

## Bam Citadel (Iran)

No 1208

### 1. BASIC DATA

*State Party:* Islamic Republic of Iran  
*Name of property:* The Bam Citadel (Arg-e Bam) and its Related Sites  
*Location:* Kerman Province, Bam District  
*Date received:* 11 May 2004  
*Category of property:*

In terms of the categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a *Site*. According to the Operational Guidelines for the Implementation of the World Heritage Convention, this is a *continuing cultural landscape*.

#### *Brief description:*

The Bam Citadel (Arg-e Bam) and its Related Sites are situated in a desert environment on the southern edge of the Iranian high plateau. The origins of Bam can be detected to the Achaemenid period (6<sup>th</sup> to 4<sup>th</sup> cent. B.C.). Its heyday was from the 7<sup>th</sup> to 11<sup>th</sup> centuries, being at the crossroads of important trade routes and known for the production of silk and cotton garments. The existence of life in the oasis was based on the underground irrigation canals, the *qanāts*, of which Bam has preserved some of the earliest evidence in Iran. Arg-e Bam is the most representative example of a fortified medieval town built in vernacular technique using mud layers (*Chineh*).

### 2. THE PROPERTY

#### *Description*

The city of Bam is situated between Jebāl Bārez Mountains and the Lut Desert at an altitude of 1,060m above sea level in south-eastern Iran. It is 200km south-east of Kerman on the road linking the latter to Iranshahr and to the Oman Sea; it is 120km north-east of Jiroft, the centre of an ancient civilisation. The region of Bam has desert climate, and the temperature varies between +49C and -9C. The city was affected by the 6.5 Richter scale earthquake, at 05.26 AM local time, on 26 December 2003. More than 26,000 people lost their lives (as reported on 25 March 2004), and a large part of the town was destroyed, including old and new structures.

The city of Bam grew in an oasis created mainly thanks to an underground water management system (*qanāts*), which has continued its function till the present time. The fortified citadel area (*Arg*) enclosing an important part of the old town is situated in the northern part of the city, on and around a small rocky hill (45m high). The more recent urban development extends to the south and south-west of the Arg. The main highway runs in east-west direction on the southern side of the town. The main open water course, Posht-e Rud, is a floodway, north of Arg-e Bam, which

however is dry most of the year. The lands to the west and east of the Arg are mainly palm groves, for which Bam is famous, and some fruit trees. The system of *qanāts* brings water to this area from the sources and mountains in the west and north-west.

A seismic fault, the 'Bam fault', runs in north-south direction on the east side of the city. The epicentre of the earthquake was on the west side of this fault, just south of Bam. This is a hidden fault, going down to the bedrock. It is covered by thick sediments and fissures are only visible in a few places on the surface. Now more fissures have arrived as a result of the seismic action. The ground level is some 20-25m lower on the east side of the fault scarp, where the neighbouring town of Baravat has developed with a cultivation of date palms (3x7km). The irrigation of the area is based on a large number of *qanāts*, bringing water from the west side. The seismic fault acts like a dam, allowing water to accumulate on the west side. Each *qanāt* thus brings several times more water than what is common in such systems. Furthermore, the difference of ground levels at the fault scarp allows an easier irrigation of the cultivated land. The series of *qanāt* in this area is datable at least to the Parthian (Hellenistic) period if not Achaemenid.

The principal core zone of the nominated property consists of the Citadel (Arg-e Bam) with its surroundings. Outside this area, the specified remains of protected historic structures include: Qal'eh Dokhtar (Maiden's fortress, ca. 7<sup>th</sup> cent.), Emamzadeh Zeyd Mausoleum (11-12<sup>th</sup> cent.), and Emamzadeh Asiri Mausoleum (12<sup>th</sup> cent.). Recent archaeological explorations have revealed remains of two ancient villages or towns to the east of the Arg, including the remains of a fire temple and remains of ancient *qanāts*. There are historic *qanāt* systems and cultivations south-east of the Arg, which date at least to the Hellenistic era, continuing some 20 kilometres to the south, and irrigating the palm groves in the town of Baravat.

