

World Heritage Scanned Nomination

File Name: 1208.pdf

UNESCO Region: ASIA AND THE PACIFIC

SITE NAME: Bam and its Cultural Landscape

DATE OF INSCRIPTION: 7th July 2004

STATE PARTY: IRAN

CRITERIA: C (ii) (iii) (iv) (v) CL

DECISION OF THE WORLD HERITAGE COMMITTEE:

Excerpt from the Report of the 28th Session of the World Heritage Committee

Criterion (ii): 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): The Bam and its Cultural Landscape represents an exceptional testimony to the development of a trading settlement in the desert environment of the Central Asian region.

Criterion (iv): The city of 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 qanats. 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.

BRIEF DESCRIPTIONS

Bam is 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 (6th to 4th cent. B.C.). Its heyday was from the 7th to 11th 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 qan ā ts, 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*).

1.b State, Province or Region: Kerman Province, Bam District

1.d Exact location: N29 07 00.6 E58 22 06.5

Iranian Cultural Heritage Organization

**THE BAM CITADEL (ARG-E BAM)
AND ITS RELATED SITES**

**UNESCO
WORLD HERITAGE CONVENTION
NOMINATION OF PROPERTIES FOR INCLUSION ON THE
WORLD HERITAGE LIST
BAM, MAY 2004**

1
IDENTIFICATION OF THE PROPERTY

1. Identification of the Property

1a. Country (and State Party if different)

Islamic Republic of Iran (fig. 1)

1b. State of province or region

Province of Kerman, Bam district (fig. 2)

1c. Name of Property

The Bam Citadel (Arg-e Bam), and its Related Sites (figs 3-6)

1d. Exact location on map and indication of geographical co-ordinates

Bam lies between Jebāl Bārez Mountains and the Lut Desert at an altitude of 1060 m above sea level (figs 2-4). Bam is 200 km south-east of Kerman on the road linking the latter to Iranshahr on the Oman Sea. It is 120 km north of Jiroft, now famous for its recent remarkable archaeological discoveries. Bam's temperature is 49 at maximum and -9 minimum. The main water course is the Posht-e Rud flowing north of the Arg-e Bam; the *qanāts* network stretches NW-SE, which is, in fact, a flood way.

See maps figs 1, 2, 3 and 4.

Coordinates on the top of the Citadel:

Latitude: N 29° 07' 00.6''

Longitude: E 58° 22' 06.5''

Altitude (ellipsoïde) :1092m

1e. Maps and/or plans showing boundary of area proposed for inscription and of any buffer zone

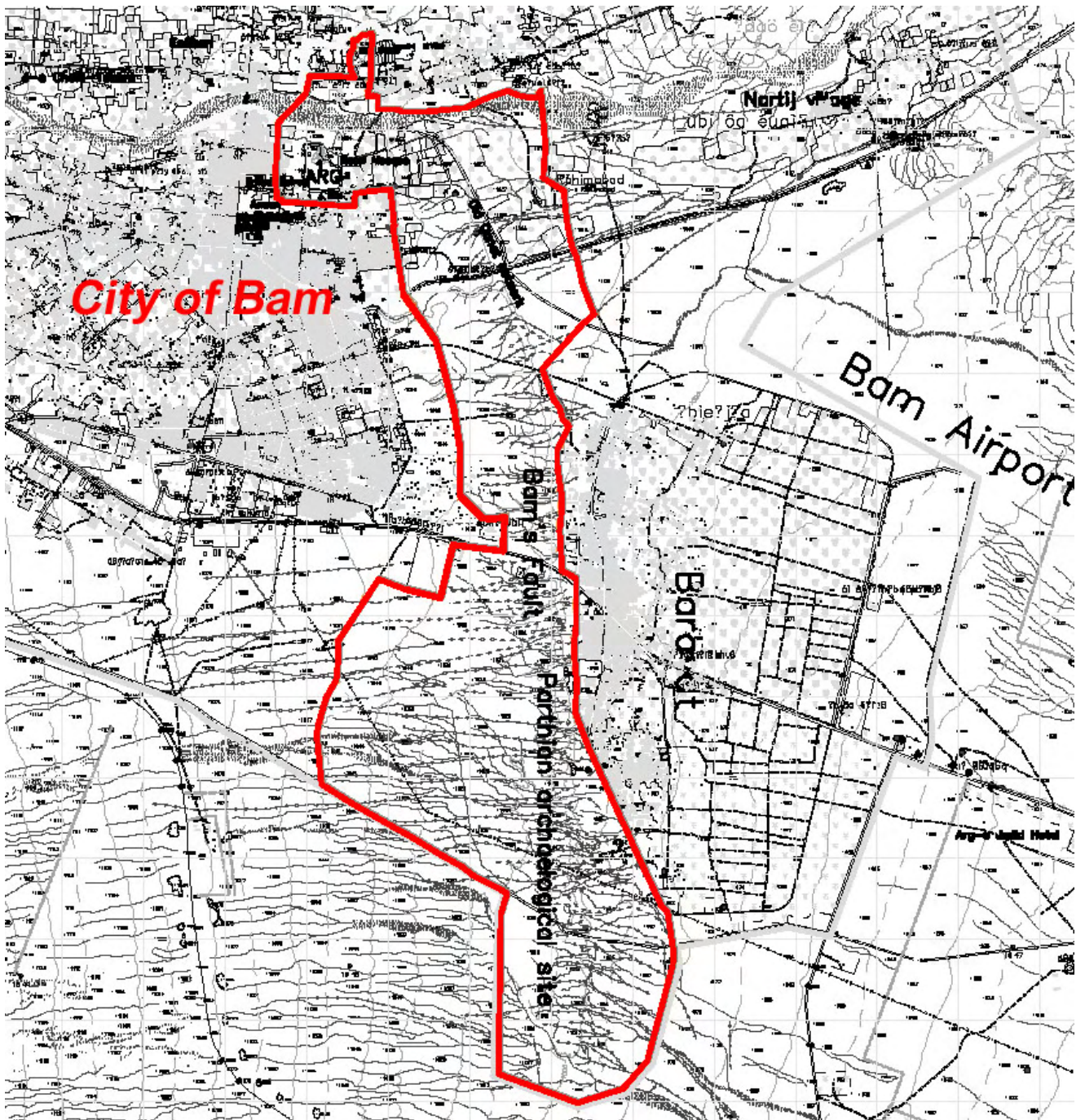
See maps on figures 4 (folded and attached to the end of the file), 5 and 6.

1f. Area of site proposed for inscription (ha.) and proposed buffer zone (ha.) if any.

See the table below.

Single Nomination Table for the Arg-e Bam and its Related Sites

N°	Site Name	Map reference	Core zone (ha)	Buffer zone (ha)		Tentative Landscape buffer zone (ha)	Text reference	Geographical Co-ordinates (central point)
				Buffer zone 1	Buffer zone 2			
1	Arg-e Bam	5	73.16	279.06		18368	3a. I	N: 29° 07' 00.6'' E: 58° 22' 06.5''
2	Qal'eh Dokhtar	5	3.71				3a. II. 2	N: 29° 07' 34.8'' E: 58° 22' 24.2''
3	Hazrat-e Rasul	5-6	Included in the Arg				3a. II. 3	N: 29° 06' 53.8'' E: 58° 22' 22.6''
4	Shrine of Mirzā Ebrāhim	5-6	Included in the Arg				3a. II. 4	N: 29° 06' 42.6'' E: 58° 22' 09.0''
5	Vakil Ensemble 5-1-Qeysariyeh 5-2-Vakil Mosque 5-3-Vakil Bath	5	0.76	6.48	544.09	18368	3a. II. 5	5-1- N: 29° 06' 33.1'' E: 58° 21' 42.9'' 5-2- N: 29° 06' 26.1'' E: 58° 21' 42.4'' 5-3- N: 29° 06' 33.3'' E: 58° 21' 40.1''
				3a. II. 5a				
				3a. II. 5b				
				3a. II. 5c				
6	Bam Bazaar	5	1.08	Included in the Vakil Ensemble			3a. II. 6	N: 29° 06' 35.6'' E: 58° 21' 32.0''
7	Ansāri Residence	5	0.35	0.93			3a. II. 7	N: 29° 06' 39.4'' E: 58° 21' 33.5''
8	Ahmadiyah School	5	0.09	Included in the Vakil Ensemble			3a. II. 8	N: 29° 06' 32.0'' E: 58° 21' 38.2''
9	Seyyed Abbās Bath	5	0.03	Included in the Vakil Ensemble			3a. II. 9	N: 29° 06' 31.7'' E: 58° 21' 38.8''
10	Emād School	5	0.18	Included in the Arg			3a. II. 10	N: 29° 06' 45.1'' E: 58° 21' 36.6''
11	Emānzādeh Zeyd Mausoleum	5	1.18	1.62			3a. II. 11	N: 29° 06' 44.8'' E: 58° 22' 03.1''
12	Emānzādeh Asiri Mausoleum	5	0.43	Included in the Vakil Ensemble			3a. II. 12	N: 29° 06' 34.5'' E: 58° 21' 34.7''
13	Mehdizādeh House	5	0.07	0.11			3a. II. 13	N: 29° 06' 28.4'' E: 58° 21' 20.6''



Map showing revised area proposed.

2

JUSTIFICATION FOR INSCRIPTION

2. Justification for Inscription

2a. Statement of significance

The Citadel of Bam (Arg-e Bam) is considered *as the largest extant mud brick complex of its type in the world which has kept its traditional architecture and town planning undisturbed by alien elements until now*. While by the early 20th century its inhabitant had gradually started to move outside its walls by then useless for defensive purposes, its most important symbolic features have kept being used not only up to the day they were severely damaged by the earthquake (26 December 2003), but even now. These were the Cathedral Mosque (Masjed-e Jāme' / Congregational Mosque), the Master of the Time Well (Chāh-e Sāheb-e Zamān) and the Religious Theatre (Tekiyeh). Some locals, bound to Old Iranian traditions, used the height of the upper fort to salute the arrival of the New Year. The Arg has thus remained alive through its most powerful religious and national symbolic elements. The reorientation of the function of some of the now useless buildings towards new usage - such as the transformation of the Ice-House into an amphitheatre and that of the Stable into an Exhibition Hall (see below 3a. Description, 1) - has also helped to the revival of these buildings and thus to that of the whole Arg. For all these reasons the inhabitants of Bam together with the Iranian people, many specialists and art lovers request the revival of the Bam ensemble.

Bam as a symbol of men's victory over a hostile environment can also be considered as unique in his own case. Not only because it has a complex system of underground irrigation system leading to an agricultural land use network in harmony with its built area - both also present in other parts of West Asia -, but also because of *its ingenious use of the earthquake fault for the creation of that surrounding*. It seems that only in Achaemenid Egypt (6th to 4th cent. B. C.) and on the southern shores of the Sea of Oman and the Persian Gulf a very few number of roughly similar complexes exist (see the following section, 2b. comparative analysis and 3. b. History and Development).

The “diverse tangible and intangible heritage resources of Bam also express values associated with the long and complex history of the city. The heritage of Bam and its surrounding 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.”¹

2b. Comparative analysis (including state of conservation of similar sites)

2b. Comparative analysis (including state of conservation of similar sites)

There are no truly extant similar sites to Bam in Iran or elsewhere. It seems that potentially comparable sites are by now destroyed or greatly transformed while Bam has kept its features and its urban fabric in the course of time. Indeed, its urban fabric, its

¹ See hereunder Appendix 1, Declaration and concluding recommendations of the in the International Workshop in Bam, 17-20 April 2004, section 2.1.

walls and architecture have gone through *a straight line of evolution during centuries without ever being ruined by the introduction of alien or awkward elements*. Indeed, in our time, other comparable towns also present sophisticated earthen civil architecture, but their urban fabric has been changed drastically or devastated during the last century among other factors by the introduction of elements such as large asphalted streets or what has been perceived as modern architecture. As to similar vanished towns, the case of Zuzan in Khorassan comes to mind. It was a similar town to Bam in all respects, but it was destroyed centuries ago by a powerful earthquake; it is now a magnificent archaeological site, but not a town with a mosque and a religious theatre still in use. While in the zenith of their magnificence (11th cent.), Bam and Zuzan had roughly the same shape, the same size, with walls crowned by a tall fort noticed by those who saw them, and the same architecture built mainly with mud brick.²

Bam's division in two sections (citadel and popular quarter) also shows similarity with other far bigger and more famous cities, unfortunately destroyed long ago with their ruins by now largely vanished. Indeed the main feature of Bam's plan singled out by its upper fort (Governmental Quarter) and its lower part (the town) shows similitude with the Sassanid city of Abarsahr, the future famous city of Neyshāpur (Omar Khayyam's birthplace). That vast and opulent town was destroyed during the Mongol invasion (A.D.1220) and its remains were largely levelled in the last century.³ Rey – Rāgha in old Persian inscriptions, Rages in the Bible and Umm al-Bilād (Mother of Cities) amongst early Muslim and Arab historians – presented also the same outlook: The city was dominated by its Citadel (Tabarak) below which laid the huge city. Not much of Rey is left today. The city was ruined due to the consequences of the Mongol invasion (13th cent.) and its remains leveled in the process of Tehran's uncontrolled extension.⁴

The general plan of Bam in fact follows a known pattern all over the world: an enclosed town dominated by its citadel. However, the plan adopted in Bam seems to be a Central Asiatic one; this is the sphere with which eastern Iran shares often the same features. The inner town in the Arg-e Bam, excluding the upper fort in the north, is rectangular versus circular or irregular; yet, towns built on circular plans existed in the neighbouring province of Fars and beyond. Their example was not followed, perhaps because they were *postdating* Bam. These were the royal Sassanid cities of Firuzābād⁵ (3rd cent. A.D., before 224 A.D) and Ctesiphon, the glorious Capital city of the empire. Firuzābād, or more precisely Ardashir Khorrah “Ardashir's Gloy”, was founded by that emperor who was also the one who established the Sassanid dynasty. Latter in the 8th century, Firuzābād inspired the circular plan of the nearby town of Dārābgerd while Ctesiphon gave birth to the “Round City”⁶ of the Caliph Al-Mansur (i.e. Baghdad) founded in 141 / A.D. 755.⁷

The rectangular plan of Bam likely stems from what has been known as Greek / Hellenistic in Central Asia. Well known example of such a plan are the one in Herat

² See under Zawzan in *Encyclopedia of Islam*, 2nd ed.

³ For archaeological data see the “introduction” (pp. xxiii to xlii) in C. K. Wilkinson, *Nishapur, Pottery of the Early Islamic Period*, New York, 1973 and for a more historical perspective ‘A. Mowlavi, *Asār-e Bāstāni-ye Khorāsān*, Mashhad, 1354 / 1975, vol. I, pp. 107-390.

⁴ For a concise description see “Raiy” in *Encyclopaedia of Islam*, 2nd ed., and for ample descriptions H. Karimiyan, *Rey-ye bāstān*, 2 vols, Tehran, 1966-70.

⁵ E. F. Schmidt, *Flights over Ancient Cities of Iran*, Chicago, 1940, pls 18.

⁶ D. Huff, “Architecture sassanide” in *Splendeur des Sassanides*, éd. Musée royaux d'Art et d'histoire, Bruxelles, 1993, pp. 45-61, see pp. 56-57 and figs 14 and 36.

⁷ See under Baghdad in *Encyclopedia of Islam*, 2nd ed., map in vol. I, between pp. 908 and 909.

