Zone I of the buffer zone.

Zone II of the buffer zone surrounds the property and Zone I. The buffer zone is in turn surrounded by a Landscape Zone which is a polygonal area with a minimum radius of approximately 1 km. In this area the construction of high rise buildings or urban facilities having a negative influence on the tower landscape is prohibited.

ICOMOS notes that the buffer zone was defined to include a roughly equal distance around the tomb in four directions. Part of the west boundary passes through buildings. In response to ICOMOS' letter requesting adjustment of this boundary, the State Party advised that the boundary follows alleys along this section except for one building of which the Golestan Cultural Heritage, Handicrafts and Tourism Organization has now obtained ownership in order to make a passage connecting the existing alleys either side. The buffer zone II boundary will then be along this link instead of through the building.

The rehabilitation of the urban fabric in the buffer zone would help to improve the appreciation of the site as a whole.

In conclusion, ICOMOS considers that the boundaries of the nominated property and of its buffer zone are adequate.

### Ownership

The nominated property is owned by the State Government. The parkland in the buffer zone (Zone I) is owned by the Municipality. Several properties in the buffer zone (Zone II) are owned by the State and others are privately owned.

### Protection

#### Legal Protection

Gonbad-e Qābus is protected under the Law for Protection of National Heritage (1930) and was inscribed on Iran's list of national monuments in 1975 as no. 1097. Regulations pertaining to the property provide that damaging activities are prohibited and any intervention, including archaeological investigation, restoration and works to the site must be approved by the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO).

In 2008 the proposed height of a commercial building in the vicinity was reduced through action in the Gonbad City Court. Regular meetings were held with the aim of improving interactions between Gonbad-e Qābus Municipality and the ICHHTO representatives.

The Master Plan for Gonbad-e Qābus town was developed in 1989. This urban plan aims at preserving the historic and visual characteristics of the city. The detailed plan for Gonbad-e Qābus town was developed in 2009 and approved by the authorities. The protection measures described for the buffer zone and landscape zone below are supported by the Master Plan as revised in 2010.

The buffer zone (Zone I) is protected by similar regulations as above for the property. In Zone II, works with the potential to harm the property such as construction of canals, sewage lines or water wells, or the installation of vibrating or polluting machinery is prohibited. Building height is restricted to two storeys up to 7.5 m and wall facades and any other development shall be in accordance with guidelines administered by ICHHTO involving the use of sympathetic materials and design. Heavy traffic is prohibited in the boundary streets.

Information on height limits in the Landscape Zone was provided by the State Party in response to ICOMOS' request: the height limit in this zone is five storeys over the ground floor except in areas with no negative impact on the monument where seven storeys are allowed. This zone is jointly controlled by the Municipality and the Cultural Heritage Office (ICHHTO).

#### Effectiveness of protection measures

Physical protection of the property is ensured by the presence of local guards employed by the local office of ICHHTO.

ICOMOS considers that protection is adequate, given the example of the successful legal case in 2008 quoted in the nomination dossier.

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ICOMOS considers that the legal protection in place is adequate.

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### Conservation

#### Inventories, recording, research

Considerable historical research and physical investigation reports have been carried out at the property as listed in the nomination dossier. These are held at the local ICHHTO office near the property.

In 2009, a photogrammetric survey of the tower and its surrounding area was carried out.

In 2010, archaeological excavations were carried out on the hill to identify the historical bed of the structure and the nature of the foundation including documentation and reporting on unearthed materials.

ICOMOS considers that there is also a need for detailed survey drawings on which chronological analysis of the fabric, repairs and damage can be indicated.

#### Present state of conservation

The current state of conservation of the monument is considered good. However there has been damage to the brickwork at the top and bottom of the tower due to humidity and rising damp. Drainage works and other protective measures are required to deal with the problems.

#### Active Conservation measures

Works scheduled for 2011 include the erection of scaffolding in order to remove vegetation from the roof. Other works proposed include the review of maps and regulations; establishment of the Handicraft Museum; reorganising the surroundings, improvement of illumination and replacing metal doors with wooden ones.

ICOMOS considers that the work plan should relate to a full existing condition record and regular monitoring of changes to the condition of the structure. To that end it is recommended that a conservation programme be developed.

#### Maintenance

In 2008-9 the area was cleaned of weeds and rubbish, a paving and landscaping project was implemented, and the tower and hill area were illuminated.

Inspection and maintenance requiring scaffolding of the tower was carried out in 2007 when a number of technical sessions of ICHHTO were held. Works are scheduled again for 2011. They will include clearing the hill area and removing grass.