*The Enclosure of the Citadel (Arg-e Bam):* This area is a somewhat irregular oblong rectangle (ca. 430m x 540m), from which the north-east section has been cut. The fortified enclosure has 38 watchtowers. The principal entrance gate is in the south, and there are three other gates. A moat, 10-15m wide, surrounds the outer defence wall, which encloses the Governmental Quarters (the actual *Arg* called *Hakemneshin*) and the historic town of Bam. All structures are built in traditional technique combining the use of mud layers (*chineh*), sun-dried mud bricks (*khesht*), and vaulted and domed structures.

The impressive *Governmental Quarters* are situated on a rocky hill (45m high) in the northern section of the enclosure, surrounded by a double fortification wall. This area includes the *Governor's Residence*, the *Chaharfasl* (a 17<sup>th</sup>-century Safavid kiosk) and the *Garrison*. To the west of the entrance gate there is a large structure containing the Stables.

*The main residential quarter* of the historic town occupies the southern section of the enclosure. This is built following a quasi orthogonal street pattern. The notable structures include the bazaar extending from the main south entrance toward the governor's quarters in the north. In the eastern part, buildings include the *Congregational Mosque*, the *Mirza Na'im* ensemble (18<sup>th</sup> cent.), and the *Mir House*. The mosque may be one of the oldest mosques

built in Iran, going back to the 8<sup>th</sup> or 9<sup>th</sup> century, probably rebuilt in the 17<sup>th</sup> century. The north-western area of the enclosure is occupied by another residential quarter, *Konari Quarter*, consisting of the remains of some more modest houses.

Outside the fortified enclosure, north-east of the Citadel, there is a large *Icehouse* (*Yakhchāl*). This structure is covered by a large dome in mud brick (now partly broken). Ice was produced during winter nights as water would freeze in a vast shallow pool shaded by a long and high wall. Removed from the pool at dawn, the ice was then stored in a large tank under the dome of the Icehouse for the summertime. The building had been restored and transformed into an auditorium used for meetings (before the earthquake). The core zone also includes the remains of the Hazrat-e Rasul Mosque, another early mosque.

The cultural landscape of Bam has testimonies of the development and strategic importance of the site, which has evolved since the pre-Islamic times, i.e. Achaemenid, Parthian and Sassanian periods. There are the remains of an ancient fire temple, and recent exploration has brought to light the remains of ancient settlements with their irrigation systems.

### **History**

The beginnings of Bam are fundamentally linked with the invention and development of the *qanāt* system. The region of Iran was central to this technique, as a large part of the country would be not habitable and cultivable if water were not brought there even from long distances. The technique of using *qanāts* was sufficiently well established in the Achaemenid period (6<sup>th</sup> to 4<sup>th</sup> cent. B.C.) to justify its systematic promotion in the different parts of the empire. The archaeological discoveries of ancient *qanāts* in the south-eastern suburbs of Bam, on the fault, are datable at least to the beginning of the 2<sup>nd</sup> cent. B.C. (Parthian period), where the agricultural fields were then and still are (close to Baravat area). There are also structures in the citadel that are datable to the Achaemenid period.

A popular belief attributes the foundation of the town itself to Haftvad, who lived at the time of Ardashir Babakan, the founder of the Sassanian Empire (3<sup>rd</sup> cent.). The name of Bam has been associated with the ‘burst of the worm’ (silk worm). Haftvad is given as the person who introduced silk and cotton weaving to the region of Kerman. Bam is first mentioned by Islamic writers in the 10<sup>th</sup> century, when it was a well established trading place. It was reported to be surrounded by agricultural settlements. It had 3 mosques: the main mosque was inside the fortified enclosure, and the Hazrat-e Rasul Mosque was outside. Bam was then well known for the production of elegant garments, its strong fortress and busy bazaars, as well as for growing palm trees. The writers also refer to the *qanāt* system providing drinking water and irrigating the cultivations.