(ancient Alexandria in Aria) or that of Merv (Alexandria in Margiana) founded by Alexander in the territories of present Afghanistan and Turkmenistan (4th cent. B. C.). Strangely enough, the area to the south of the Citadel in Bam (the so called town) seems to contain two rectangles (more or less Golden ones): one horizontal and the other vertical. In Bam, the Citadel is situated to the north of these rectangles, so is the “palace” in Merv.⁸ The plan of the remains of Delverzin-tepe (south Uzbekistan) from the 1st century A.D. (Kushan period) are even closer to Bam. Its “Lower City” forms a rectangle 650 x 500 m (versus about 450 x 300 m). In its south corner; partially extending beyond the city’s boundaries, is a citadel shaped like rounded trapezium (maximum measurement 170 x 200 m versus roughly 200 x 250 m). The lower city was surrounded by thick ramparts with towers at 30-40 m intervals. Outside the fortifications, as a further precaution, were canals, a river-bed and a ditch. The only gate was situated in the southern section of the walls near the citadel.⁹ In Bam, the Citadel is in the north because of the existence of the little rocky mound on which it is placed, but the main gate is in the south. Bam could not easily develop towards the north because of the proximity of the Posht-e rud river (see plans 4a 4b and 6). Elsewhere in Iran, the Aruk mound near Gonābād (southern Khorassan) and Tape Siyāh close to Zuzan, both belonging to the late Seleucid or the Parthian periods (3rd B. C. to the 3rd A. D.) have also the same rectangular plan, but on a smaller scale. Their citadels and their gates are in the south and the rest on their northern side.¹⁰

The discovery of a Seleucid-Parthian (or earlier ?) site(s) in the first days of May 2004 in the south-eastern suburb of Bam (see map 4a) proves now that Bam came to exist at least from the Seleucid-Parthian period thanks to the existence of the earthquake Fault, the knowledge of drilling *qanāts*, a powerful wise national and local administration as well as the existence of favourable fiscal system; all signs of a highly developed civilisation (see below 3. b. History and Development). While the post-Islamic network of *qanāts* in Bam can be compared in a way or another to those present in other places such as Yazd or Gonābād, the task becomes far more difficult for the earlier periods. There are only a few sites in the world to which the ancient *qanāts* of Bam can be compared; these lands were all in close connection from the Achaemenid period (6th-4th cent. B.C.) and earlier. The sites are situated in Greece, in Egypt and in Oman and the present United Arab Emirates. In Greece, the system was used during the Classical and Hellenistic periods on a small scale. For climatic reasons opposite to those prevailing in Persia, the system rather had a drainage function: often it did not bring water to irrigate lands, but served to evacuate its surplus.¹¹ The examples in ‘Ayn-Manāwir in Egypt are better suited as they represent more or less true *qanāts* even if their time and space scale is smaller than those in Bam. They were scattered on a space about 3kms long and developed from the Persian up to the Romaine periods. The first examples are thus older than what has been discovered in Bam up to now. The *qanāts* in ‘Ayn-Manāwir were later abandoned because, contrary to Bam, they used fossil and not

⁸ G. A. Koshelenko and V. N. Pilipko, “Parthia” in *History of Civilizations of Central Asia*, vol. II, p. 140, fig. 4.

⁹ B. A. Litvinsky, “Cities and Urban life in the Kushan Kingdom”, *History of Civilizations of Central Asia*, vol. II, p. 296-97 and p. 332, fig. 1.

¹⁰ Recent archaeological discoveries, both to be published by C. Adle.

¹¹ See D. Knoepfler, “Le Contrat d’Érétrie en Eubé pour le drainage de l’étang de Ptéchai”, *Irrigation et drainage dans l’Antiquité*, éd. P. Briant, Collège de France, 2001, pp. 41-79 et T. Chatelain, “Assèchement et bonification des terres dans l’Antiquité grecque”, dans le même vol., pp. 81-108.

renewable water reserves.¹² Closer to Bam were the *qanāts*, or the *falaj*, as they are called in the Oman peninsula. On a limited number and developed on short distances, they apparently came to exist in the Iron Age (1300-300 B. C.). They seem to be the oldest identified cases. The better known is the one in Al-‘Ain oasis in UAE.¹³ Another one, in Al-Madam in Sharjah from the same period, is still under investigation.¹⁴

It appears *amazing to observe how in Bam an earthquake fault, a result and a symbol of a most destructive power, has been transformed through men’s genius into an outstandingly remarkable mean of continual creation for over two thousands years* (C. A.).

2c. Authenticity/Integrity

The authenticity and integrity of Bam’s Citadel and its related sites are proved on the bases of historical documents and archaeological studies. The issue is addressed in a way in sections 2b (Comparative analysis) and 3b (History and Development). The early Muslim geographers, since a thousand years ago, up to the Persian and British travellers in the 19th and the first decades of the 20th century, have all depicted sometimes in detail Bam and its Citadel. These descriptions confirm, if needed, the authenticity of the site. New archaeological research undertaken after the earthquake has confirmed the same fact and has extended our knowledge on the monuments of Bam, especially their old history going back thanks to the *qanāt* system up to more than two thousand years ago.

As to the safeguard of integrity of the sites and especially that of the Citadel, it has always been a matter of concern to the ICHO. The earthquake has brought up new problems and challenges. They are and will be faced through national and international expertise as wells as national and local workmanship. Two UNESCO missions to Bam were amongst the first to take in consideration this issue along other related important subjects such as that of the restorations: One led by Mr Francesco Bandarin, Director of UNESCO World Heritage Centre¹⁵ and the next by other eminent experts led by UNESCO.¹⁶ These two missions were followed by the meeting of the International Workshop on the Recovery of Bam’s Cultural Heritage (17-20 April 2004) in Bam Organised jointly by UNESCO Tehran Cluster Office, UNESCO World Heritage Center, International Council of Monuments and Sites (ICOMOS) and the Iranian Cultural Heritage Organization (ICHO). The workshop had amid his major tasks that of studying and proposing measures to keep intact the integrity of Bam’s tangible and intangibles cultural heritage. It adopted guidelines and made recommendations for enhanced planning and implementation of the conservation of Bam’s heritage as an

¹² M. Wuttmann, “Les qanāts de ‘Ayn-Manâwîr (Oasis de Kharga, Egypte)”, *Irrigation et drainage dans l’Antiquité*, éd. P. Briant, Collège de France, 2001, pp. 109-135 and M. Chauveau, “Les qanāts dans les ostraca de Manâwîr” dans le même vol. pp. 137-142.

¹³ R. Boucharlat, “Les galeries de captage dans le péninsule d’Oman au premier millénaire avant J.-C.”, *Irrigation et drainage dans l’Antiquité*, éd. P. Briant, Collège de France, 2001, pp. 157-183.

¹⁴ J. Córdoba and C. del Cerro, “Archéologie de l’eau dans Al-Madam (Sharjah, Emirats Arabes Unies). Puits, Aflaj et sechresse pendant l’Age de Fer”, paper given in “The Iron Age in Iranian World”, Ghent University, 18 November 2003.

¹⁵ See hereunder Appendix 2.

¹⁶ Reported by Ms Junko Taniguchi, Programme Specialist for Culture, UNESCO Tehran Cluster Office, see hereunder Appendix 3.

integral part of the recovery process and sustainable development of post-earthquake Bam.¹⁷ For more development on integrity/ authenticity issues see below Appendix 5.

2d. Criteria under which inscription is proposed (and justification for inscription under these criteria)

As it is reported above (2a and 2b) as well as hereafter in the historical part (3b), it is clear that the Citadel of Bam and its related sites constitute a unique identity deserving of being inscribed on World Heritage List. The ensemble is proposed as ***a single nomination*** under the following criteria:

I- Represents a masterpiece of human creative genius.

The ICHO would understand, if it is argued that in its present state, the area under consideration does not meet the conditions necessary for qualification under this criterion, but it considers that with the future inclusion of the antique agrarian sites along the Fault and their sophisticated network of *qanâts* this criterion will be met. These sites, discovered during the last months and after the earthquake, are presently included in the provisional landscape buffer zone.

II-Exhibit an important interchange of human values, over an span of time, or within a cultural are of the world, on development in architecture or technology, monumental arts, town-planning or landscape design.

This criterion fully applies to Bam and its related sites even as they are presented now within their core and two buffer zones. The Citadel in itself and within its satellite sites is 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 Asiyā’i) during the past decades, these roads included Bam in their network. The high monumental Citadel, even after the earthquake, is still “the cultural and spiritual landmark of the city and a dominant feature of its landscape”.¹⁸ Even now, after the earthquake it still represents one of the largest impressive extant mud brick ensembles of its kind in the world which has kept its traditional architecture and town planning undisturbed by alien elements. 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 *qanâts* from nearly the times they were invented until now.

III- Bear a unique or at least exceptional testimony to a cultural tradition or a civilisation which is living or which has disappeared.

Bam certainly can pretend to be if not unique, at least an exceptional testimony to a cultural tradition which has lived and hopefully, thanks to national and international corporations will continue to live. Bam is, and has been, a perfect manifestation of life in a desert town. The International Workshop on the Recovery of Bam’s Cultural

¹⁷ See hereunder Appendix 2 for the declaration.

¹⁸ Declaration and Recommendations of the International Workshop on the Recovery of Bam’s Cultural Heritage (17-20 April 2004), see Appendix 1, section 1. 1.

Heritage (17-20 April 2004) recommended in its final declaration the safeguard and the conservation of the “unique and irreplaceable heritage of Bam” within its recovery process. 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”.¹⁹

IV- Be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.

The ensemble of the Citadel, especially its upper fort (Governmental Quarter) and its walls, constitute an outstanding example of military architecture in unbaked brick. Even if the Bam Citadel is not attached to the heroic deeds of Ardashir the Sassanid and Haftvād in the 3rd century, it nevertheless represents fourteen centuries of continuous recorded military actions: from the Arab invasion in the 7th century up to the 20th century when the earthen walls became obsolete and no more a match for bombs and heavy artillery (see below 3b. History and development). 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.

V- An outstanding example of a traditional human settlement or land use which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change.

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 to Arg-e Bam and affected the visual and functional nature of its relation to the city and its traditions.”²⁰

VI- Be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.

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. (C.A)

¹⁹ Declaration and Recommendations of the International Workshop on the Recovery of Bam’s Cultural Heritage (17-20 April 2004), see Appendix 1, section 2. 1.

²⁰ Declaration and Recommendations of the International Workshop on the Recovery of Bam’s Cultural Heritage (17-20 April 2004), see Appendix 1, section 1. 2.

3

DESCRIPTION

3. Description

3a. Description of Property

I. Arg-e Bam (Citadel area and the old town)

The ensemble of Arg-e Bam (figs 7-11) consists, in fact, of a fortified citadel and its components within a large fortified enclosure which contains the remains of the old town including its different structures (fig. 12). The ensemble lies on a natural eminence 45 m high. The nucleus of the Arg is a rough rectangle (430 m in the south, about 390 m in the north and north-east, 280 m in the east, and 540 m in the west) corresponding to the fortified enclosure (with 38 watch-towers), to the north of which lies the Citadel. The main gate of the Citadel is in the south. Other gates are the Kot-e Kerm (the Worm's Gate),²¹ Shāhneshin, Qurkhāneh and Qolāmkhāneh. A moat of 10 – 15 m wide goes round the fortified enclosure. A large **Icehouse** (Yakhchāl; fig. 13) is situated outside the present limits of the enclosure in the north-east of the Citadel. The Icehouse was roofed with a relatively large scale dome in brick. The ice was made during the long winter night thanks to the water which would freeze in a vast shallow pool shaded by a long wall. Removed from the pool at dawn, the ice was stored in the large tank under the large dome of the Icehouse for the summertime. The building had been restored and transformed into an amphitheater / auditorium where many recent meetings were held. There is also a large watch-tower on a rocky hill north of the present enclosure. It is connected to the old wall of the town through a narrow fortified corridor.

The main area of the Arg as an ensemble is divided in two different sectors:

The first one is the Citadel area (fig. 14) which corresponds to what is called **Hākemneshin** or Governor's Quarter (figs 15-16a). This area with rather a complex organization consists of eight structures including two encompassing fortified walls which take the form of two terraces in the south-eastern part. Two structures occupy the summit of the rocky eminence: the Governor's Residence and the Chāhārfasl Kiosk (Four-Seasons Kiosk). The Governor's Residence consists of a central courtyard with two *eyvāns* and rooms (figs. 14 and 17). It was in the Governor's Residence that the English traveler Henry Pottinger was received in 1818; later Sir Percy Sykes, the British indefatigable agent in south-eastern Persia, also visited the governor of Bam in the same spot in 1896 and left a description of the town and the Citadel (see below, 3b and bibliography).

The **Chāhārfasl** or the Four Season Kiosk situated to the north of the Governor's Residence consists of four rooms round a domed central hall (figs 14 and 18). The building in its present form belongs to the Safavid period (16th – 18th cent.), provides beautiful view of the area, and was used by the ruler of the Citadel for himself to entertain honoured guests. The type of building is, in fact, a set of rooms, so arranged that they enjoyed whatever breeze is blowing, being open in every direction. Sir Percy Sykes who visited the Arg in January 1896 described the Chāhārfasl as follows: "*From the roof of the building, we enjoyed a wonderful view. Looking back, Kuh-i-Hezar with*

²¹ On the legend of the Worm, see below 3b. History and development.

*its mantle of freshly fallen snow riveted our gaze, and on each side of the valley the hills showed up against the turquoise sky, the Shah Sowaran range to the south forming another vision of beauty. Below us lay the date-groves of Bam, and we could trace its river to the north-east...*²² The building had two storeys.

On the north side of the Governor's Residence there is a four-sided watch-tower which is referred to as the main tower of the Citadel. It has been said that the tower was used to send signals with fire by night and smoke by day to the surrounding countryside, and thus came to be known as the "Fire Tower" (*Atash-Khāneh*). The name may also be related to a fire temple and a place where sacred flame was tended.²³

The Governor's **Bathroom** and **Well** are located at the extreme north end of the rocky summit of the Citadel (fig. 14). The Bath lies near a well, now 40 m deep, which provided the necessary water for the bath as well as the Quarter.

To the north-western corner of the town, within its own enclosure is the **Konāri Quarter** which contained probably a popular and not so rich a neighborhood of the town (fig. 12). Strangely enough, its humble houses were not much damaged by the earthquake. The case surely needs a scientific explanation.

The **Darvāzeh-ye Kot-e Kerm**, which means the "Gate of the Worm", is situated in the last wall of the Citadel which separates the Governor's Quarter from the military sector (fig. 14). A path on the top of the wall of the Gate facilitated the movement of troops. Naturally, the name of the gate refers to the legend of Haftvād (see 3b.).

The **Garrison** building lies at the north side of the Stables and was used as storage for artillery in the later periods, end of the 19th / beginning of the 20th century (figs 14 and 19). It had two levels. A platform was located on the south side of the Garrison where the commander would stand and observe military parades. Three wells on the south-east side of the Garrison supplied in water the whole area. The Citadel's second wall separates the military sector from the popular quarters in the south. Guards' rooms and watch-tower are located on either side of the entrance in this spot.

The **Stables** are located on the west side of the second wall and its entrance (figs 14 and 20). This is a roughly square building (60 x 70 m), and is one of the largest constructions in the Arg. Mangers are placed all around the Stables. The covered winter stables lie on the east, west and north sides; they are roofed with 46 domes in mud brick. In the centre of the Stables courtyard, there is partly subterranean water reservoir which once supplied the necessary water to the building. The reservoir's well is 28 m deep and is dug out all the way through solid rock. After the recent restorations, the Stables were turned into exhibition halls, and were before the earthquake amongst the best preserved parts of the Arg.

The most well known historic events related to the Citadel occurred in the Stables. It was in this very stables that the arrest of the romantic Lotf-'Ali Khān, the last Zand pretender to the Persian throne, took place in late autumn 1794. The prince was

²² Sykes, *Ten Thousand Miles in Persia*, p. 218.

²³ Bāstāni Pārizi, "Bam: ii. Ruins of the Old Town", p. 651.

handed over to his unmerciful foe, Aghā Mohammad Khān Qajar, who killed him under torture. Aghā Mohammad Khān founded the Qajar dynasty who ruled Iran until 1925.

The **Caravanserai** lay behind the Stables and includes a courtyard around which rooms were built.

At the foot of the Citadel area is the residential quarter of the town. There lies the **Sābāt-e Johudhā** or the Jewish Passageway to the east of the Stables and the extreme north of the town before the wall of the Citadel (fig. 12). One of its buildings, carefully restored, is known as the **West Sābāt House** (fig. 21). It consisted of a relatively large house with a central courtyard flanked by two series of rooms in two floors. The residence was one of the loftiest buildings in the Arg; the earthquake badly damaged it.

Almost located in the middle of the town lay the **Mirzā Na'im Ensemble** which consisted of a **Tekiyeh** (religious theater) and a **Madreseh** (religious school) (figs 22-25). The ensemble was built by Haji Seyyed Mohammad who was one of the most prominent figures of Bam probably at the end of the Safavid period (early 18th cent.). The ensemble had several intertwined courtyards in one of which Mirzā Na'im was buried. A major wind-catch tower with 30 openings crowned the buildings.

To the south of this ensemble lies the **Congregational Mosque (Masjed-e Jom'eh)** which was and still is in spite of its destruction by the earthquake one of the most important edifices in the Arg (figs. 12 and 26). It has been said that it was one of the oldest mosques ever built in Iran. It has also been suggested that this mosque is one of the three mosques in Bam mentioned by Moqadassi in the 9th century (see below in 3b, History). In the north side of the building there was a mihrab with an inscription dated to 1160 / 1747. The mosque had a courtyard surrounded by three prayer hall and *eyvāns*. The **Chāh-e Sāheb-e Zamān** (the Master of the Time's Well) is dug in the south-eastern corner of the mosque; it is much venerated by the population in Bam.