#### Effectiveness of conservation measures

There is an ongoing problem with rising damp, which is yet to be solved. It has been exacerbated by various interventions as mentioned above. The landscaping of the mound is not considered successful and needs to be reconsidered. The park and mound can be improved to have a more natural atmosphere.

ICOMOS considers that a full study and strategy are needed to address the rising damp issue.

ICOMOS also notes that no actions are listed in the works schedule for 2011 in relation to the rising damp problem. However in the additional information provided by the State Party on 28 February 2012 an additional list of short term activities was provided which addresses this and other conservation issues.

ICOMOS considers that great care is required in relation to any repairs to the facade brickwork.

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In conclusion, ICOMOS considers that the present state of conservation of Gonbad-e Qābus is adequate. However, ICOMOS recommends that a conservation programme be developed including a detailed record of the existing condition of the structure as a basis for the conservation programme, and reconsideration of the landscaping of the mound in conjunction with developing a strategy for dealing with the rising damp problem.

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## Management

Management structures and processes,  
including traditional management processes

The tomb tower and surrounding area are managed jointly by the Municipality and ICHHTO. All plans and programmes including interventions and funding allocations affecting the property must be approved by the ICHHTO High Council, which meets periodically at the property. Members of the Council include ICHHTO Deputy for Conservation; four ICHHTO Director-generals for Conservation, Urban Fabric, Inscription and Moveable Property; and five national experts. The property has a Steering Committee of experts who advise and adopt overall priorities, and approve technical decisions for conservation interventions. On technical matters the Committee co-ordinates with the respective Deputies of ICHHTO, especially the Deputy for Conservation. Members of the Gonbad-e Qābus Steering Committee include the Civil and Construction Affairs Deputy of the Governor; the Head of the Gonbad-e Qābus ICHHTO Office; the Head of the Urban Development and Housing Organisation; the Head of the Islamic Council of Gonbad-e Qābus; the Mayor of Gonbad-e Qābus, and six experts named in the nomination dossier. Day-to-day management is by the local office of ICHHTO at Gonbad-e Qābus.

Policy framework: management plans and arrangements, including visitor management and presentation

In the nomination dossier, it is recorded in Section 4 on the history of restoration conducted at the nominated property that a management and restoration plan was prepared in 2006. In Section 5, it is stated that the property will be managed under an integrated system in accordance with the Master Plan. In response to ICOMOS' request for clarification of how the two are integrated, the State Party advised that construction and development regulations within the property, buffer zone and landscape zone are subject to cultural heritage rules and guidelines. These regulations were officially communicated to the Gonbad-e Qābus Municipality by the Governor General of Golestan Province on 7 December 2011 for their implementation. The representative of the Cultural Heritage, Handicrafts and Tourism Organization of the Province of Gorgan is officially present in all the relevant meetings of the Municipality of Gonbad-e Qābus, ensuring that these laws are precisely maintained and enforced by the authorities.

There is a Steering Committee which meets every 2 or 3 months in order to determine priorities, actions and funding allocations.

The State Party in its response of 28 February 2012 provided a list of additional activities already carried out or planned to be executed. This includes research into conservation techniques and the rising damp issue.

In 2010 updates were made to the web page on Gonbad-e Qābus and ongoing seminars and involvement with students in relation to the conservation and preservation of the site.

Among the Short term (2 years) actions listed in the nomination dossier are to complete signboards and presentation facilities; hold an exhibition to present the Outstanding Universal Value of the monument; reorganise and equip the office for experts in the buffer zone; provide brochures and guide books in Farsi and English; improve visitors' toilets; hold briefing and consultation sessions with buffer zone residents and other interested groups; reorganise shopfronts located in the buffer zone, and improve the facade of the tower and the floor inside and out.

Longer term actions are listed for five years and ten years including audio tours and an accessible data base.

ICOMOS considers that it would be advantageous to incorporate all these actions as part of a tourism strategy in an integrated conservation and management plan.

### Risk preparedness

ICOMOS considers that a risk preparedness strategy is required. As part of its response to ICOMOS' request for information, the State Party replied that the General Directorate for the Crisis Management in Golestan Province has the responsibility of administering the programs concerning the preventive measures within a Civil Defence Plan. The State Party also stated that the Gonbad-e Qābus Research Base has already embarked on a geotechnical research program concerning the consolidation of the mound and the building itself. Furthermore the Municipality has designated safe and secure specific locations within the city as well as for the fire fighting brigade near the monument in case of earthquakes.