At the death of Toqrol Shah the Seljukid in Jiroft, in 1168/69, there started a war of succession among his sons. The political situation worsened and, in 1179, the Kerman province with Bam became subject to a destructive invasion by the Ghosnids, a Turkish tribe related to the Seljuks.

In 1213, the whole south-eastern Iran was conquered by the Great Lord Master of Zuzan. In Bam, the defence walls were destroyed. The Mongol attacks, starting in 1220, concerned mainly the north of Iran, but the consequent instability was felt also in the south. Bam was exempted from paying taxes, and the fortifications were rebuilt. The citadel was recaptured by the king Amir Mobarez al-Din, in 1342, and the walls were again restored. Around 1408-09, a Timurid general occupied Bam. He ordered the citadel to be restored and the people to build their houses inside the fortified enclosure.

From the 16<sup>th</sup> to 18<sup>th</sup> centuries, Iran experienced a period of calm and prosperity. At that time, Bam was still the centre for silk and woollen garments as well as cashmere. In the 18<sup>th</sup> century, it also had a strategic role as a frontier fortress. It was twice occupied by the Afghans, first in 1719 and then 1721-30. It was taken back by the Persian government (Afshar, Zand, and the Qajar dynasty). In 1841, during the Qajars, Bam and Kerman were occupied peacefully by the Ismailis for a short period.

From the 19<sup>th</sup> century, the town grew outside the walls, and a new settlement with gardens and date groves was established ca 1km south-west of the Arg. Inside the fortified area, the residential quarters were gradually reduced to ruins. In 1881, due to the increase of the control by the central government in Tehran towards the remote eastern provinces (Baluchistan and Makran), Bam lost its position in favour of Bampur in the SE as the seat of the governor, though it was still used as his summer residence. The population and commercial activities continued to grow. From ca. 6,000 inhabitants in the 1880s, the number grew to 13,000 in 1895, and to 30,000 in 1976. At the time of the earthquake, in 2003, the population was nearly 100,000. Arg-e Bam remained mainly a military base until the 1930s, when the army moved out. The site was protected as an archaeological site under national legislation in 1945, and the first restoration was carried out in 1948. A more extensive restoration campaign started from 1976.

### **Management regime**

#### *Legal provision:*

The nominated property (Arg-e Bam) is owned by the state, through the Iranian Cultural Heritage Organization (ICHO). Some of the listed buildings outside the Arg are property of other governmental institutions, but any changes are subject to permission by ICHO.

The citadel area with its surroundings is protected, since 1945, under Iranian national legislation (Law of Conservation of National Monuments, 3 Nov. 1930), and other instruments of legal control and norms of protection related to architecture and land use control. Illegal excavations are prohibited in Iran.

There are two buffer zones. The buffer zone one covers the urban area next to the citadel: any construction activity or alteration here is forbidden without the permission and supervision of the ICHO. An extended landscape protection zone is provided, covering the entire town, the irrigation areas and cultivations in Bam and Baravat. This will allow land use control. The skyline and views of the Arg will be protected, and building height limited to 10m.

Agricultural activity will be allowed so far this will not require constructions disturbing the landscape. Any mining or quarrying will be forbidden if it affects the sight of the mountains visible from Bam. The balance between palm groves and built areas would be retained the same as before the earthquake.

#### *Management structure:*

The main management authority for the nominated property is ICHO, who will consult and collaborate with other national and local authorities. Following the earthquake, a Task Force has been set up by ICHO in order to ensure timely and effective planning and implementation of relevant activities. Management involves collaboration particularly with the Religious Endowment Organization (Sazeman-e Owqaf), Ministry of Housing and Town Planning (Vezerat-e Maskan va Shahrsazi), and the Municipalities (Shahrdari) of Bam and Baravat. ICHO has two offices in the region, the regional office of Kerman, and the Task Force office in Bam.

The previous urban master plan of Bam is no longer valid after the earthquake. The preparation of the new master plan is in progress. An emergency management plan has already been set up to cope with the post-earthquake situation, and to guarantee protective and conservative measures in Bam. The plan was also approved by the International Scientific Workshop in Bam, 17-21 April 2004. It includes safety measures for structures, removal of debris, building facilities for staff, research, and daily monitoring. The new master plan was also discussed by the Workshop, who made recommendations regarding the heritage issues to be taken into account. New aerial maps are in preparation with assistance from France.