At the intersection of the Bazaar's main row of shops and the paths that leads to the Mosque there is a square where religious plays took place; this is the **Tekiyeh** or the **Religious Theater**. The Tekiyeh consisted, in fact, of a large open central courtyard flanked by rooms and two-storeyed galleries (figs 28-29). Religious ceremonies took place in the Tekiyeh before the earthquake; they have been revived and the last one was held on April 11, 2004 (fig. 67).

To the south, on a north-south axis, lies the elongated structure known as the **Bazaar** (figs 12, 30-31). It runs all the way from the south Main Gate to the upper part of the Arg. The dimensions of the shops and merchants' compartments located at the beginning of the Bazaar in the south differ from those found at the end of it in the northern part of the Citadel. In the middle of the Bazaar, there is an intersection (**Chāhārsuq**) which was once covered by a dome in mud bricks. In fact the whole alley of the Bazaar used to be vaulted much the same as all other Persian bazaars.

II. Adjacent sites and historical buildings in the town of Bam

2. Qal'eh Dokhtar (figs 32-33)

Registration number: 9566, registered on 27/5/1382 (17/8/2003)

Ownership: Iranian Cultural Heritage Organization.

Qal'eh Dokhtar, the Maiden's Fortress, lies some 1300 metres to the NNE of the Bam Citadel beyond the Posht-e Rud River. It is built on top of a rocky elevation 10 m. above the level of the adjacent plain. Its name is a reminiscence of pre-Islamic era, and three decorative motives in form of standing lances from its southern *eyvān* can also belong to the end of the Sasanian era / beginning of the Islamic period (7th cent.). Following the recent earthquake, it seems that perhaps earlier remains have been yielded in the heart of the monument. General plan of the monument is an up side down L with six fortified towers. It consists of two separate parts with two north-south and east-west axes. The north-south axis is almost parallel to the Arg-e Bam axis. The fort was apparently built with three storeys. The gate is in the east wall, which is the highest wall of the citadel. Round the western courtyard of the fort, there are ruined galleries and rooms. The south-eastern room of the courtyard has a square plan, and was covered with a cupola, the squinches of which can still be seen. To the north of this part, there is a corridor 6 m long and 1 m wide, the roof of which has been destroyed. At the end of this corridor, there are traces of a staircase giving access to upper storeys.

3. Masjed-e Rasul (the Hazrat-e Rasul Mosque) (figs 34-35)

Registration number: 3508 registered on 25/12/1379.

Ownership: Iranian Cultural Heritage Organization and Religious Foundation (Owqāf)

The final conquest of Bam by the Muslims occurred in 31/650 under 'Abdollah b. Amer. About 200 m to the east of the Arg-e Bam, there are remains of a Shrine attributed to Amer. Near the Shrine, there was a mosque, of which only a section of its thick wall 4 m. high was preserved until the earthquake when it collapsed but its foundations were left intact. The archaeological investigations carried out six years ago by Mrs. F. Karimi and N. N. Chegini revealed traces of an old but less known occupation in this area. According to Ibn Howqal (10th cent.), there were three mosques in Bam, of which one belonged to the Khavārej and the other to the orthodox Muslims; the third one was within the fort. It is plausible that the Mosque of Khavārej and the remains of that spot including the wall belonged to a single monument. The Shrine that was destroyed in the earthquake belonged to the late Safavid period. The Shrine was in mud brick.

4. Mirzā Ebrāhim Shrine (figs 36-37).

Ownership: Government ownership

The tomb of Mirzā Ebrāhim destroyed in the earthquake has been attributed to the Safavid period. Mirzā Ebrāhim was the grand-father of Mirzā Na'im who was the professor of the school of the same name close to the mosque within the Arg. Mirzā Na'im was one of the famous personalities of Bam at the end of the Safavid period (early 18th century). So, it seems that the school and the Shrine were contemporaries and founded during the Safavid period. The Shrine was an octagonal building roofed with a cupola, the interior of which was decorated with stuccos.

5. Vakil Ensemble

Registration number 1729, registered on 24/3/1366 (14/6/1987)

This architectural ensemble was built by Mohammad Esmā'il Khān Nuri Esfandi'yāri (Vakilolmolk), governor of Kerman, under Nasseroddin Shāh Qajar (second half of the 19th cent.). The ensemble is located on the south side of Tabataba'i street in a terrain measuring 6500 m². The complex consisted of three parts: the Qeysariyeh (commercial centre), Hammām-e Vakil (Vakil's Bath) and the Masjed-e Vakil (Vakil's Mosque). The buildings were destroyed in the earthquake, but part of the Qeysariyeh has been preserved.

- a. Qeysariyeh (figs 38-40)

Date: Qajar period

Material used: unbaked brick, baked brick, tiles (for decorative purposes)

Location: Tabataba'i street

Registration number: 1729, registered on 24/3/1366 (14/6/1987)

This commercial centre known as the Zoroastrian Qeysariyeh was, in fact, a small bazaar built in a traditional style and crowned with a cupola in mud and baked bricks. It was decorated with tiles. The entrance of the ensemble was situated in the north-eastern corner of the building close to the Caravanserai. The latter had two storeys of which the first one was covered with arcades. The second storey was an open gallery which gave access to the bazaar.

- b. Hammām-e Vakil / Vakil's Bath (figs 41-42)

Registration number: 1729, registered on 24/3/1366 (14/6/1987)

A private property, the building is built in baked bricks. It was reached through the Qeysariyeh Bazaar. The bath consisted of a series of rooms in the ground floor. The staircase of its entrance in the north side had been restored by the Iranian Cultural Heritage Organization.

- c. Masjed-e Vakil / Vakil's Mosque (figs 43-44)

Registration number: 3506, registered on 25/12/1379 (15/3/2000)

The mosque belonging to the Religious Foundation (Owqāf) was in baked bricks and had on a four-*eyvān* plan with an entrance in the north *eyvān* on the Tabataba'i street. On the eastern and western side of the courtyard of the mosque (20 x 13 m) lay prayer halls. In the north side, there was a staircase giving access to the roof. The summer prayer hall on the western side was covered with a cupola built on pillars. The barrel vault on the *eyvān* in direction of *qibla* is built on a corridor 11 m long. A parallel vaulted corridor in smaller scale lies on the eastern side. The entrance of the mosque was decorated with tiles bearing a Koranic inscription written in white on blue. The *mihrab* niche of the mosque was decorated with stuccos. The mosque is dated to 1287 / 1870-71.

6. Bazaar (figs 45-46)

Registration number: 4602, registered on 27/6/1380 (17/8/2001)

Ownership: private property

The complex of Bazaar in mud brick consisted of four interconnected vaulted passageways, of which the oldest one was oriented north-south, and the others were stretched east-west. The entrance was in the north through a *chahārsuq* (a domed crossroad). The old bazaar stretched south-north was known as the Ahangarān Bazaar (Blacksmiths' Bazaar); it goes back to the Safavid period (17th century). The Amir Bazaar (the first vaulted passageway) was built in the Zand period (18th century) on an east-west axis, with a *chahārsuq* next to its entrance. Two other passageways known as the Sajjādi Bazaar were constructed in the 19th century. Their entrance was in their western end on the Kāshāni Street. The southern passageway had an elegant *chahārsuq*. One of the characteristics of these bazaars was their separators, which were, in fact, long courtyards stretched between the passageways. The space between the Amir Bazaar and the northern Sadjādi Bazaar was called *barfgir*, and the one situated between the two passageways of the Bazaar was called *bārandāz*. These spaces gave access to the rear of the shops. They were used to transport the goods and merchandizes into the bazaars. The Kerdegāri Bazaar (not shown on the map), to the south-west of these bazaars along the Kāshāni Street was probably dated to the late Qajar / early Pahlavi period (*circa* 1920s'). The bazaar complex was destroyed in the earthquake; they were the commercial heart of the town.

7. The Ansāri Residence (figs 47-48)

Ownership: private property

Originally a house constructed in mud brick near Bu-'Ali crossroad in the Ansāri Alley, it was later transformed into a religious school. It consisted of an interior and an exterior section with three courtyards. The residence was one of the most beautiful houses in the town.

There is a bath next to the Ansāri Residence called the Hammām-e Ansāri which was abandoned in 1960. Its octagonal entrance hall (*hashti*) layed on the north side of that building.

8. Madreseh-ye Ahmadiyah / the Ahmadiyah School (figs 49-50)

Registration number 9570 registered on 27/5/1382

Ownership: government property (Ministry of Education)

The building, badly destroyed by the earthquake, consisted of a central courtyard with rooms round it on three sides and its entrance on the west side. The main hall was in the south side and on the east and west sides there were rooms. There was an underground in the west and a basin in the centre of the courtyard. The area covered by the school measured in total 838 m².

This building constructed during the reign of Rezā Shāh (1925-1941) follows however a Qajar pattern (19th cent.), has vaulted rooms and uses unbaked brick as material. Its entrance has been rebuilt in baked brick later in 1947. The building was the first construction conceived for the new educational system instituted in Bam under Rezā Shāh.

The name of the school's has no connection at all with that of Ahmad Shāh (the last Qajar King) and reflects the name of the donor, Mr Ahmad Tayyebi Ahmadiyah.

The donation was made in 1356sh /1977 for the establishment of a primary school, which was later closed. The building was destroyed in the earthquake.

9. Seyyed Abbās Bath (figs 51-52)

Registration: interrupted by the earthquake

Ownership: private property

Situated in the south-eastern corner of the Qeysariyeh commercial centre, this bath was constructed either in the late Qajar period or at the beginning of the Pahlavi era (in the 1920s?). Built with baked bricks, it covers an area of 356 m² and has two entries: one in the south and the other in the north. Each one of these octagonal entries functions as an apodyterium (dressing and undressing room) and give access to separate tepidariums, and then to two pools. The bath has was not destroyed by the earthquake.

10. Emād Religious School known as Sarpushidey-e Emād (figs 53-54)

Registration number: 9568, registered on 27/5/1382 (17/08/2003)

Ownership: governmental property (Ministry of Education)

As a result of the installation of the inhabitants of Bam outside the Citadel, it became necessary to meet their needs in the newly built areas. Thus, this religious school was built in 1325 / 1905 by a Javād Emād-ol Eslām known as Haji Emād next to his house. Later in 1327/1907, a primary school named the Madresseh-ye Eslāmiyeh was opened there which was one of the first non-religious educational institution in Bam. Later, it became known as the Madresseh-ye Emād. It is situated in the north-east of the town, on the Arg Street in the Emād Alley. It covers an area of 1570 m². The school built in mud brick has two parts: the north part includes a *howzkhāneh* (a hall with a basin) with adjacent structures which were used as classrooms, and the south part which is a courtyard provided with rooms for housing the students. The *howzkhāneh*, known as “Sarpushideh” (covered), had a high cupola in mud brick and was provided in the middle with a small elliptic basin. The building was equipped with a well constructed wind-catcher. The school collapsed in the earthquake and its remains are now buried under rubbles.

11. Emāmzādeh Zeyd (figs 55-56)

This Mausoleum was originally built in the Saljukid period (11-12th cent.). It had a cupola in mud brick and a gate datable to the late Qajar / early Pahlavi period (1920s'). It was constructed in baked brick and decorated in relief with motifs inspired by eastern Iranian and Indian architectural traditions. The old structures were in mud bricks, but their façades were covered in baked bricks. These structures were situated in the first courtyard, whereas in the next one there was a garden provided with several rooms serving as familial shrines. Prior to the earthquake, the old edifice had been demolished and replaced in 1997 by a modern one built on the same plan. This latter construction was damaged in the earthquake, but it still stands. Because of its religious importance, this mausoleum will be reconstructed.

12. Emānzādeh Asiri (figs 57-58)

Ownership: private property

This Shrine was one of the important religious centers of Bam. It was located half way between the Vakil Ensemble and the Bazaar. The Mausoleum was probably built during the Saljukid period (12th century). The oral tradition has it that the mausoleum was in fact a tomb-tower built within a rectangular edifice, which was, in its turn, demolished in 1979. The shrine was then rebuilt because of its popular importance. That new construction built on a rectangular plan was destroyed in the earthquake.

13. Mehdizādeh House (figs 59-60)

Ownership: private property

The Mehdizādeh House lay in the Bidābād Alley, in the centre of the town. According to Mr. Mehdizādeh, the owner of the property, the house was built in the 1930s. It covered a total area of 680 m² of which some 610 m² corresponded to its built area. The house had a central courtyard surrounded with rooms. In the south of the courtyard, there was an *eyvān* on top of which a wind catcher was built. In the east and west wings of the house there were rooms constructed symmetrical to each other. In the north, there were two rooms, and a *howzkhāneh*. The entrance of the house was in the south. It opened into an octagonal vestibule which led to the south of the courtyard through a corridor in form of 'S'. The house in mud bricks, was one of the last residences built in traditional style in Bam but was altered by the addition of modern elements.

3. History and development

Bam is a large oasis that owes its existence to the run off from the Jebāl-e Bārez Mountains. During the wet season rivers (flood ways) such as Posht- e Rud which traverse the town, provide some water. However, since the dry season lasts most of the year, particularly important to the town's survival has always been its system of underground supplying water (*qanāts*).²⁴ In this respect, Bam differs from Jiroft, its neighbour just to the southeast, which benefits from the river Halil-Rud's ample water supply. Thus, contrary to Jiroft²⁵, Bam could not have reached a high degree of development prior to the invention and the perfection of the *qanāts* roughly as off 2500 years ago.²⁶

Indeed, recent archaeological discoveries tend to show that Bam came to exist at least on an extensive level because men acquired sophisticated techniques to drill *qanāts* and that there was a most polished political and economical power which understood the importance of that system and sustain it. Or, perhaps more properly, because such a great and wise power existed that the scientific and technical means were perfected to such an extent that Bam could come to life. The Greek historian Polybius, describing the invasion of Parthia by Antiochos III in 209 B. C. and obviously referring to the *qanāts* in the region of Qumes (350 km E of Tehran), wrote that "the Persians, when they were the masters in Asia [i.e. Achaemenid period, 6th to 4th cent. B. C.], conceded the right to cultivate the arid lands up to five generations to those who would irrigate them... The inhabitants enduring great efforts and expenses managed to bring the subterranean waters to the surface by drilling tunnels on long distances."²⁷ The archaeological discoveries in the south-eastern suburbs of Bam on the Fault date at least from the period when Polybius was writing at the beginning of the 2nd century B. C. The sites are situated on the upper level of the Fault where the *qanāts* end to pour their waters on the lower level of the Fault where the fields were and still are (see folded map, fig 4).

Bam may owe its name to the old term *Vahma* (Prayer, Glorification).²⁸ But, according to an ancient popular belief, the town was called Bam because Haftvad's magic Worm exploded there making that sound! That happened in the 3rd century A.D. (see the following lines)

The name of Bam is first mentioned on the occasion of the invasion of Iran by the Muslim armies in the 7th century. Balāzori, who wrote in the 9th century, attributed the conquest of Bam to Mojash'e b. Mass'ud Salami. Tabari reports that it took place in the year 30 / 651-52. Previously Bam had already been captured by the Arab armies, but they were forced to leave the town following a revolt of the population.²⁹ These assertions demonstrate in their turn also that Bam existed at least as early as the seventh

²⁴ Bāstāni Pārīzi, "Bam: II. Ruins of the old town", *Encyclopedia Iranica*, vol. I, p. 650.

²⁵ The Jiroft civilisation, partially revealed during the last three years, is in process of being recognized as a key point for understanding of the West Asian world at least during the 3rd millennium B. C. There met the civilizations of Indus, Mesopotamia, Southern shore of the Persian Gulf and those which flourished on the Iranian Plateau.

²⁶ See above the end of the section 2b, Comparative analyses.

²⁷ Polybius, *History*, IV, 26.

²⁸ W. Tomaschek, "Zur historischen Topographie von Persien II", *Sb. Kaiserl. Akad. Wiss., Phil.-hist. Kl.* 108, 1885, p. 585.