### Involvement of the local communities

In response to ICOMOS' request for clarification on this, the State Party responded that *"indeed the buffer zone residents are represented on the steering committee. The city's residents show great interests and sensitivities toward the protection of the monument, a very significant factor for the implementation of the activities."*

ICOMOS notes that it is proposed to hold consultation sessions with buffer zone residents and other interested groups. There is great interest in attracting more tourists to the region by offering recreational facilities and organising meetings. For the development of tourism and tourist facilities, conversion of some houses in the town to hostels or small hotels could be considered.

Resources, including staffing levels,  
expertise and training

Funds for works to the property come from both the national and provincial governments. The ICHHTO office

at Gonbad-e Qābus is staffed by 13 personnel including three restoration experts and two craftsmen. As well there are ten students, and a research unit comprising 6 personnel including two archaeologists and one historian. Sources of expertise and training in conservation and management include the Research Organisation of Cultural Heritage and Tourism (ROCHT); local and national universities and short term training workshops. The latter have been held in Gorgan during the past 2 years involving Gonbad-e Qābus experts. Traditional craftsmen and masons are training the young generation.

ICOMOS considers that the conservation office could be advantageously supported by 1 or 2 conservation architects.

In the additional information provided by the State Party on 28 February 2012 the reorganisation of the ICHHTO Office is shown to consist of 3 units totalling 23 staff plus 10 students and now includes 1 architect.

#### Effectiveness of current management

ICOMOS considers that the maintenance of the tomb is of paramount importance. Interventions in the structure itself should be carried out with great care in order not to disturb original elements. The structure must be monitored for further movement. It would be advantageous to extend the management plan to include a conservation programme in order to ensure the proper co-ordination of the work by the Steering Committee.

In conclusion, ICOMOS recommends that the Management Plan be extended to include a conservation programme, which should examine the most appropriate conservation treatment, include a risk preparedness strategy and tourism strategy and involve the local community.

## 6 Monitoring

The monitoring programme for Gonbad-e Qābus is administered by the ICHHTO office at the property which includes a monitoring unit of 2 staff members. Key indicator measures cover the effect of moisture and biological factors on deterioration on the structure, movement of crack markers, level of water table, compliance with regulations and visitor interviews. Records are kept at the local ICHHTO office. The monitoring staff have access to other experts including at the Islamic Azad University of Gonbad-e Qābus and a private engineering company. They report to the Director of the Gonbad-e Qābus ICHHTO office who in turn is responsible to the Head of the Golestan provincial ICHHTO office.

ICOMOS considers that careful, regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance are essential to the proper management of the property.

## 7 Conclusions

ICOMOS considers that comparative analysis beyond that provided in the nomination dossier justifies consideration of this property for the World Heritage List, and that conditions of integrity and authenticity have been met. The nominated property meets criteria (i), (ii), (iii) and (iv) and Outstanding Universal Value has been demonstrated. The boundaries of the nominated property are adequate. The legal protection in place is adequate.

ICOMOS considers that a risk preparedness strategy is required. A detailed record of the existing condition of the structure is required as a basis for the conservation programme and monitoring. Careful, regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance are essential to the proper management of the property. The landscaping of the mound needs to be reconsidered in conjunction with developing a strategy for dealing with the rising damp problem. Interventions to the monument should be carried out with great care. The management system should be extended to involve the local community. These issues would be best coordinated by extending the Management Plan to include a conservation programme for the property, to be implemented under the guidance of the Steering Committee.

#### Recommendations with respect to inscription

ICOMOS recommends that Gonbad-e Qābus, Islamic Republic of Iran, be inscribed on the World Heritage List on the basis of **criteria (i), (ii), (iii) and (iv)**.

#### Recommended Statement of Outstanding Universal Value

##### Brief synthesis

Visible from great distances in the surrounding lowlands near the ancient Ziyarid capital, *Jorjan*, the 53-metre high Gonbad-e Qābus tower dominates the town laid out around its base in the early 20<sup>th</sup> century. The tower's hollow cylindrical shaft of unglazed fired brick tapers up from an intricate geometric plan in the form of a ten pointed star to a conical roof. Two encircling Kufic inscriptions commemorate Qābus Ibn Voshmgir, Ziyarid ruler and literati as its founder in 1006 AD.

The tower is an outstanding example of early Islamic innovative structural design based on geometric formulae which achieved great height in load-bearing brickwork. Its conical roofed form became a prototype for tomb towers and other commemorative towers in the region, representing an architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.