#### *Resources:*

There are three types of governmental funds: development budget, income from revenues and income from providing services to visitors. There is an international fund based on grants allocated to Bam after the earthquake. Projects have also been proposed to be funded by the World Bank and Japan.

The number of persons working in the Bam Task Force of ICHO is 104, which is increased from the previous 65 in the local conservation office. Visitor facilities are currently being re-established.

#### *Justification by the State Party (summary)*

The Citadel of Bam (Arg-e Bam) is considered to be the largest extant mud brick complex of its type in the world, which has kept its traditional architecture and town planning undisturbed.

*Criterion i:* The antique agrarian sites along the Fault and their sophisticated network of *qanāts* are planned to be included in the site in the future, and would justify this criterion.

*Criterion ii:* The Citadel and its satellite sites are a living testimony to local, national and international cultural interchange. Situated on the southern edge of the deserts on the Iranian plateau, Bam has been and still is a key point on the national and international south-western Asian roads. Whether qualified as “Silk” or “Spice” roads for the

passed centuries, or as “Asiatic Highway” (Shāhrāh-e Asiyāi) during the past decades, these roads included Bam in their network. ... The combination between built areas and the underground water system has created in Bam a harmonious landscape. With the new discoveries on the Bam Fault, this landscape will reflect two thousand years of continuous evolution in the history of the *qanāts* from nearly the times they were invented until now.

*Criterion iii:* Bam is, and has been, a perfect manifestation of life in a desert town. ... The “tangible and intangible heritage” of Bam in this perspective incorporates the “cultural landscape composed of the desert environment, ingenious water use, management and distribution system (e.g. *qanāts*), agricultural land use, gardens, and built and urbanized environment”.

*Criterion iv:* The ensemble of the Citadel, especially its upper fort (Governmental Quarter) and its walls, constitute an outstanding example of military architecture in unbaked brick. ... It represents fourteen centuries of continuous recorded military actions: from the Arab invasion in the 7<sup>th</sup> century up to the 20<sup>th</sup> century when the earthen walls became obsolete and no more a match for bombs and heavy artillery. The two-thousand-year old sophisticated network of the *qanāts* in Bam is in its turn a unique example of its kind in use over such great span of time.

*Criterion v:* Bam together with its Citadel is undoubtedly an outstanding example of a traditional human settlement and land use representative of a culture having become vulnerable: Living on its traditional underground irrigation system (*qanāts*), the ensemble is a desert town now in disarray after the earthquake which “caused major structural damage to the Arg-e Bam and affected the visual and functional nature of its relation to the city and its traditions.”

*Criterion vi:* Bam bears scars from the earthquake which devastated it on 26 December 2003. This tragedy unfortunately makes Bam eligible under this criterion in conjunction with other criteria.

### **3. ICOMOS EVALUATION**

#### *Actions by ICOMOS*

ICOMOS was co-organizer in the Ninth International Conference on the Study and Conservation of Earthen Architecture, in Yazd, Nov.-Dec. 2003, which included a visit to Bam to discuss its conservation policies. Following the earthquake, ICOMOS organized an emergency mission to discuss international safeguarding campaign. ICOMOS was also co-organizer of the International Scientific Workshop in Bam in April 2004, which prepared the Bam Declaration and Recommendations for the emergency management and the preparation of the new territorial master plan for Bam and Baravat.

#### *Conservation*

##### *Conservation history:*

From the 19<sup>th</sup> century, due to the wish of the inhabitants to move to the new settlement outside Arg-e Bam, the residential quarters gradually fell into ruins. The governor’s quarter and the walls were, instead, maintained

as the site remained in use by the army until 1930. From 1945, the site was protected as part of national heritage. From 1976 until the 2003 earthquake, the property was subject to conservation and restoration programmes as one of the major heritage sites in Iran.