²⁹ Tabari, *Tārikh*, Year 30; Balāzori, *Ketāb-e Fotuh al-Boldān*, S. al-Munjjid ed., Cairo, n.d., p. 482.

century. However, a popular belief first reported by Hamdollāh Mostowfi attributes the foundation of the town to Haftvād who lived at the time of Ardashir Bābakān, the founder of the Sasanian Empire (3rd to the 7th cent.). Hamdollāh wrote in A.D. 740 / 1339 that in this town “the Worm of Haftwād burst, and for which reason the place took the name of Bam (meaning burst)”.³⁰ In *Kārnāmeḥ-ye Ardashir-e Bābakān* (a text written in Pahlavi composed in praise of the king Ardashir, 3rd cent.), it is reported that Ardashir was forced to fight Haftvād. Haftvād used to be a commoner but his daughter found a worm within the apple she was eating while spinning. She put the worm aside and took care of it. From that moment, she was able to spin huge amount of cotton. Her father became very rich and ended up by taking the power in his town, and later extended it beyond.³¹ The place where Haftvād lived is, however, unknown. Another version of the legend places his lands in Kerman³² while some scholars, mostly Persians, think that he was living in Bam, whereas others identify his domain in southern Fars where Ardashir began his exploits.³³ M. E. Bāstāni Pārizi argues in his turn that Haftvād was indeed the founder of the Citadel of Bam, but that in fact he was from Kerman, and resided in the Qal’eh Dokhtar in Kerman. He also asserts that “Haftvād was an historical figure whose minted coins are extant.”³⁴

According to the descriptions left by the historians and geographers of the early Islamic period (*circa* 10th cent.), it follows that Bam had a prominent position in the region. Estakhri reports: “In Bam there are palm trees, many villages belong to it; it has a healthier climate than Jiroft. There is an impregnable fortress in the city. Three mosques, in which the Friday prayers are held, exist in the city, namely a mosque for the Khavārejs on the (common) Bazaar near the Palace of Mansur b. Khurdin, further a Main Mosque in the Bazaar of the Batiste Merchants, which belongs to the Orthodox [Muslims], and a Main Mosque in the Fortress. The Main Mosque of the Khavārej contains their divine chest, for payment to the poor. The members of the sect are not numerous, but they live in prosperity. The city of Bam is larger than Jiroft”. About the economy of the town, Istakhri briefly stats: “In Bam, cotton clothes are made, which are sent into all directions”. Ebn Howqal enlarges upon this statement, mentioning that the material for the fabric appears to grow in the neighbourhood of Bam. He writes: “From their cotton, splendid high-quality and long-lasting garments are made.”. “Among the most remarkable products of the local manufacture are philosophers’ coats, which already acquire their round shape when they are being woven, and which feature foliage as their pattern. Thus a philosopher’s coat of the kind and a sumptuous batiste tie cost 30 dinars, or more or less if they are bought in Khorassan, in Mesopotamia and in Egypt. They also supply a well known kind of turban ties, which are equally highly priced and are bought by people in Khorassan, in Mesopotamia and in Egypt. The fabrics they produce are well known for their durability, like the fabrics from ‘Aden and San’ā, which last for at least twenty years; they belong to the clothes bought and stored

³⁰ Hamdullah Mostowfi, *The Geographical Part of Nuzhat-al-Qolūb*, p. 139.

³¹ B. Farahvashi, *Kārnāmeḥ-ye Ardashir-e Bābakān*, Tehran University Press, pp. 54-55; Ferdowsi, *Shāh-Nāmeḥ*, M. N. Osmanof and A. Nushin eds, in 10 vols, Moscow, 1968, vol. 7, pp. 139-155.

³² Hamdullah Mostowfi, *The Geographical Part of Nuzhat-al-Qolūb*, translated by G. Le Strange, London, 1919, pp. 138.

³³ For an identification with Bam, see: Sir P. M. Sykes, *Ten Thousand Miles in Persia or Eight Years in Iran*, London - New York, 1902, pp. 215-216; Ahmad ‘Ali Khān Vaziri, *Joqrāfiyā-ye Kermān*, Bāstāni Pārizi ed., Tehran, 1346 sh/1967, pp. 93-94; for identification with a locality in Fars, see F. Grenet, *La geste d’Ardashir, fils de Pābag, Karnamag ī Ardashēr ī Pabagan*, translated from Pehelevi by F. Grenet, Die (France), 2003, especially the map at the beginning.

³⁴ Bāstāni Pārizi, “Bam: II. Ruins of the old town”, p. 652.

up by princes. In Bam there was also a manufacture which was the property of the prince, but it ceased functioning with his own decline". Mohallabi counts Bam among the great cities of Kerman and calls it a (real) city.

The most detailed description of Bam is Moqadassi's: "It is an important capital, pleasant and large. The inhabitants are skilful and clever. Here there are trading centers visited from far-away places. The clothes made here are known in various countries. The city is famous all over the Muslim world, a pride for the country. It is true that the common people here are weavers, and that the water does not taste good, nor is the climate pleasant. The city is fortified and has four gates: Bāb Narmāsir, Bāb Kausekān, Bāb Asbikān, Bāb Kurjin. In the centre of the city there is a fortress, which also includes the Main Mosque and part of the bazaars. The rest of the bazaars are outside. In the middle of the city there runs a river; at first it winds its way along the edge of the city area, then it goes through the bazaar and proceeds further into the fortress; after leaving the latter, it turns towards the gardens. For the building of houses, there is an excellent hard loam. Among the bazaars, the one near the Bridge of Gorgān deserves to be mentioned particularly. The major part of the drinking water is supplied by underground pipes [*qanāt*]. One of the most important baths is the one near the Zuqāq al-Biz. The Jebel Kud is one parasang away from the city. The city's mills are situated near the water. In a large village nearby, most of the clothes are made". Moqadassi adds about the fabrics of Bam: "In East and West, they are considered as elegant". According to him, exports consisted of "turban bands, kerchiefs, philosophers' cloaks and precious robes, which were the most appreciated of all the products of (in) Merv". Yāqut called Bam "an important, noble city, which belonged to the most distinguished cities of Kirman". On its economic importance he writes: "the inhabitants are able, most of them are weavers; the gowns from there are famous in all countries". "The city has well-stocked bazaars".³⁵ In the beginning of the 13th century, Yāqut still mentions Bam as «Madinat al-Jalil» (Magnificent city) as one of the large cities of Kerman adding that its water was supplied by underground pipes³⁶ and that as the water could not supply the Citadel, it served to irrigate agricultural lands south of the Citadel. These lands now partially correspond to where the present city of Bam lies and textually confirm what archaeological investigations led after the earthquake by the Bam team under Adle's direction has discovered in the E and SE of the Citadel: small agricultural settlements surrounded by fields existed in those areas and they produced the raw material for Bam's textile industry. In fact Yāqut, who lived far away from Bam, refers to a time slightly earlier than the beginning of the 13th century as at that time the worsening of the political situation had put an end to the flourishing state of Bam and at least part of these lands laid waste due to the deterioration if not the total destruction of the *qanāt* system in the country.

Indeed the death of Toqrol Shāh the Seljukid in Jiroft in the year 563/ 1168-69 started a war of succession among his sons. These internal wars caused great ruin. On the top of that turmoil, the whole of the Kerman province which includes Bam, became the subject of a most destructive invasion by a branch of the Ghos (Ughuzz) nomads (an important Turkish tribe to which belonged among others the Saljuk royal family itself). The invasion started by five thousand Ghos in the fall of the year 575 / 1179-80. Their destructive occupation was accompanied by other internal wars and more invasions

³⁵ Afzal al-Din Kermāni, *Eqd al-Owlā*, p. 128.

³⁶ Yāqut, (vol. 1, p. 737)

from the neighbouring provinces. The instability and desolation lasted for thirty four years until 609 / 1213 when the whole SE Iran and even the northern shore of the Oman Sea were conquered by the Great Lord (Malek-e Mo'azam), Master of Zuzan.³⁷ In Bam, the Lord ordered the destruction of the walls, command which was carried out during a week.³⁸ The aim was to suppress all desires for insubordination and the means to carry it out. There followed a period of calm which was not perturbed greatly by the Mongol attacks in 1220 as this new and by far more important of that of the Ghos did not reach Bam. The presence of the Mongols in Iran in its early phase nevertheless plunged northern Iran in chaos and prolonged the general state of weakness in southern Iran. Probably, as a result of that situation, Rashid al-Din Fazlollāh (645-718 / 1247-1319, one of the greatest vizier who ruled over the Persian administration throughout its entire history) asked his son, the governor of Kerman, to spare the people of the Province of Bam from paying taxes for three years.³⁹ The citadel is mentioned during that period, in 696 / 1297, when the Mongol ruler, Ghāzān Khān, sent Mohammad Shāh, one of his generals, to recapture it from a Nosrat Malek who had become its undesirable lord.⁴⁰ The scenario was repeated again under the Mowzaffarid dynasty when the king Amir Mobārez al-Din (700-765/ 1301-63), recaptured the citadel after a four-year siege.⁴¹ At the time of the assault in A.D. 742 /1341-42 by Mobārez al-Din, Akhi Shojā' al-Din Khorāsāni who was in command of the town restored the Citadel.⁴² The ditch and the walls of the town are expressly mentioned in that period.⁴³ As reported earlier, it was believed in those days (A.D. 740/1339) that Bam was founded by Haftvād, the Master of the Worm, who lived at the time of Ardashir Bābakān, the founder of the Sasanian Empire (mid 3rd cent. AD.) As mentioned above, the well-known historian and geographer, Hamdollāh Mostowfi wrote at that time that “in this town, the Worm of Haftwad burst, and for which reason the place took the name of Bam (meaning burst).”⁴⁴ The historian Mo'in al-Din Yazdi writing in 762 / 1361 added: “there is a fort in Bam which because of its height has been called Solomon's Edifice, and has been mentioned in Persian histories as the Fort of Haftvād”.⁴⁵

It appears that in the beginning of the 15th century the settlement outside the Citadel mentioned in the beginning of the 13th century by Yāqut either continued to exist or was replaced by a new one: According to the “Maqāmāt-e Tāher al-Din Mohammad va Shams al-Din Ebrāhim”, when Abābakr, a Timurid general, occupied Bam in 811/ 1408-09, his army “encouraged him to restore the Citadel [and the walls of the town?]. He did so and ordered people to build houses inside the fort and to take their houses there”.⁴⁶

³⁷ See C. Adle, “Une contrée redécouverte: le pays de Zuzan à la veille de l'invasion mongole”, *L'Iran face à l'invasion mongole*, éd. D. Aigle, Téhéran, 1997, pp. 23-53.

³⁸ Hāfez-e Abru, *Joghhrāfiyā*, M.S. Malek, p. 134; Ahmad 'Ali Vaziri, *Tārikh-e Kermān (Sālāriyeh)*, Bāstāni Pārizi ed., p. 138; Z. Asadpur Behzādi, *Zomorod-e Dasht-e Lut*, Tehran, 1381/2003, p. 135.

³⁹ *Tārikh-e Rashidi*, pp. 10-12.

⁴⁰ *Tārikh-e Vassāf*, p. 181.

⁴¹ M. Kotobi, *Tārikh-e Al-e Mozaffar*, Tehran, 1365 / 1986.

⁴² A. A. Vaziri Kermāni, *Tārikh-e Kermān*, Tehran, 1354 / 1975, vol. 1, p. 483.

⁴³ Mo'in al-Din Yazdi, *Mavāheb-e Elāhi*, S. Nafisi ed., Tehran, 1300 / 1921, vol. 1, p. 130.

⁴⁴ Hamdullah Mostowfi, *The Geographical Part of Nuzhat-al-Qolūb*, p. 139.

⁴⁵ *Ibid.*, p. 123.

⁴⁶ J. Aubin, “Maqāmāt-e Tāher al-Din Mohammad va Shams al-Din Ebrāhim”, *Farhang-e Irān Zamin*, No. 2-3, 1333sh / 1954, p. 178. For the date see Khwānd-Mir, vol. 3, p. 571.

Later, under the Safavids, 16th to the early 18th cent., Iran experienced more than two centuries of calm and relative prosperity. At that time silk and woolen fabrics were still made as well as cashmeres. Their production lasted until the end of the 18th century. During the expedition of Nāder Shāh to India (early 1738), these products, made in Bam and Narmānshir, were sent to his expeditionary corp.⁴⁷ In those days Bam played the role of a military or frontier fortress. After being occupied by the Afghans twice in 1719 and during the period 1721-30, Bam became an important Persian position in the eyes of the Gelzay tribe, which with the authorization of Nāder Shāh had established itself in neighboring Narmānshir. The Gelzay were in good terms with the Zands who were ruling from Shiraz (2nd half of the 18th cent.). It is probably because of such a relationship that Lotf-'Ali Khān, the last of the Zands, fled in their direction after the fall of Kerman in 1794. A year later, the governor of Bam captured Lotf-'Ali Khān and turned him over to the founder of the Qajar dynasty, Aqā Mohammad Khān.⁴⁸ The Qajar ruled Iran until 1926.

During the Qajar period Kerman and Bam were occupied peacefully in 1841 through forged document by the head of the Ismā'ili sect, Aghā Khān Mahallāti, a former governor of Kerman. This insurrection and its aftermath left Bam in an unsettled state until 1855.⁴⁹ The restoration of peace allowed the town to grow beyond its walls and a new settlement was founded along the river in enclosed gardens and date groves, some 1000 m to the southwest of the fort.⁵⁰

Unfettered by walls and fear of invasion, Bam expanded rapidly at the end of the 19th century and at the beginning of the 20th century. In 1881, though Bam lost its status as Baluchestān's governor's seat, the governor, who normally resided in Bampur, preferred the milder summer there. Population estimates from 6000 to 8000-9000 in the 1870s' up to 1920s'. It grew up to 13000 in 1895. Commercial activities also grew in this period: Bam's bazaar expanded from small in the late 19th century to bustling in 1928.⁵¹ The covered Bazaar consisted of two distinct parts and of a separate Zoroastrian section occupied by some fifty Parsi merchants. The bazaar was the place of felt hat and sandal manufacturing, and also served as a central distribution point for the region's agricultural products and handicrafts. Henna, indigo, rice, and dates were exported to Kerman. The town served as a transition point for objects made by artisans in Yazd and Kerman which were sent to Baluchestān. In 1973, the bazaar contained 576 commercial establishments, 105 itinerants, and several small-scale building-material factories and production-processing plants (primarily dates and citrus fruit. The overall population grew from 15373 in 1956, to 21761 a decade later and in 1976 reached 30422, most whom were engaged in agriculture.⁵² Over the last quarter of the 20th century Bam agriculture has come to be virtually dominated by date and citrus farming.⁵³ The population of Bam itself was estimated to 95000-100000 in 2003. It has been reported that the earthquake killed about 41000 of them. The latest official figures mention about 27000 confirmed deaths in the town. (CA and AM)

⁴⁷ *Tārikh-e Kermān*, p. 516-17; *H. Nurbakhsh, Arg-e Bam*, typed manuscript, Kerman, 1335/1956, p. 104.

⁴⁸ X. de Planhol, "Bam: i. History and modern town", *Encyclopedia Iranica*, vol. I, p. 650.

⁴⁹ Gasteiger, p. 77.

⁵⁰ Bāstāni Pārizi, "Bam: II. Ruins of the old town", p. 650

⁵¹ *Ibid.*

⁵² *Ibid.*

⁵³ *Ibid.*

3.c. Form and date of the most recent records of the site

The records concerning Bam go back to 1948 when repairs were undertaken in the Governor's Residence by the General Office of Archaeology on behalf of the Ministry of Culture. More extensive restoration work at Bam began in 1976 by the National Office for Restoration of Historical Monuments and the General Office of Archaeology. These restorations mainly concerned repairs and preservation of the ramparts and the drainage system, and also major structures in the old town within the enclosure wall and the citadel. Recent restorations led to the gradual identification and revival of the urban fabric of the old town. The most recent record of the site goes back to the period immediately preceding the earthquake of December 2003.

One of the principal actions taken after the earthquake was to protect the area both for the safety of people and the safeguard of the monument. In this regard, a wooden path was created upon the debris of the original way going through the South Gate into the Arg and up to the Governor's Quarter. This facilitates access to some of the important structures for restorers. For safety reasons, visitors' tour remains limited (fig. 53).

The removal of debris constitutes a major problem which is being now tackled by Bam Research Base in tandem with local authorities. This goes along with the consolidation of the ruined building along the main street and side paths, which will subsequently be used as access to structures.

Debris removal inside the historical citadel of Bam is among one of the most important post-earthquake operations. First and from conservation viewpoints, it should be noted that part of the debris is currently playing the role of buttresses and prevent the collapse of structures from upper parts of the building. It should be noted that some of the rubbles by exerting forces threaten other structures. The process of debris removal also needs precise, careful and extensive studies owing to the importance of recovery of buried documents and data; let alone the technical and executive difficulties of the issue.

The building known as Tekiyeh (religious theater) was first cleaned in order to provide an example for future steps. Debris removal started from the eastern side. Simultaneously, the recovered materials are sorted and classified. Most of the debris has been accumulated in the western part of the site where the access would be easier.

Buildings over the rocky summit of the Citadel are among the most damaged structures of the Arg-e-Bam and their restoration is one of the most important programmes of the project. A significant part of the Governor's Residence and the south-western tower have collapsed and have fissures. They are exposed to complete destruction due to aftershocks. An expert team composed from an Italian, a French, a Canadian and two Japanese while noticed the above-mentioned observations and concentrated on their effort on the problem of restoration in this part. After various discussions, it appeared that the threatened part of the tower should be temporarily tied to the main body with special belts so as to reduce the exerted surplus pressure (see figs 62-65).