**Criterion (i):** Gonbad-e Qābus is a masterpiece and outstanding achievement in early Islamic brick architecture due to the structural and aesthetic qualities of its specific geometry.

**Criterion (ii):** The conically roofed form of Gonbad-e Qābus is significant as a prototype for the development of tomb towers in Iran, Anatolia and Central Asia, representing architectural cultural exchange between the Central Asian nomads and ancient Iranian civilisation.

**Criterion (iii):** Gonbad-e Qābus is exceptional evidence of the power and quality of the Ziyarid civilisation which dominated a major part of the region during the 10<sup>th</sup> and 11<sup>th</sup> centuries. Having been built for an emir who was also a writer, it marked the beginning of a regional cultural tradition of monumental tomb building including for the literati.

**Criterion (iv):** The monument is an outstanding example of an Islamic commemorative tower whose innovative structural design illustrates the exceptional development of mathematics and science in the Muslim world at the turn of the first millennium AD.

#### Integrity

The property expresses its value as an exceptional geometric structure and icon in the small town of Gonbad-e Qābus, clearly visible from many directions. It continues to express features of an Islamic commemorative monument combining traditions of Central Asia and Iran. The exterior flanges and inscription bands are in good condition, but the insertion of the ramp and the design of the retaining wall on the hillside have slightly damaged the form of the mound on which it stands.

#### Authenticity

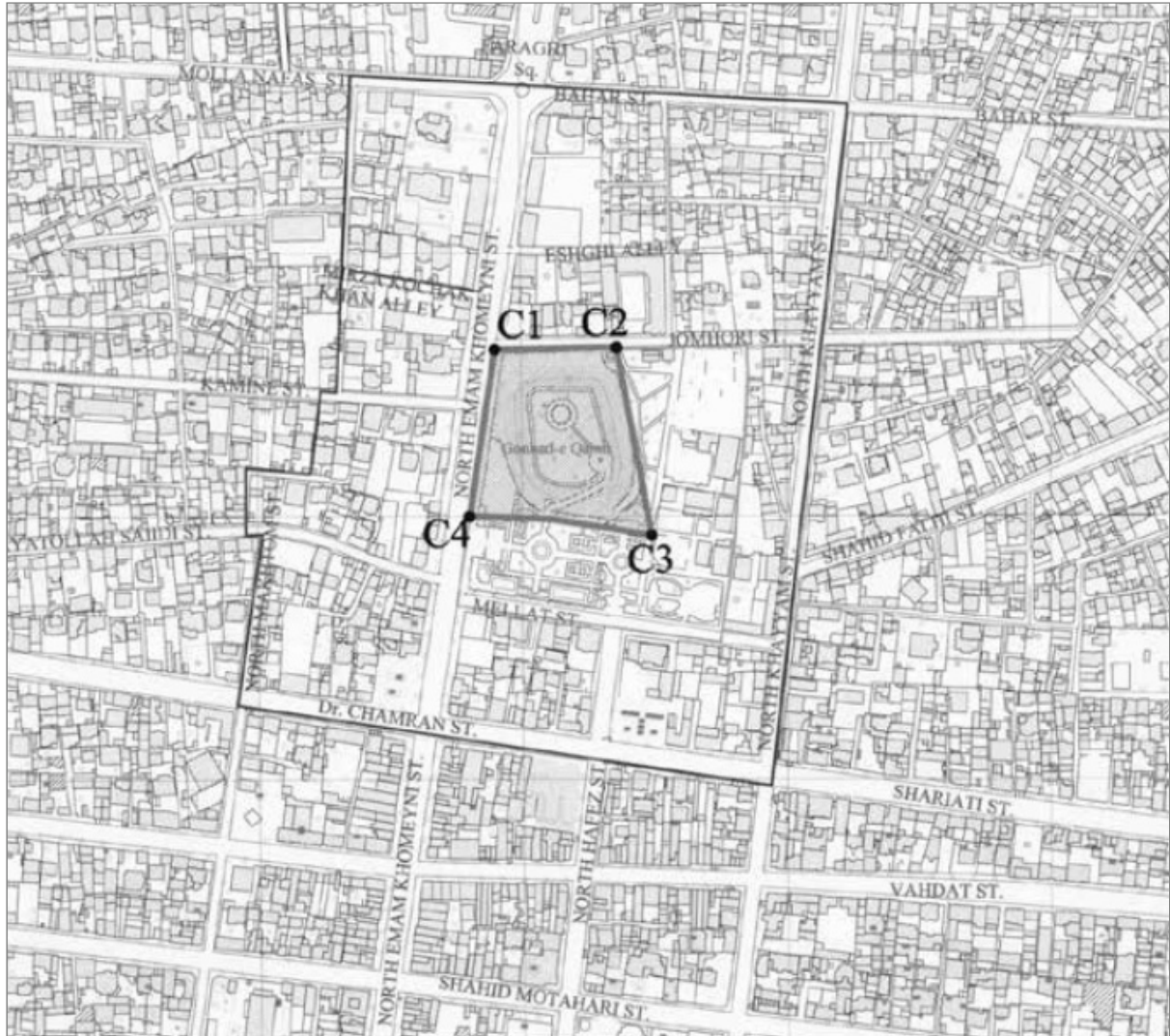
The monument retains its form and design, materials, visual dominance in the landscape, and continues as a holy place visited by local people and foreigners, and as a focus for traditional events.