#### *State of conservation:*

The 2003 earthquake caused extensive damage to a large part of the city of Bam. Another, minor earthquake hit the region in May 2004. The region is an active seismic area, and there have been earthquakes at some distance. Nevertheless, no major shocks have been recorded in Bam itself. Particularly affected was the territory along the west side of the Bam Fault. The epicentre of the main shock was here, and also the after shocks concentrated in this area. The worst affected zone in the new town of Bam was destroyed 80-100%, while further away the impact was gradually less. These recent buildings were mainly mixed structures, combining earth with steel and reinforced concrete. Damage was also caused to the underground *qanāt* system. Its continuous functioning is fundamental to the survival of agricultural activities and palm tree cultivations, and its repair started immediately as a main priority.

Also Arg-e Bam suffered damage due to the shocks. This is particularly visible in the collapse of the main entrance, in the damaged defence walls and the governor's quarters, which were in the best state of conservation prior to the shocks. Access to visitors is now only allowed along an illuminated footpath that runs from the main entrance to the Governmental Quarters in the north. There are critical cracks and fissures in various massive earthen structures, which require urgent attention. Most of the residential area was already in ruins before the earthquake. However, here the debris has filled the streets and made access difficult and risky. It is noted that the debris contains archaeological information and also gives support to the standing walls. Some buildings have been less damaged, including the recently restored Stables.

As a result of the destruction, the archaeologists have discovered new evidence of the history of the place in the Arg itself and in the surrounding territory. This includes remains of ancient settlements and irrigation systems, dating at least to the Parthian-Hellenistic period, 2<sup>nd</sup> century B.C.

#### *Management:*

Before the earthquake, the city of Bam had a master plan, which was being implemented, and the Arg-e Bam site was one of the major conservation projects in Iran. At the distance of a few months from the earthquake (May 2004), the emergency plans have now been adopted and are being implemented. This regards the whole city and its infrastructures, where providing shelter and services for the inhabitants is priority, as well as taking care of the damaged heritage areas.

There have been several missions organized by UNESCO, involving the UNESCO Tehran Cluster Office and the World Heritage Centre. There have also been missions by ICOMOS and other organizations and specialists from foreign countries. The initiatives have included the International Workshop for the Recovery of Bam's

Heritage, 17-20 April 2004, attended by national and foreign conservation specialists as well as by the planning authority of Bam. The workshop examined the situation in Bam, and prepared the Bam Declaration, as well as making recommendations for the action plan and master plan.

The World Heritage nomination initially included principally Arg-e Bam and its immediate surroundings. Subsequently, the core area has been extended to the territory on the west side of the Bam Fault, including the old *qanāt* system. The earthquake has revealed evidence of some of the early historic phases of the site, and their archaeological exploration has initiated. The management programme also includes the provision of services and facilities for visitors.

#### *Risk analysis:*

A major disaster, such as that of Bam, obviously brings with it problems that affect heritage values in various aspects. The physical condition of the damaged but still standing earthen structures is precarious and requires urgent intervention. The impact of future earthquakes is a key issue to be faced. Another question is the removal of debris. This will be a long process as the debris also contains archaeological and technical information. In long term, the environmental factors, such as differences in temperature, humidity, and rain in the cold season, will contribute to the erosion and decay of the unbaked earthen structures.

In the new town, much of the structural damage was caused by the lack of observance of building norms, inconsiderate changes to existing structures, and lack of maintenance. In the future, attention must be given to the verification and appropriate implementation of such norms taking into account heritage values. This does not exclude the correct use of earthen structures.

Pressures from urban development and from agriculture do exist. So far, these have been controlled and the integrity of the landscape around the Arg has been respected. The question may become a new challenge due to the present emergency situation in view of the new master plan. Large numbers of visitors have wanted to see Arg-e Bam, which is a potential problem due to lack of safety. Thus, a wooden pathway has been built to allow limited visitor access.