A light effect system was designed for protection and safety reasons; it also aims to aesthetic aspects (fig. 66). The light effect system was carried out after discussions and with the co-operation of Bam's electrical administration. Powerful projectors were installed at the southern side of the Citadel, at its towers and on the rampart.

The assessment of damaged structures in the Arg and in the town was another action taken after the earthquake. The Task Force has since been organized to collect documentation regarding the typology of architecture, town planning, structural problems and on other relevant topics.

The possibility of an archaeological survey and exploration in the Arg is under consideration. Various types of simple, painted and glazed pottery, inscriptions, bones, etc. were among the first findings. They were sorted and classified. The finds show a rich archaeological site. Archaeological investigations outside the Citadel, especially along the Bam Fault indicate that ancient sites are directly related to the Citadel; their study and mapping have already begun.

In the International Workshop in Bam (held from the 17th to 20th of April) a resolution concerning the salvage and restoration of the Arg and other historical remains in Bam was approved (see appendix 1). It will constitute an important framework for the future.

3.d. Present State of Conservation (see the appendix)

As for the present state of conservation of the cultural properties in Bam, there is a preliminary assessment by J. Taniguchi indicating the magnitude and extent of the damage caused by the earthquake of December 2003. Most of the buildings in the town have been badly damaged, and will be described in the following section:

1. The Arg Ensemble:

The restored parts of the enclosure wall of the Arg including some of the towers in the south side have fallen down whereas the walls themselves are not relatively in good shape. The northern sector of the town known as Konari is more or less intact. The Citadel and its components were the object of severe shock and were heavily damaged. The upper structures of the building known as Chāhārfasl have been destroyed; only some of the lower parts have been left. The tower was entirely collapsed as well as the south-western side of the Citadel. As for the Garrison, compared to other structures is in good state of preservation, but its upper storey and its towers are damaged. The upper structures of the Stables have also been damaged but the mud brick vaults are relatively well preserved. After the Citadel, buildings in the town are the most shattered structures. Most of the houses have collapsed, but the building known as the Tekiyeh (Religious Theater) has preserved some of its side structures was damaged. The Caravanserai, the Bazaar and its alleys were damaged to a noticeable degree. The Mosque was totally destroyed. Of the Mirzā Na'im Ensemble only the eastern vaulted part of the School is still standing in a shattered state of preservation. The South Main Gate to the Arg has also been damaged to a considerable extent. Outside the Arg, the round structure known as Yakhadān (Ice House) has been damaged, but a significant portion of its outer walls is still intact.

Outside the Citadel, the fort known as Qal'eh Dokhtar has also been damaged in some degree, but it seems that the extent of the destruction is much less than that of the Arg. A tower has partially collapsed, and the wall next to it is falling down. Some arches are in place but require consolidation to prevent further deterioration. Pottery shards, organic material, gypsum, and old pieces of cloths have been found in the fallen walls.

Close to the Arg, the site known as Masjed-e Hazrat-e Rasul was destroyed but the lower part of its main wall is still in place.

2. Town of Bam:

In the town, most of the old buildings were destroyed. The Qeysariyeh Bazaar has been badly destroyed. In the Vakil Ensemble, only the Bath has survived with 20% of damage. The main bazaar was heavily damaged. Seyyed Abbās' Bath was damaged (10% - 20%). The Ansāri Residence, the Ahmadiyah School, the Emād School, Emānzādeh Zeyd, Emānzādeh Asiri, and Mehdizādeh House are destroyed.

4

MANAGEMENT

4. Management

4a. Ownership

The government of the Islamic Republic of Iran through the Iranian Cultural Heritage Organization, Avenue Azadi, Tehran, Iran.

4b. Legal status

The Iranian Cultural Heritage Organization (ICHO) still can effectively be considered as an independent directorate within the general administrative frame of the Ministry of Culture and Islamic Guidance of the government of the Islamic Republic of Iran. Legally this status has already changed: ICHO and the Tourism organization have merged and by the time this dossier will come under consideration the new organisation will be in place.

The protection of all historical monuments of Iran is ensured by ICHO. By the Law of Conservation of National Monuments approved on November the 3rd 1930, all the monuments registered in the National Heritage List are under the State's protection and supervision. In addition, a number of other protection laws, such as the Law of Foundation of National Council of City constructing and Architecture, Law of City constructing and Architecture, Law of City Properties approved in September the 12th, 1982, Law of Purchase of properties, buildings and archaeological monuments as well as some chapters of the Law of City Halls force the State or private administrations to respect registered monuments in the National Heritage List.

Some preventive laws have also been approved to guaranty the physical maintenance of National Monuments of Iran and preserve their cultural-historical values. Among these laws, one may mention parliamentary record prohibiting illegal excavations, paragraphs of the Law of Islamic Punishments or the chapter 127 of the Annex to the General Punishment Law in Iran.

Arg-e Bam and other monuments in the town and its neighborhood are subject to these laws and restrictions. Their legal statues are expressed in the following manifesto:

Core, buffer and tentative landscape protection buffer zones of the Bam Citadel and other related cultural properties are as follows:

I-Core zone ('arseh):

I.1- The Citadel (Arg-e Bam): The ensemble of the Citadel (Arg) is the property of the Iranian Cultural Heritage Organization, as a consequence, all the laws concerning cultural properties are in full appliance there. The points mentioned in the final resolution approved in the International Workshop on Bam (April 20, 2004, see Appendix 1) shall also be respected as long as they are

not in contradiction to national laws and those of the Iranian Cultural Heritage Organization.

During the next few months, the areas within the Core zone outside the Arg which is still private property will become the property of ICHO and, as a consequence, will be subject to the same laws.

I. 2- Other core zones consist of two types:

a- Some are the property of the ICHO such as Arshām's House and the fort called Qal'eh Dokhtar (the latter will be the property of ICHO in the coming months). These core zones will be submitted to all rules mentioned above under paragraph 1.

b- Sites which are the property of the other governmental institutions (such as the 'Emād School, Ahmadiyah School, the Old Hospital) or belong to the Religious Endowment Organization (such as the Vakil Mosque, Emānzādeh Zeyd, Emānzādeh Asiri, the House of Sorush-e Zabolstāni which will be donated to the Zoroastrian Society of Iran). Any violation or construction activity without the permission and the supervision of the ICHO is forbidden in these core zones.

II. Buffer zones (*harim*):

There are two Buffer zones: Buffer zone 1 and Buffer zone 2.

II.1. Buffer zone 1: Any construction activity or alteration in the site is forbidden without the permission and the supervision of the ICHO.

II.2. Buffer zone 2:

a. Construction of building with more than three floors (including the ground floor) which exceeds 10 m. in total is forbidden.

b. The style and façades of the buildings must not be in contradiction to traditional style of the architecture in Bam. Expertise in this regard belongs to the ICHO.

c. Widening of streets and paths in case they damage historical monuments is forbidden.

- NB. If the need arises, consultations would be undertaken with the relevant organizations such as the Town Hall, Ministry of House and Town Planning, and other relevant institutions in order to ensure people's comfort and needs while respecting the heritage conservation needs.

III. Extended tentative landscape protection buffer zone:

An extended tentative landscape protection buffer zone is under consideration and discussion at present. The provisional boundaries of this tentative landscape protection buffer zone is indicated in the plan. The restrictions for this tentative landscape protection buffer zone are as follows:

III. 1- Agricultural and related activities are allowed as long as they do not necessitate building or inclusion of high constructions or water reservoirs disturbing the cultural landscape of Bam and its sky's cape (sky and horizon line) in a negative manner. Expertise in this regard belongs to ICHO (See also

hereunder paragraph 3), and ICHO will be consulted before urban, industrial or agricultural development work is undertaken.

III. 2-Any mining activity which affects the sight of the mountains visible from Bam is forbidden. Moreover, discharge of rubbles and dump in any quantity within the landscape buffer zone is forbidden. Expertise in this regard belongs to the ICHO.

III. 3- The height of buildings within the limits of the town cannot exceed 10 m maximum. Beyond this limit and within the limits of the tentative landscape protection buffer zone, the height of the buildings can vary according to their distance to the Arg and other core zone areas. Expertise in determining the height of buildings is reserved to the ICHO. The general rule is that the more the distance of the building is from the site, the higher and larger it can be.

III.4- Protection and conservation of the environmental setting of the town especially in the south and south-west which contain water resources and *qanâts* are of prime importance; any destructive activity endangering these resources is forbidden.

III. 5- Protection of the sky line and the view of the Arg and other related historical monuments will be ensured and developments which negatively impact upon the visual sky line of the core zones will be forbidden.

III-6- The balance between the palm gardens and residential areas according to pre-earthquake conditions should be preserved.

4c. Protective measures and means of implementing them (see also appendix 1)

Bam was inscribed on the National Heritage List of Iran in 1945 under the item 519. The site can thus benefit from a special programme devoted to important historical sites known as “national heritage”. After the earthquake of December 2003, ICHO mobilized international and national co-operation and activities in order to face the situation as much as possible, and to protect effectively the property.

Task Force headed by Mr. Beheshti, as director of ICHO, and Mr. Talebian, was created immediately after the quake to face key issues. In this regard, international co-operation organized by UNESCO and World Heritage Fund/ Centre as well as states have effectively been an important factor to improve the situation of Bam. Among the governments Japan, France... and amongst other international organizations the World Bank and United Nations can be mentioned. A copy of the Report of Mission to Bam, 12-14 January, 2004, by J. Taniguchi giving information on this subject is appended at the end this nomination dossier (see appendix 3).

4d. Agency/agencies with management authority

ICHO is the main management authority, which consults and works closely with other national and local authorities for the comprehensive management and development of the property as a whole. A Task Force headed by ICHO was set up immediately after the seism. It's task is to ensure timely and effective planning and action for Bam's cultural heritage (see J. Taniguchi's report appended as annex 3 to the end of this dossier).

The Arg and Qal'eh Dokhtar within their core and buffer zone are the property of the Iranian government. In the town, there are other national and local organization working in tandem with Iranian Cultural Heritage Organization: Religious Endowment Organization (Sāzemān-e Owaqāf), Ministry of House and Town Planning (Vezārāt-e Maskan va Shahrsazi), Town Hall (Shahrdari) in Bam and in Baravat. ICHO is exercising its authority through two offices, one is the local office in Kerman and the other, more active, is the base in Bam.

4e. Level at which management is exercised (e.g., on site, regionally) and name and address of responsible person for contact purposes:

The management of the site is regionally exercised through the local base at Bam. The director of Bam Research Base is Mr. Mohammad Hassan Talebian. This base is the major authority in managing the property. It works, of course, in tandem with other local authorities mentioned above (4d).

4f. Agreed plans related to property (e.g., regional, local plan, conservation plan, tourism development plan)

The old Master Plan for Bam is no longer valid after the earthquake. The preparation of a new Master Plan is in progress. It will pay attention to the Citadel and all the cultural properties including those currently discovered in the town of Bam and are in the future landscape buffer zone. An Emergency Plan has been set up after the earthquake in order to cope with the situation and implement emergency protective and conservation measures in Bam. It addresses the following issues:

1. Physical security and establishment of safe paths and scaffolding for working.
2. Detection of dangerous structures which may collapse any day:
 - a. Consolidation of historical structures.
 - b. Examination of the parts which had been repaired before the earthquake, and are dangerous or may fall on other structures.
3. Removal of debris and their evacuation from the site.
4. Providing facilities for restorers and experts.
5. Continuation of research to recover official documents which have been buried under the debris.
6. Daily monitoring of the site and historical structures, including taking photographs of the structures.

- NB. The precise mapping of the Citadel, the old parts of the town as well as the newly discovered archaeological sites were undertaken immediately after the earthquake; this highly technical task has been carried out thanks to a close collaboration with the Iranian National Cartographic Centre. The aerial photographs will be restituted thanks to a grant of \$ 500000 from Japan.

4g. Sources and levels of finance

There are three types of governmental funds and one type of international fund (8000 RIs= \$ 1):

1. Development budget (\$ 1250 = 10 000 000 000 RIs after the earthquake)
2. Current budget \$ 15000 = 120 000 000 RIs (for salary of officials, and permanent employees)
3. Income budget \$10 000 = 80 000 000 RIs (from the revenues such as selling tickets, this budget serves for visitor facilities and publications)
4. Foreign budget in form of grants: after the earthquake Japan, World Heritage, World Bank (Japan: \$ 500 000 for research, workshops, and missions; World Heritage Fund/Centre: \$ 50 000 for the International Workshop on Bam; UN: \$ 25 000 for emergency humanities purposes; Japan: \$ 1 360 000 for equipment supply).

Note that thirteen projects amounting to \$ 15000000 have been submitted by ICHO to the World Bank, and are currently under consideration by that institution. These projects concern the study for the establishment of a permanent cultural base in Bam, study for presentation of the historical parts of Bam; study for safety and restoration of the Arg ensemble; installation of paths for the access of experts and visitors; study for preservation and conservation of the historical monuments in Bam; launching of ethnographic, archaeological, and geological researches.

4h. Sources of expertise and training in conservation and management techniques

The main source of expertise is the expert unit of the Iranian Cultural Heritage Organization, but other sources of expertise (international cooperation, for instance) is also used. Sources of expertise will be expanded with the assistance of other countries under the supervision of UNESCO: such as CRATerre Institute from Grenoble, France; Saitama University, Japan; Historical Centre in Rome, ICOMOS, ICCROM.

4i. Visitor facilities and statistics

Before earthquake, every facility was available. After, two hotels are at the disposal of the visitors (63 rooms in Hotel Azādi, 80 rooms in Hotel Arg-e Jadid). In the Arg, sanitary facilities have been restored, a shop has been restored in the site. Statistics acquired from 1993 until the earthquake are as follows:

Year	Female	Male	Iranian	International	Total	Income
1993	31889	38286	66676	3499	70175	
1994	47322	39932	82763	4491	87254	
1995	38971	34583	68807	4747	73554	
1996	46089	45819	82285	5623	91908	
1997	6033	55957	106594	9694	116288	
1998	45312	66729	103093	8948	112041	19583 USD
1999	43579	62742	95816	10505	106321	27710 USD
2000	45436	67566	98568	14434	113002	61882 USD
2001	54301	64346	104016	14631	118647	74381 USD
2002	47176	52140	90257	9059	99316	50738 USD
2003	-	-	-	-	-	-

4j. Site management plan and statement of objectives (copy to be annexed)

The general management plan of the site was approved in the International Workshop on Bam, 17-21 April, 2003 (see annex 1). However, there are three phases of work as follows:

I. Emergency:

1. Physical security and establishment of safe paths and scaffolding for working.
2. Detection of dangerous structures which may collapse any day:
 - a. Consolidation of historical structures.
 - b. Examination of the parts which had been repaired before the earthquake, and are dangerous or may fall on other structures.
3. Removal of debris and their evacuation from the site.
4. Providing facilities for restorers and experts.
5. Continuation of research to recover official documents which have been buried under the debris.
6. Daily monitoring of the site and historical structures, including taking photographs of the structures.

II. Mid-term (5 years):

-To begin multidisciplinary researches (archaeology, ethnography, geography, work on intangible heritage).

-Installment of different educational/training work shops both for experts and technical staff (the general project is now being prepared by an international committee).

- To investigate on the possibility of a permanent base for restoration and research activities in Bam. The base would also serve as the consolidation centre of old mud brick structures in the country. This task would be carried out with the financial support of the World Bank and other international institutions.

- To bring in the local people whose participation is a very important factor in the restoration and conservation of the historical site of Bam. People's participation is both a moral and social duty. People's participation can be envisaged in two forms:

a. To give the priority to the restoration of those structures with religious and local importance. The religious structures with prime value are the Congregational Mosque in the Arg, the Tekiyeh; the important historical structures are the edifice

known as the Governor's Residence on top of the citadel wherein ceremonies for the New Year are held.

b. People's participation would provide jobs in the region, and would bring in income by means of employing local workers in restoration activities. Consequently, tourism would develop along with the relevant facilities such as hotels, restaurants, shops, etc. It is because it is indispensable to work on the retrieval of local industries especially the old ones like the silk and cotton fabrics.

III. Long-term (10 years):

- a. To establish a permanent plan of restoration/conservation of mud brick structures in Bam, and also in national level.
- b. To establish a permanent research base and visitor centre for tourism (exhibition and museum, etc.).
- c. To revival of the intangible heritage of the site.
- d. To publish documents relevant to the site and make them available.
- e. To develop international cooperation in a broader level.
- f. To develop local participation in a broader level.
- g. To revive and encourage old industries such as silk and cotton fabrics.