#### Management and protection requirements

Gonbad-e Qābus is protected under the Law for Protection of National Heritage (1930) and was inscribed on Iran's list of national monuments in 1975 as number 1097. Regulations pertaining to the property provide that damaging activities are prohibited and any intervention, including archaeological investigation, restoration and works to the site must be approved by the Iranian Cultural Heritage, Handicrafts and Tourism Organisation (ICHHTO). The tomb tower and surrounding area are managed jointly by the Municipality and ICHHTO in accordance with the Master Plan for Gonbad-e Qābus town (1989) and the detailed plan (2009), which aim to preserve the historic and visual characteristics of the city. Protection measures controlling heights in the buffer zone and landscape zone are supported by the Master Plan. The management plan should be extended to include a conservation programme.

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

- Extending the Management Plan to integrate a conservation programme for the property, to be implemented under the guidance of the Steering Committee. This should cover :
  - completion of the geotechnical research programme concerning the consolidation of the mound and the building itself;
  - a detailed record of the existing condition of the structure as a basis for the conservation programme;
  - guidelines for interventions to the monument and regular monitoring and feedback to the Steering Committee as a basis for ongoing maintenance;
  - a risk preparedness strategy;
  - review of the landscaping of the mound in conjunction with developing a strategy for dealing with the rising damp problem;
  - a tourism management strategy.



Map showing the boundaries of the nominated property



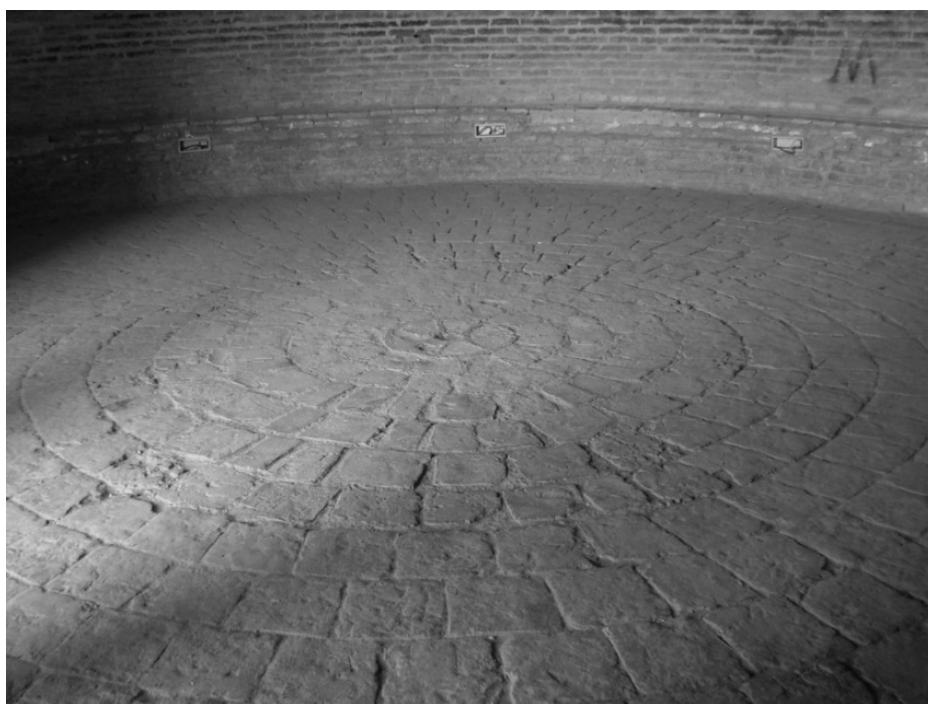
General view of Gonbad-e Qābus



Entrance



View of the flanges and the lower inscription



Interior view