#### *Authenticity and integrity*

The *Bam Declaration* (April 2004) states: "The heritage of Bam and its surrounding area are a cultural landscape composed of the desert environment, ingenious water use, management and distribution systems, (e.g. *Qanāts*), agricultural land use, gardens, and built environment." The damages by the 2003 earthquake caused serious destruction in the city of Bam and in Arg-e Bam. Damage also affected the underground water canal system which is vital for the continuity of cultivation in Bam. Nevertheless, as a whole, this cultural landscape has preserved its cultural-historical integrity.

In Arg-e Bam, the character of the unbaked earthen structures and the history of the place have caused a continuous building process over centuries. Nevertheless, the urban form and the type of construction have been retained. While the earthquake destroyed part of the structures, including recent restorations and rebuildings, it

also revealed underlying layers of history, increasing the research potential of the site. The overall integrity of the site has still been retained.

Current economy of the city of Bam is based on agriculture (cultivation of date palms) and commerce. In the second half of the 20<sup>th</sup> century, the population of the city has tripled, increasing the housing areas particularly south of the Arg. Nevertheless, the landscape around the Arg has been kept open, keeping the traditional relationship of the fortified ensemble with its context.

### **Comparative evaluation**

The historic town of Bam grew at the crossroads of important trade routes in the desert region, at the southern side of the Iranian central plateau. There is evidence of habitation at least in the Achaemenid period (6<sup>th</sup> to 4<sup>th</sup> century B.C.). In Oman, underground water supply systems, *qanāts*, have been documented at least at the end of the second millennium B.C. The systems using *qanāts* take advantage of underground water-table, guaranteeing continuous water supply from mountain slopes to distant desert areas. Iran has vast regions where life is fundamentally dependent on such systems. In fact, the *qanāt* system was an important part of the development strategy of the Achaemenids, who also introduced it to Egypt at that time.

It is not easy to find archaeological evidence for dating *qanāts*, considering that the system is continuously repaired and maintained. In Iran, most *qanāts* in use today are of relatively recent construction. Bam makes a remarkable exception, and its *qanāts* have been dated at least to the Parthian period (2<sup>nd</sup> B.C.) or earlier. The irrigation system of Bam also represents a rare example of the use of the seismic fault. Forming a kind of dam, the fault has allowed water to accumulate on the mountain side, to the west of the fault. This means shorter canalisation and abundant water.

There is a large number of fortified cities in Central Asia, including: Meybod, Zuzan, Rey, and Nishapur, in Iran, or Herat in Afghanistan. The construction technique used in Arg-e Bam, a mixture of mud layers (*Chineh*) and mud bricks (*Khesht*), can be found in a region, which extends from Central Asia to East Africa. E.g., the Bahla Fort in Oman was built in a similar technique. In this context, Arg-e Bam is distinguished by its age, its size, and the complexity of its fortification system. Even though Bam was injured in the recent earthquake, the cultural landscape and the remaining structures still represent an outstanding example of this type of settlement.

### **Outstanding universal value**

#### *General statement:*

The Bam Citadel (Arg-e Bam), and its Related Sites form a cultural landscape in the desert area in south-eastern Iran. Bam was an important crossroads of trade routes and cultural exchange, linking Iran to the northern shore of the Sea of Oman, and through Bampur to the present-day Pakistan and the Indus Valley. Bam also had contacts with Egypt and the Near East. There is evidence that silk production was introduced to Iran in the early Sassanian

period (3<sup>rd</sup> cent.), in the region of Kerman. In fact, Bam developed into an important trading place, especially in silk and cotton garments. Its heyday was from the 7<sup>th</sup> to the 11<sup>th</sup> centuries.

The geographical areas around the Central Desert of Iran, such as the cities of Yazd, Kerman, Kashan, Birjand and Bam, use the technology of *qanāts*, developing a distinct cultural system, which has been called the *Qanāt civilization*, sharing cultural, socio-economic and political characteristics that distinguish it from others. In fact, the existence of Bam is fundamentally based on the development of *qanāts* that bring water from the mountains in the west. Bam has preserved the oldest archaeological evidence of such systems still in function in Iran, going back some two and a half millennia. The site is distinguished due to the ingenious use of the seismic fault to facilitate water management and irrigation.