4k. Staffing levels (professional, technical, maintenance)

The staffing level at Bam has been improved and increased in order to cope with the situation and the relevant problems concerning the protection of the site. Following tables show the staffing level before and after the earthquake:

Task	Number
Director	1
Financial Administrator	1
Secretary	1
Technical Expert	3
Professional Craftsman	14
Labourer	37
Guard	8
Total	65

The staffing level before the earthquake

Task	Number
Master Mason in restoration/conservation	43
Mason	15
Expert – restorer of historical monuments	13
Expert – consultant	4
Director	1
Administration	4
Service and facilities	4
Guards	20
Total	104

The staffing level after the earthquake

5
FACTORS AFFECTING THE SITE

5. Factors affecting the site

5a. Development pressures (e.g., encroachment, adaptation, agriculture)

The site, especially the Arg ensemble, has been protected within their buffer zones. So, some vast and open spaces around the site have been left intact. After the earthquake, the human aspect of the disaster has prevailed over cultural priorities, and huge amount of debris has been evacuated in the proximity of the Arg. This is a serious problem which ICHO and other authorities are now facing. Agricultural pressure is sensible but it has been controlled by ICHO in order to respect the boundaries of the site.

5b. Environmental pressures (e.g., pollution, climate, change)

Difference in temperature plus the lack of humidity is a factor in erosion of the mud brick structures, winds and tempest.

5c. Natural disasters and preparedness (earthquakes, floods, fires, etc.)

The destructive earthquake of December 2003 caused huge damages to the site. A major part of the historical ensemble in the Arg has been destroyed; in the town most of the old buildings have been turned into rubbles. According to follow-up studies and observations, part of the Bam Fault which passes along the town became active during the earthquake. Bam lies within a seism zone, but no major earthquake had been ever reported before. The main faults in the area (including the 100 km long Bam Fault) run in north-south and north-west – south-east directions respectively. As preliminary estimations show a strong vertical movement occurred with strength of 1 G which was very concentrated on Bam. During the seism both vertical and lateral movements occurred, so most of the building were shaken sideways and tossed vertically. The quake in Abaregh (north-west of Bam) was 5 on the Richter scale and in Narmāshir (south-east of Bam) it reached 6 on the Richter scale. It is not clear when previous earthquakes occurred in Bam, but the faults in the area seem to be active. There is a 10 m fault which appeared in the past, the date of which is unclear. Accordingly, there are fissures which can be observed in the wells near Barāvāt, east of Bam.

5d. Visitor/tourism pressures

Damage caused by the earthquake has disrupted all the visiting paths. It has a double consequence: since the seism of December 2003, considering the importance of the Arg-e Bam, many visitors, especially local people, have hastened to come and see the state of preservation of the site; the pressure caused by visiting groups can damage the remains. So, a safe and flexible wooden path has been set up and is a significant factor in resolving, for the moment, the tourist pressure.

5e. Number of inhabitants within site, buffer zone

3059 families = 17000 inhabitants in the buffer zone 2.
Core zone in the Arg and Qaleh Dokhtar no body.

5f. Other

6

Monitoring/Inspection

6. Monitoring/Inspection

6a. Key indicators for measuring state of conservation

Since the earthquake in December 2003, a regular documentation of the Citadel and related sites has been carried out. This consists of regular inspection of important and fragile spots of the monuments as well as visual documentation, especially marking and photographing, which, accompanying previous records (see 6c), will provide a constant bulk of information and indicators for measuring the state of conservation of the structures.

6b. Administrative arrangements for monitoring property

The Master Plan of Bam is still respected and a revision is being undertaken after the quake where all developments will be considered in accordance with the ICHO's regulations. The Master Plan will be sent to all organization involved in Bam, and the authority concerning historical monuments is the ICHO. In the Landscape Buffer Zone, the propositions of ICHO and Organization for Natural Environment for conservation of bio-historical values of the site will be taken into account.

6c. Results of previous reporting exercises

The restoration/monitoring activities recorded since 1355/1976 are as follows.⁵⁴

1355/1976

1. Restoration of the main south gate
2. Construction of a workshop in the site for making mud bricks
3. Setting up drainage system.
4. Construction of a brick kiln within the Arg for making the necessary baked bricks used in restoration work.

1356/1977

1. Obstructing different holes and cracks in the enclosure wall of the Arg.
 2. Restoration and consolidation of main structures such as the bazaar, Tekiyeh, mosque, stables, some of the houses, and the Chāhārfasl edifice.
 3. Restoration of the enclosure wall of the Arg including its crenellated parts
 4. Restoration of part of the enclosure wall of the citadel.
- Restoration of the main gate for installation of a guard post.

1357/1978

1. Continuation of the restoration work of the structures within the Arg and its citadel.
2. Maintenance of conservation of the mosque, headquarters, stables, and garrison.
3. Conservation work at the enclosure wall.

⁵⁴ The results of the previous works have been compiled based on Dr. Tayyari's annual report.

4. Removing rubbles and debris along the southern moat.
5. Restoration work at Mir-Akhor building and the caravanserai situated to the west of the stables.

1358/1979

1. Restoration work at bazaar and its structures, Tekiyeh, mosque, stables, garrison, and some of the houses within the Arg.
2. Restoration and conservation of the enclosure wall and its crenellations.
3. Conservation work of the roof of structures according to their importance.
4. Beginning restoration work at one of the house on the main south-north alley.
5. Conservation work at the caravanserai situated to the west of the stables.
6. Conservation and consolidation work of the west side wall.

1359/1980

1. Uncovering parts of the citadel's structures and other buildings at its foot according to their importance.
2. Conservation work at different structures such as the bazaar, Tekiyeh, governor's house, stables, garrison, caravanserai, Mirza Na'im House, Mir House, Sistani House.
3. Conservation work at different parts of the enclosure wall and the citadel.

1360/1981

1. Removal of rubbles in the old town for the identification of the plan of structures.
2. Restoration work at Stables including the uncovering the original soil, restoration of the north and south walls, fallen roofs, southern side, and some of the halls.
3. Conservation work at different structures of the old town.

1361/1982

1. Restoration work at the enclosure wall and other parts of the old town
2. Conservation of the mosque concerning uncovering of some of the parts covered by rubbles.
3. Restoration of the square of the Tekiyeh including the repair of its fallen roofs of the upper storey in the east side.

1362/1983

1. Uncovering the foundations of structures at the bazaar and the mosque in order to clarify the different historical layers of the buildings.
2. Maintenance of conservation work at different structures of the old town, consolidation of dangerous parts of the roofs.
3. Restoration of shops and their walls, consolidation of foundations.
4. Restoration of the southern part of the enclosure wall.
5. Restoration of the original pavement within the old town and the citadel.
6. Restoration of the original wooden doors in some of the structures.
7. Maintenance of the conservation of the drainage system.

1363-1371/1984-1992

Following a cut of budget and financial shortcomings, the restoration work at Bam was limited to the maintenance of conservation for drainage system and mud brick structures. A general maintenance of the structures was regularly carried out during this period.

1372/1993

1. Complete restoration of one of the noble houses at the end of the bazaar, which covers an area of 900 square metres. This building was then destined to serve the basement for research and restoration office in the Arg.
2. Uncovering different structures in order to find the original soil for restoration purposes; restoration of fallen and damaged roofs; plastering the walls within the structures; repair and maintenance of service equipment
3. Restoration of Mirza Na'im School which covers 900 square metres. Most of the building was repaired, its original soil was uncovered, the foundations and roofs were stabilized, and the walls were plastered.
4. Restoration of upper storeys of the main gate in the Arg.
5. Restoration of the camel stables within the garrison which covers an area of 200 square meters.
6. Restoration of six rooms close to the main entrance of the Arg covering an area of 100 square meters.
7. The basement was fully equipped with service and comfort facilities.
8. A whole series of topographic maps (1/500) were purchased.
9. The Mirza Na'im Ensemble including its adjacent building, the Friday Mosque, the Bazaar and were mapped in detail.
10. A data bank was prepared for all of the available documents at Bam.
11. Archaeological research in the aim of investigating on the chronology of the site, especially at the bazaar and the southern edge of the enclosure wall.
12. Gathering primary documents for the Comprehensive Project of the Arg.
13. Uncovering part of the houses and alleys in the old town.
14. Conservation work at the southern wall, main gate, the Mirza Na'im ensemble, the Chahar Fasl, the Congregational Mosque, Stables, Garrison, Yakhdan, and the bazaar and its adjacent alleys.
15. Conservation work in the south wall, the enclosure of the Garrison and its stables, and the roof of the Headquarters, and part of the houses.
16. Restoration of the Stables including its foundation, repair and renovation of its façades with *kah-gel* (pisé) plaster.
17. Repair and renovation of the façades of the Garrison.
18. Restoration of the Chahārfasl including the renovation of its façades with *kah-gel* (pisé) plaster.
19. Renovation of the bazaar pavement and one of the alleys between the Tekiyeh and the Mosque.
20. Restoration of the southern prayer hall of the Mosque, investigating for finding the original soil of the hall, repairs done in damaged roofs and the *mihrab* (prayer niche).
21. Conservation of the drainage system.
22. Repair of the wind catch tower of the citadel.

1373/1994

1. Finishing the restoration of two units in the bazaar area in the Arge; these structures were then turned into shops selling publications on the Arg.
2. Finishing the restoration of one of the house at the bazaar wherein the office of the director would be installed.
3. Restoration of a two-storeys building at the foot of the citadel for making a tea-house.
4. Finishing the restoration of three rooms adjacent to the main gate for depot purposes.
5. Restoration of two rooms for installing a carpentry workshop.
6. Maintenance of service facilities near the main gate.
7. Continuation of the restoration of Mirza Na'im's School including plastering the rooms in the east and north wings of the building for bed rooms.
8. Restoration work at the southern *eyvan* of Mirza Na'im's School and its adjacent rooms.
9. Restoration of the building located in the north-east corner of Mirza Na'im's School for service purposes.
10. Restoration work in another building adjacent to the one mentioned above for service purposes.
11. Archaeological research around the Arg, uncovering the entrance building outside the enclosure wall.
12. Archaeological investigation inside the Arg (soundings and test trenches).
13. Uncovering in the along the south-east corner of the Arg within the town area in the aim of retracing plan of the houses.
14. Research and soundings outside the wall between the towers with the objective of investigating on the chronology of architectural phases.
15. Documentation research on Bam.
16. Continuation of mapping in the Arg (in the town area).
17. Survey and mapping of the Yakhdan and the buildings outside the Arg (northern area).
18. Making a general map of the Arg (1/200).
19. To set up plans for the restoration of the Yakhdan and the water reservoir inside the Stables.
20. Uncovering the ground levels of the south-east tower in Governor's Residence and its substructures in the aim of doing restoration work at the tower.
21. Investigating on architectural phases in the house called the West Sabat House.
22. Conservation work in different parts of the houses and paths according to their importance.
23. Conservation of the drainage system and cleaning of the area inside and outside of Arg.
24. Continuation of restoration work in the western enclosure wall in front of the Stables, and in the southern part (in front of the Mosque) for consolidation of the foundations of structures.
25. Restoration and conservation work at crenellated parts of the third enclosure wall of the Citadel.
26. Continuation of the restoration of pavement in main paths between the bazaar and the Mosque.
27. Continuation of the restoration work in the Stables concerning consolidation and plastering of walls, repair of the entrance gate of the western stables and the ground of

the eastern stables. Restoration of the water reservoir inside the Stables, removal of rubbles, consolidation of foundations, restoration of staircases, entrances, and vaults.

28. Restoration work in the Garrison.

29. Restoration work in the Chāhārfasl building including replacement of the damaged plaster in the porticos and outside façades, consolidation of walls, repair of the plaster of vaults.

30. Preliminary restoration work at one of the adjacent houses to the Sabat House including uncovering of original ground, removal of rubbles, stabilizing foundations in all levels, and restoration of some of the galleries of the first floor.

31. Restoration work at the Tekiyeh (end of the bazaar) including the removal of additional parts, consolidation of foundations, restoration of rooms, vaults and arches in the west wing and north-west, north-east and south-east corners.

32. Finishing restoration work at the southwest prayer hall in the Mosque, and making it accessible for people's use; stabilizing pillars in the north-west prayer hall and repair of its pavement.

33. Restoration of the Yakhdan outside the Arg.

34. Work for lighting system of the ensemble.

1374/1995

1. Uncovering the original ground of the Yakhdan, and removal of its debris.

2. Restoration work in the western and south-western parts of the enclosure wall including the renovation of the ramparts and crenellations.

3. Consolidation of foundations in different parts of the Arg.

4. Plastering the ground of the Yakhdan with cement.

5. Restoration of part of the south-eastern enclosure of the Yakhdan.

6. Restoration and conservation work in the School???

7. Restoration work in Qeysariyeh consisting of the securing of upper floor and the pillars of the caravanserai; securing the eastern room of the caravanserai and the renovation of its entrance; restoration of one of the roof of the eastern room; restoration of the roof of the bazaar in its corners; the complete renovation of the vaulted roof of the Qeysariyeh Bazaar; restoration and renovation of the upper storeys in Qeysariyeh Bazaar.

8. In the Arg, the Tekiyeh was the object of following restorations: renovation and repair of the upper story and its arches; renovation of the plaster covering the northern rooms; repair of the arches belonging to the west wing; renovation and conservation inside the rooms of the north wing; renovation of the arches in the west wing; restoration of two vaulted rooms of the west wing and renovation of their plaster.

9. In the Stables, a drainage system was set up; the original ground of the Stables was uncovered and then paved. The southern hall was restored and its pavement was renovated with plaster and pisé; the roof of the reservoir was restored; restoration and renovation of the entrance of the east hall; plastering the troughs; renovation of the north entrance of the east hall including its door; restoration of the western and eastern staircases in the reservoir and its plaster; renovation and repair of the roof of the reservoir, and the roof pavement; restoration of the courtyard; the electricity was set up in the Stables.

10. In the West Sabat House, the roof of the south hall was restored and plastered; renovation of the pillars in the upper story above the south hall; restoration of the entrances in the upper story; restoration of the gallery in the south of the house.

11. Restoration activities in the enclosure wall are as follows: placing buttresses in the south wall; repair of the roof of the median corridor and the crenellations; restoration and renovation of the rooms in the ground floor close to the south-east of the main gate.

1375/1996

1. In the Tekiyeh, the west portico and northern corridor were restored; the southern entrance was restored.
2. The West Sabat House was also repaired in its west wing; its kitchen was restored.
3. In the Mosque, the southern prayer hall was renovated, including its façade.
4. The units within the south-east of the enclosure wall.

1376/1996

1. Conservation work in the main south gate and its towers and crenellations.
2. Repair and conservation work in different parts of the enclosure wall, including its elements such as the median corridor and crenellations.
3. Restoration of five units in the Bazaar.
4. Conservation work in the Mirza Na'im Ensemble.
5. Restoration of the entrance of one of the houses to the east of Mirza Na'im including renovation of its plaster.
6. Restoration in one of the structures east of Mirza Na'im known as a coffee-house.
7. Restoration work in the north-west entrance of the Caravanserai, repair of the roofs, and the octagonal piece.
8. Restoration of the houses west of the Bazaar.
9. Restoration of one of the houses close to the west enclosure wall, and consolidation of that part of the wall.
10. Conservation work in the West Sabat House.
11. Restoration work in the area of the Second Gate close to the Citadel.
12. Restoration work in Governor's Residence and its enclosure walls.
13. Repair and renovation in the Mir-Akhor structure.
14. Restoration of part of the Third Gate in the Citadel area.
15. Conservation work in different structures in the Popular Quarter (the old town).
16. Conservation of the drainage system.

1377/1998

1. Conservation work in the south and west parts of the enclosure wall including the repair of their crenellations and towers.
2. Restoration work in the stables located in the Mirza Na'im Ensemble.
3. Research on different architectural phases of the Mosque and restoration of the eastern prayer hall.
4. Restoration of the Mir House including the removal of its debris, uncovering the original ground in northern rooms.
5. Restoration work in the West Sabat House including consolidation of its foundations, walls, renovation of plaster in the rooms, renovation of the gallery of the first storey, setting up modern comfort and service facilities.
6. Conservation work in the houses close to the western part of the enclosure wall, repair of the fallen roofs of the houses.

7. Conservation work in Governor's Residence, replacement of the plaster, consolidation of foundations.
8. Restoration and complete renovation of three shops in the Bazaar, west of the Tekiyeh.
9. Restoration of the Chaharsuq.
10. Completion of the pavement round the Yakhdan.
11. Renovation of the pavement inside the Arg.