The history of the fortified settlements in Bam has been documented to the Achaemenid period, and even beyond. The earthquake has also revealed layers on the history of the site not known previously. In the Arg itself, evidence has been revealed of the different phases of construction. Arg-e Bam represents vernacular heritage. Even though an archaeological site it is the most representative of its type.

#### *Evaluation of criteria:*

Criterion iii: Arg-e Bam and its related sites represent a cultural landscape and an exceptional testimony to the development of a trading settlement in desert environment in Central Asia. Its history goes back to the Achaemenid times, and it has preserved earliest known archaeological evidence to the development of the *qanāt* system still in use in the Iranian high plateau.

Criterion iv: Arg-e Bam represents an outstanding example of a fortified settlement and citadel, as these developed in the Central Asian region. Bam is seen as the most significant example of a complex fortified structure using in its construction a combination of mud layers (*Chineh*) and mud bricks (*Khesht*), also designed to resist seismic action. Even though damaged in the recent earthquake, Arg-e Bam can still be considered to have retained its cultural-historical representivity.

Criterion v: The cultural landscape of Bam is an outstanding representation of the interaction of man with the desert environment. It has only been possible through a complex water management system involving *qanāts*, and Bam has preserved the earliest known evidence for this in Iran. In order to function properly, the system of *qanāts* must be based on a strict social system with precise tasks and responsibilities. In the case of Bam, this system has survived until the present. It is significant that the damaged *qanāts* were repaired as the foremost priority after the earthquake. In the current emergency situation, this system however has become vulnerable to change, and requires particular attention in relation to the development of the new urban master plan and the strategies of intervention in the entire cultural landscape.

Criterion ii: Bam developed at the crossroads of important trade routes linking Iran to India and the Sea of Oman, as well as trading with Egypt and the Near East. Through these contacts, Bam developed into a multicultural society, involving the different religions, such as Zoroastrian, Jewish, Islamic, Christian, etc. Arg-e Bam is an early and

impressive example of a medieval fortified settlement, still considered the most representative example of its type in this cultural region.

Criterion i: The State Party has proposed this criterion in reference to the development of the *qanāt* system. Nevertheless, ICOMOS believes that this aspect is already covered under the other criteria.

Criterion vi: The State Party proposes this criterion in reference to the recent earthquake. While recognising the serious losses of human lives, ICOMOS does not consider the use of this criterion relevant.

#### **4. ICOMOS RECOMMENDATIONS**

##### ***Recommendation for the future***

Considering the serious emergency situation in Bam after the recent earthquake, and the efforts being made for the revival and reconstruction of the urban habitat and the preservation of the heritage resources, ICOMOS recommends that the Committee consider its inscription to the World Heritage List in Danger.

ICOMOS endorses the Bam Declaration (April 2004) and the recommendations therein regarding short- and long-term action in the conservation management and sustainable development of the site as a whole, and urges the State Party to implement them as a priority.

##### ***Recommendation with respect to inscription***

That the property be inscribed on the World Heritage List and on the World Heritage List in Danger as a *cultural landscape* on the basis of *criteria ii, iii, iv and v*:

***Criterion ii:*** Arg-e Bam developed at the crossroads of important trade routes at the southern side of the Iranian high plateau, and it became an outstanding example of the interaction of the various influences.

***Criterion iii:*** Arg-e Bam and its related sites represent a cultural landscape and an exceptional testimony to the development of a trading settlement in the desert environment of the Central Asian region.

***Criterion iv:*** Arg-e Bam represents an outstanding example of a fortified settlement and citadel in the Central Asian region, based on the use mud layer technique (*Chineh*) combined with mud bricks (*Khesht*).

***Criterion v:*** The cultural landscape of Bam is an outstanding representation of the interaction of man and nature in a desert environment, using the *qanāts*. The system is based on a strict social system with precise tasks and responsibilities, which have been maintained in use until the present, but has now become vulnerable to irreversible change.

ICOMOS, June 2004