1378/1999

1. The Arg was the place of an international congress on the history of architecture and urbanism and all the structures were checked for their state of conservation. Some of them were renovated or repaired carefully in order to meet the needs of the congress.
2. Restoration work in the enclosure wall.
3. Restoration work in the Bazaar including the completion of the restoration of five shops, the vaulted roof of the Chahrsuk.
4. Completion of the restoration work in the south-west prayer hall in the Mosque.
5. Restoration of Mirza Na'im's Bath.
6. Conservation work in the Mir House.
7. Conservation work in the West Sabat House including the restoration of its bath.
8. Restoration in the structure to the west of the Caravanserai and replacement of its plaster.
9. Renovation of the pavement in paths in eastern quarter.
10. Consolidation of walls in different parts of the Popular Quarter.

1379/2000

1. Conservation work in the southern part of the enclosure wall.
2. Conservation work in the structures at the end of the Bazaar.
3. Consolidation work in Governor's Residence, restoration work in the north-eastern corner of the fortified wall of the Citadel.
4. Restoration work in the Caravanserai area, consolidation of the foundations, vaults, arches.
5. Conservation work for the pavement of the main alley and adjacent paths going through the Bazaar.
6. Consolidation of the structures and walls in public places and alleys.
7. Conservation work for the drainage system of the site.
8. Repair and renovation of damaged doors and arches in the Public Quarter.
9. Continuation of restoration work in the house close to the south wall of the enclosure for installation of necessary workshops for conservation activities.
10. Restoration of one of the houses in southern quarter.
11. Documentation study and mapping of the Arg.

1380/2001

1. Archaeological research in the Arg with the objective of investigating on the water supply of the Arg in the place called Shotor-Galuyi close to the western wall of the enclosure.
2. Consolidation work in different parts of the enclosure wall.

3. Conservation work in the Mosque, Mir Akbar's House, Sabat Lotf Ali's House, the East Sabat House, west wall of the enclosure, public baths and a house in eastern quarter.
4. Conservation work for the roofs of different structures.

1381/2002

1. Restoration of one of the houses close to the Main Gate for installation of a larger guard house.
2. Archaeological research on the chronology of the Arg and other similar sites in the region.
3. Documentation study and mapping.
4. Conservation work in different parts of eastern quarter, part of western quarter, in the Konari sector, the East Sabat House, the Guest House to the west of the Stables, Governor's Residence, northern and western façades of the gate of the Citadel.
5. Conservation work in the Mosque and renovation of the shrine of Saheb al-Zaman.
6. Restoration work in Mir's House.

1382/2003

1. Continuation of archaeological research in the aim of detecting different phases of construction in the Arg.
2. Continuation of documentation research and mapping.
3. Consolidation of some of the wall round the enclosure.
4. Conservation of vaulted roofs in different parts.
5. Continuation of conservation work in the Mosque, Mirza Torab's House, two other houses in eastern quarter, in the Konāri sector, and the enclosure wall.

7

DOCUMENTATION

7. Documentation

7a. Photographs, slides, and where available, film/video

They are enclosed to the end of the dossier.

7b. Copies of site management plans and extracts of other plans relevant to the site

See the appendices at the end of the dossier.

7c. Bibliography

Mentioned in the text and:

- Z. Asadpur Behzādi, *Zomorod-e Dasht-e Lut*, Tehran, 1381/2003.
- J. Aubin, “Moqadameh bar do resaleh-ye sufiyāneh”, *Farhang-e Iran Zamin*, No. 2, 1333/1954, p. 178.
- M. E. Bāstāni Pārizi, *Ganj ‘Ali Khān*, 2nd ed., Tehran, 1362/1983.
- *Idem*, “Bam: ii. Ruins of the old town”, *Encyclopedia Iranica*, vol. 1, pp. 651-654.
- *Declaration and Recommendations of the International Work on Recovery of Bam’s Cultural Heritage (17-20 April 2004)*, organized by The Iranian Cultural Heritage Organization (ICHO), the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the International Council of Monuments and Sites (ICOMOS).
- B. Farahvashi, *Kārnāmeḥ-ye Ardashir-e Bābakān*, Tehran University Press, 1374/1995.
- H. Gaube, “Bam”, *Iranian Cities*, New York, 1979.
- F. Grenet, *La geste d’Ardashir, fils de Pābag, Karnamag ī Ardaxšēr ī Pabagan*, translated from Pehelevi by F. Grenet, Die (France), 2003.
- M. Kotobi, *Tāriḫ-e Al-e Mozaffar*, Tehran, 1365/1986.
- H. Nurbakhsh, *Arg-e Bam*, typed manuscript, Kerman, 1335/1956
- X. de Planhol, “Bam: i. History and modern town”, *Encyclopedia Iranica*, vol. 1, pp. 650-651.
- H. Pottinger, *Travels in Baloochistan and Sinde*, London, 1816.
- P. Schwarz, *Iran im Mittelalter nach den arabischen Geographen*, Hildsheim – New York, 1969.
- P. M. Sykes, *Ten Thousand Miles in Persia or Eight Years in Iran*, London, 1902.
- W. Tomaschek, “Zur historischen Topographie von Persien II”, *Sb. Kaiserl. Akad. Wiss., Phil.-hist. Kl.* 108, 1885.
- Ahmad ‘Ali Khān Vaziri, *Joqrāfiyā-ye Kermān*, Bāstāni Pārizi ed., Tehran, 1346/1967.

7d. Address where inventory, records and archives are held

Archive Centre, Iranian Cultural Heritage Organization, Azadi Avenue,
P. O. Box 13445-719, Tehran, Iran

8
SIGNATURE ON BEHALF OF THE STATE PARTY

8. Signature on behalf of the State Party

S. Mohammad Beheshti,
General Director of the Iranian Cultural Heritage Organization

Mohammad Hassan Talebian, Director of Bam Research Base

LIST OF ILLUSTRATIONS

- Figure 1. Map showing the geographical position of Iran.
Figure 2. Map of the Province of Kerman where Bam is situated.
Figure 3. The Bam Fault.
Figure 4. Map showing the site of Bam and its boundaries.
Figure 5. A proposed Master Plan for the Central Bam and its reconstruction.
Figure. 6. The Arg- Bam and its core zone.
Figure 7. Air view of the town of Bam and the Arg in 1985.
Figure 8. Air view of the Arg in 1981.
Figure. 9. Air view of the town of Bam after the earthquake of December 2003.
Figure 10. Two air views of the Arg before and after earthquake.
Figure 11. General views of the Arg taken from the south, before and after earthquake.
Figure 12. General plan of the Arg and its major constructions.
Figure. 13. The Yakhdan (Ice House) before and after earthquake.
Figure. 14. Detailed plan of the Citadel area of the Arg.
Figure 15. Early photographs of the Citadel: a. picture taken in 1892; b. picture taken by Sir Percy Sykes in 1896.
Figure 16. Early views of the Citadel (a) and the South Gate.
Figure 17. The Governor's Residence before and after earthquake.
Figure 18. Chahrfasl before and after earthquake.
Figure 19. Garrison before and after earthquake.
Figure 20. Stables before and after earthquake.
Figure 21. West Sabat House before and after earthquake.
Figure 22. Mirza Na'im School before and after earthquake.
Figure 23. Mirza Na'im House before and after earthquake.
Figure 24. Plan of the Mirza Na'im Ensemble.
Figure 25. The South Gate of the Arg.
Figure 26. The plan of the Congregational Mosque in the Arg.
Figure 27. The Mosque before and after earthquake.
Figure 28. Plan of Tekiyeh.
Figure 29. Tekiyeh before and after earthquake.
Figure 30. Plan of Bazaar.
Figure 31. Bazaar before and after earthquake.
Figure 32. Qal'eh Dokhtar.
Figure 33. Qal'eh Dokhtar.
Figure 34. The Mosque of Hazrat-e Rasul sketch and plan of the remains before earthquake.
Figure 35. The site of the Mosque of Hazrat-e Rasul after earthquake.
Figure. 36. Plan of Mirza Ebrahim Shrine.
Figure 37. Mirza Ebrahim Shrine.
Figure 38. Plan of Qeysariyeh.
Figure 39. Qeysariyeh.
Figure 40. The Caravanserai of Qeysariyeh.
Figure. 41. Vakil's Bath.
Figure 42. Vakil's Bath.
Figure 43. Vakil's Mosque.
Figure 44 Vakil's Mosque.
Figure 45. Plan of Bam Bazaar.

Figure 46. Bam Bazaar.
Figure 47. The Ansari Residence.
Figure 48. The Ansari Residence.
Figure 49. The Ahmadiyah School.
Figure 50. The Ahmadiyah School.
Figure 51. Seyyed Abbas Bath.
Figure 52. Seyyed Abbas Bath.
Figure 53. Plan of Emād School
Figure 54. Emād School
Figure 55. Plan Emānzādeh Zeyd
Figure 56. Emānzādeh Zeyd
Figure 57. Plan of Emānzādeh Asiri
Figure 58. Emānzādeh Asiri
Figure 59. Plan of Mehdizādeh House
Figure 60. Mehdizādeh House
Figure 61. Visitor Road.
Figure 62-64. Location of the most dangerous zones identified during UNESCO-ICHO joint mission, March 2004
Figure 65. Proposed location of tying belts.
Figure 66. Sound and effect light system.
Figure 67. Arba'in religious ceremony.

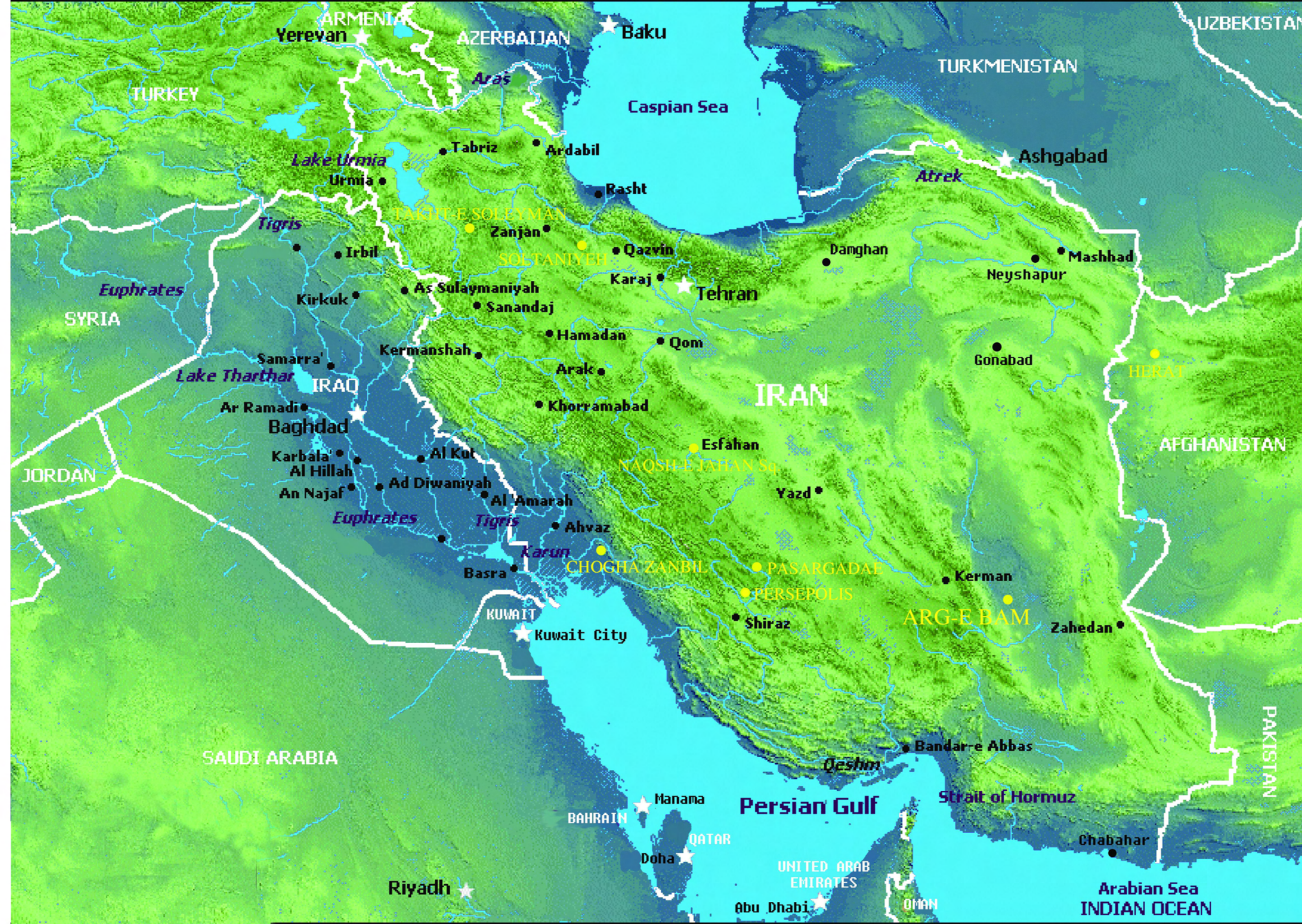


Fig. 1

Geographical Position of Iran



IRANIAN CULTURAL HERITAGE ORGANIZATION
ARG-E BAM RESEARCH BASE

April 2004



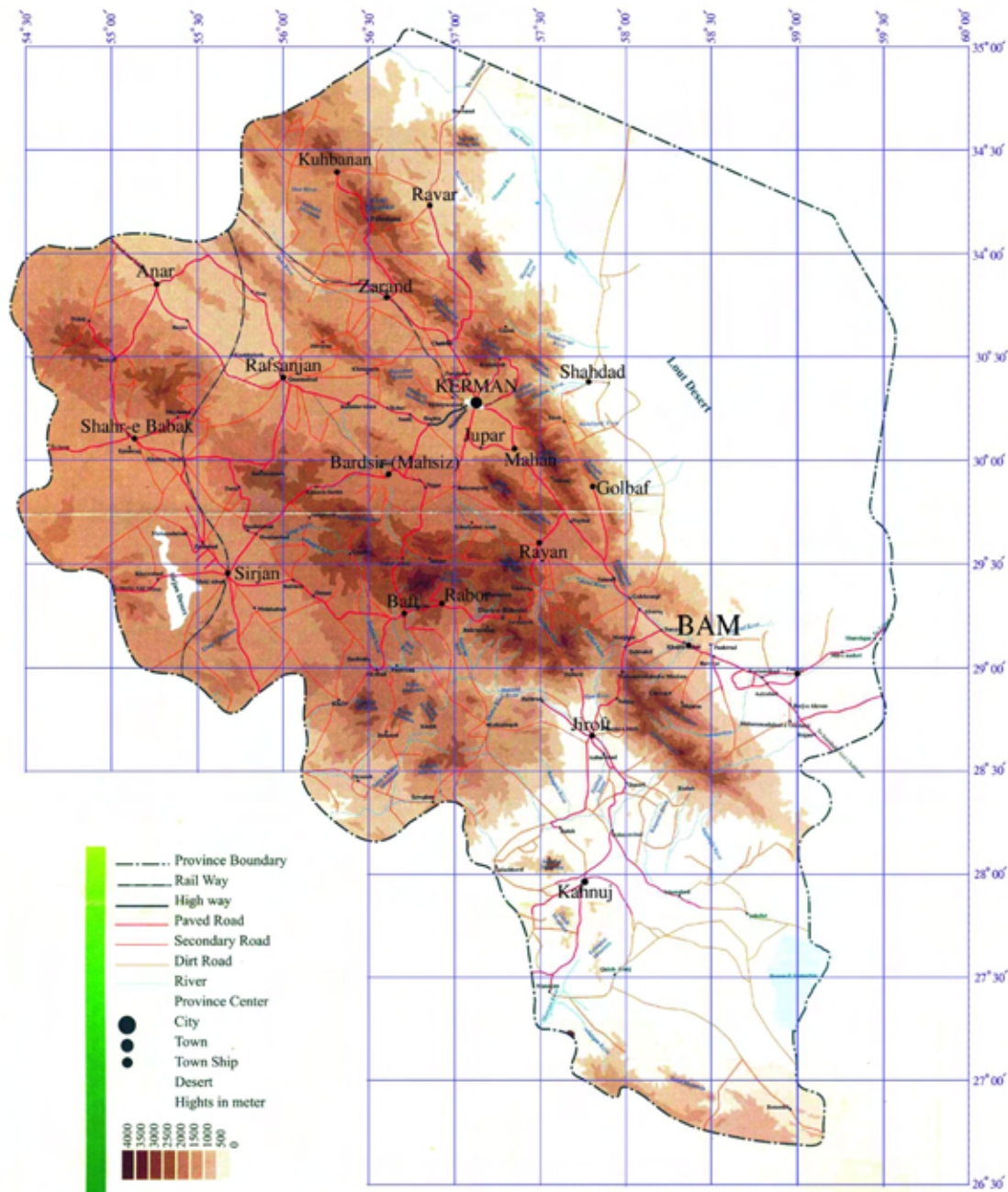
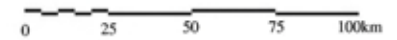


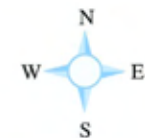
Fig. 2

KERMAN PROVINCE



IRANIAN CULTURAL HERITAGE ORGANIZATION
ARG-E BAM RESEARCH BASE

April 2004



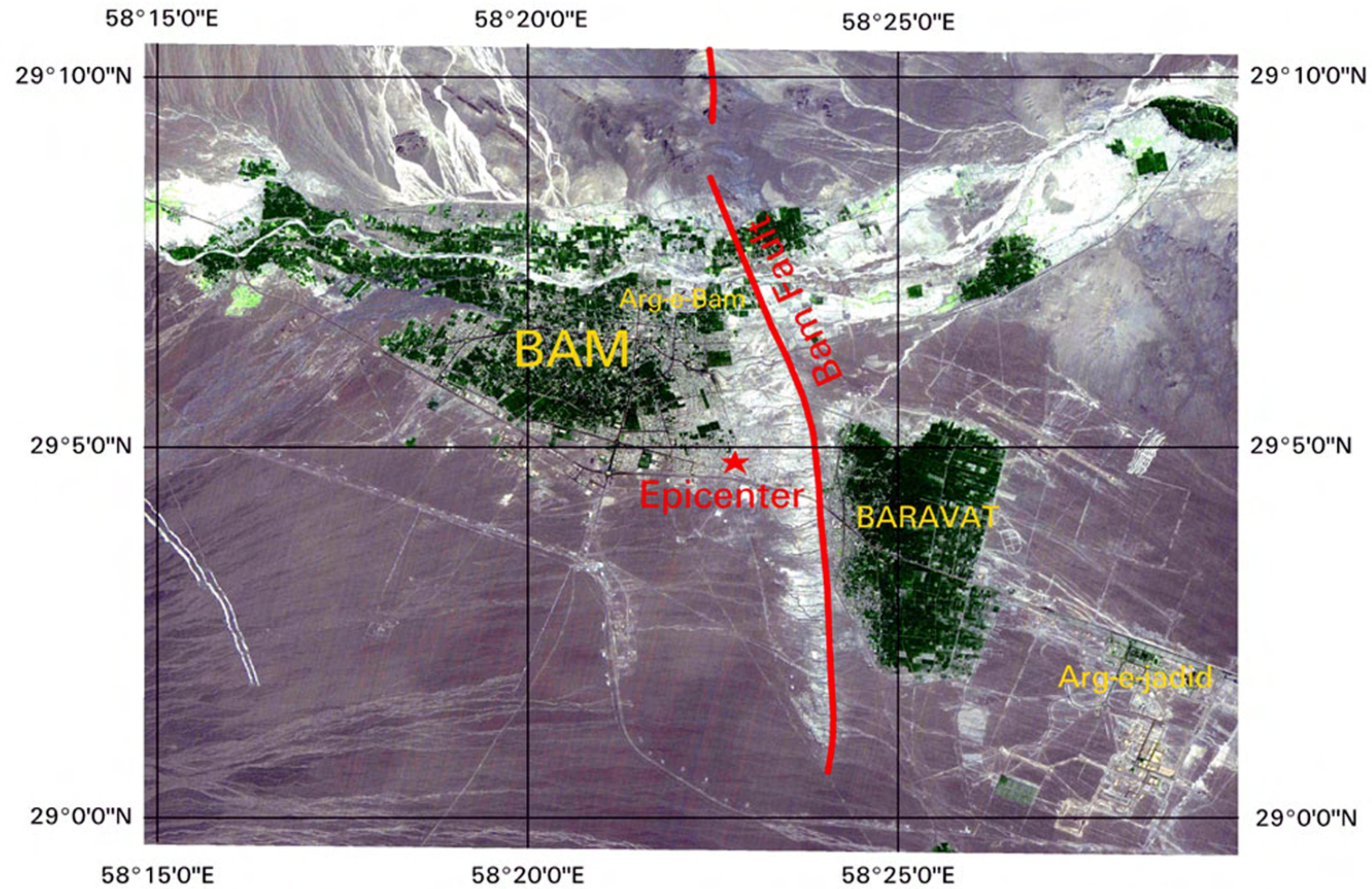


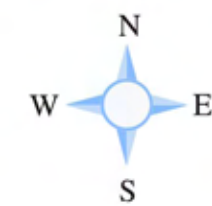
Fig. 3

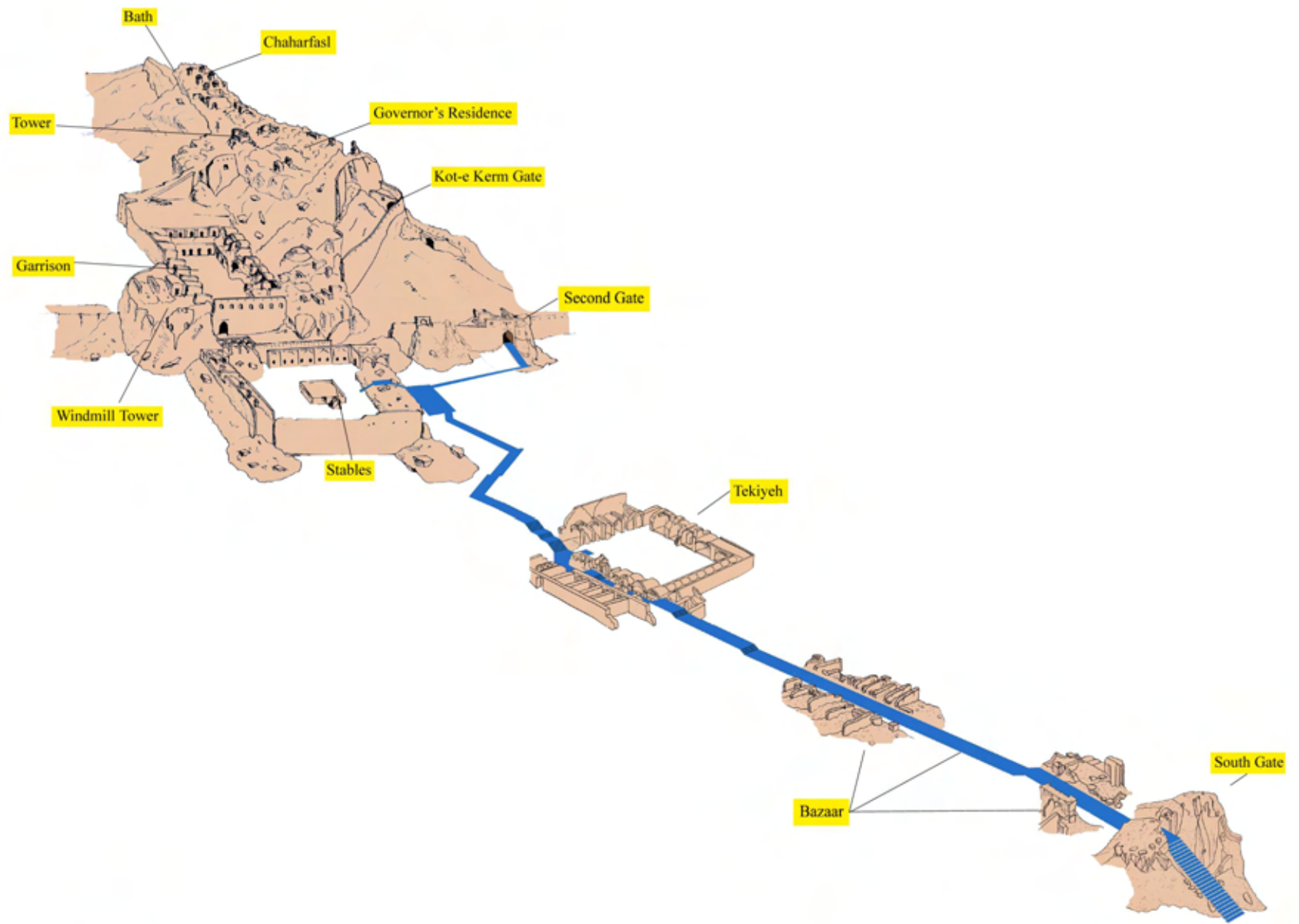
BAM FAULT



IRANIAN CULTURAL HERITAGE ORGANIZATION
ARG-E BAM RESEARCH BASE

March 2004





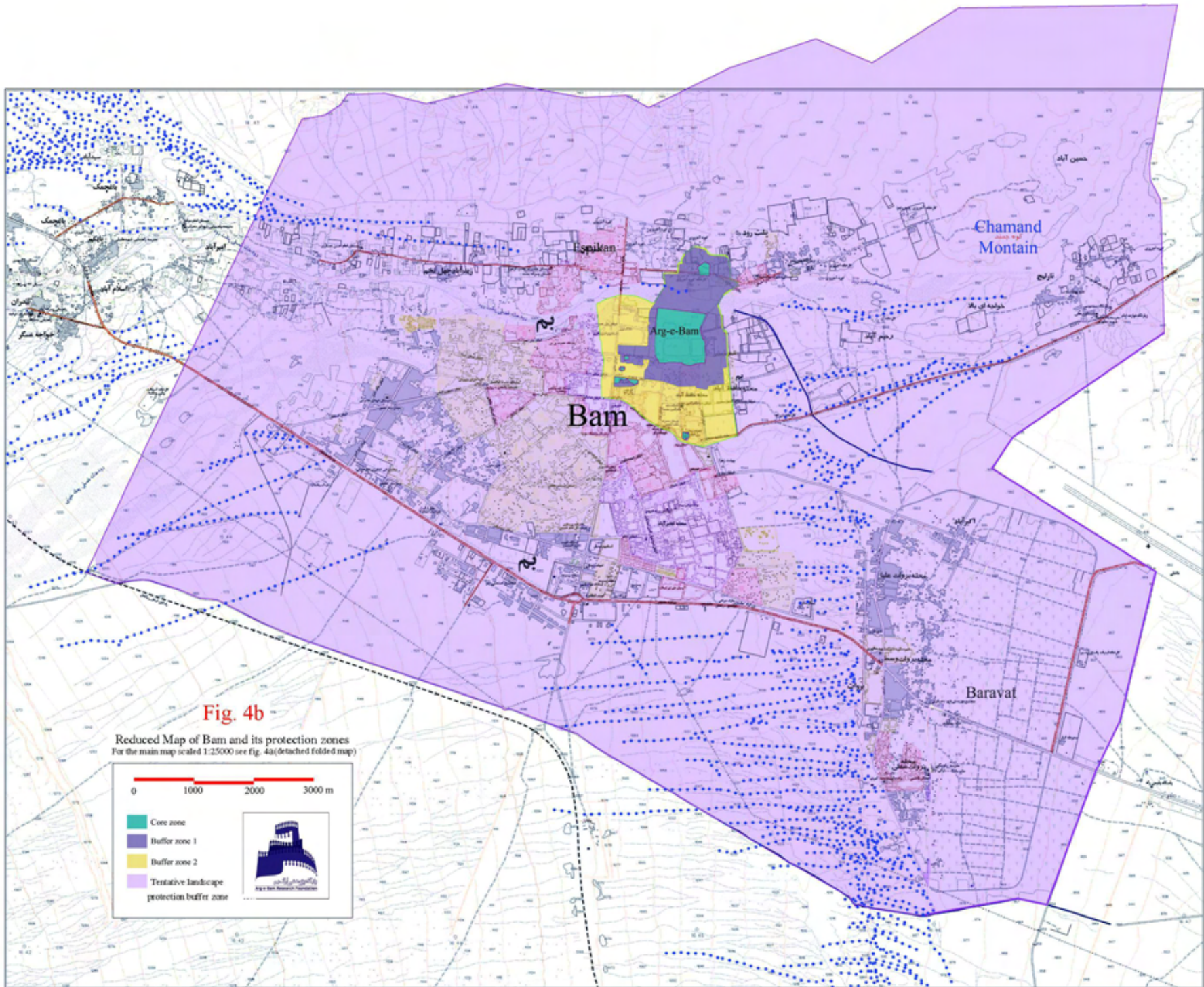




Fig. 8. Air view of the citadel of Bam and Qal'eh Dokhtar taken in 1981

Fig. 12

General Plan of the Arg and its Major Constructions

فرهنگستان
سازمان میراث

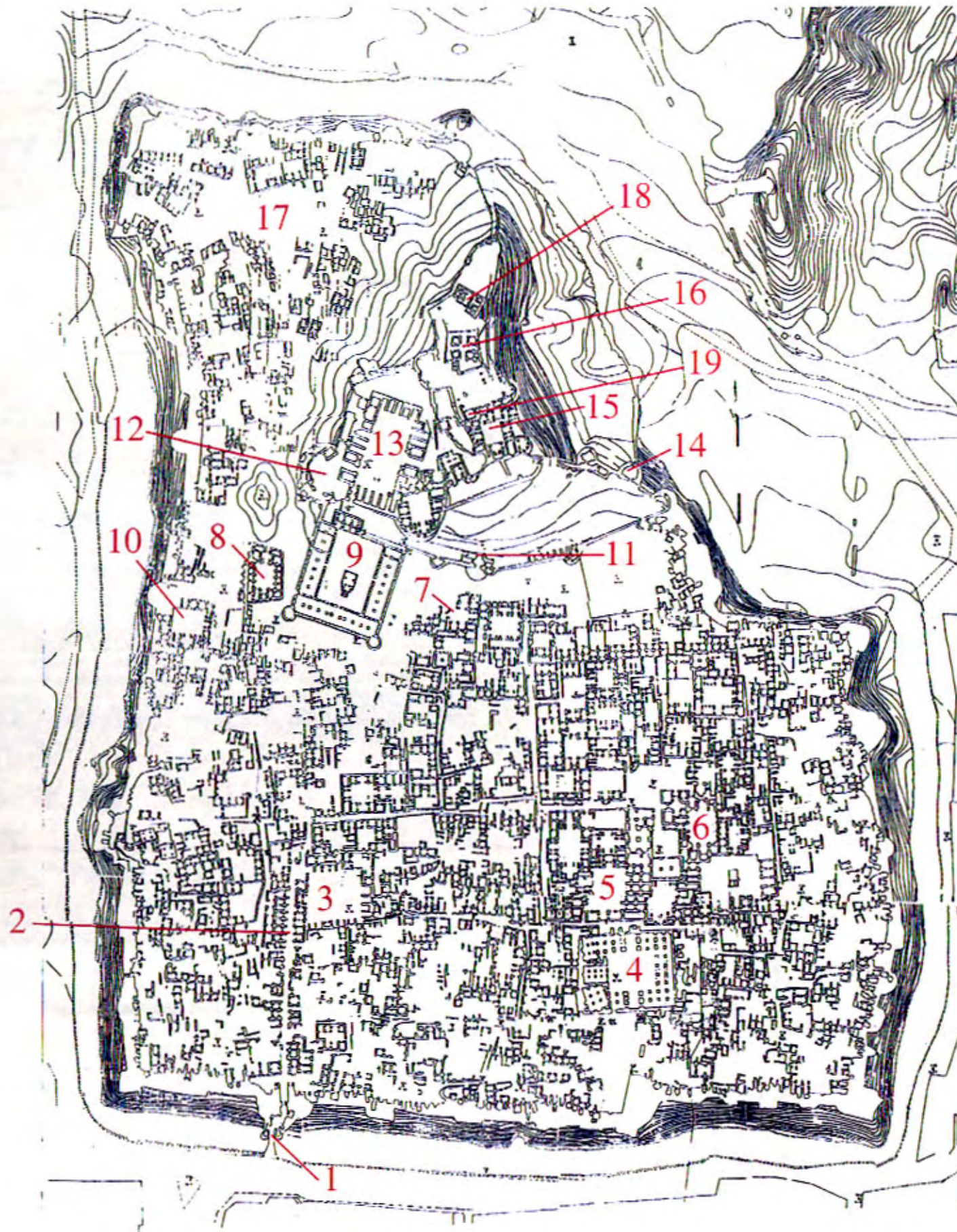


IRANIAN CULTURAL HERITAGE ORGANIZATION
ARG-E BAM RESEARCH BASE

March 2004



50 0 50 100 m



1. South Gate
2. Bazaar
3. Tekiyeh
4. Congregational Mosque
5. Mirza Na'im Ensemble
6. Mir House
7. West Sabat House
8. Caravanserai
9. Stables
10. House Near the West Wall
11. Second Gate
12. Windmill Tower
13. Garrison
14. Kot-e Kerm
15. Governor's Residence
16. Chaharfasl
17. Konari Quarter
18. Bath
19. Tower

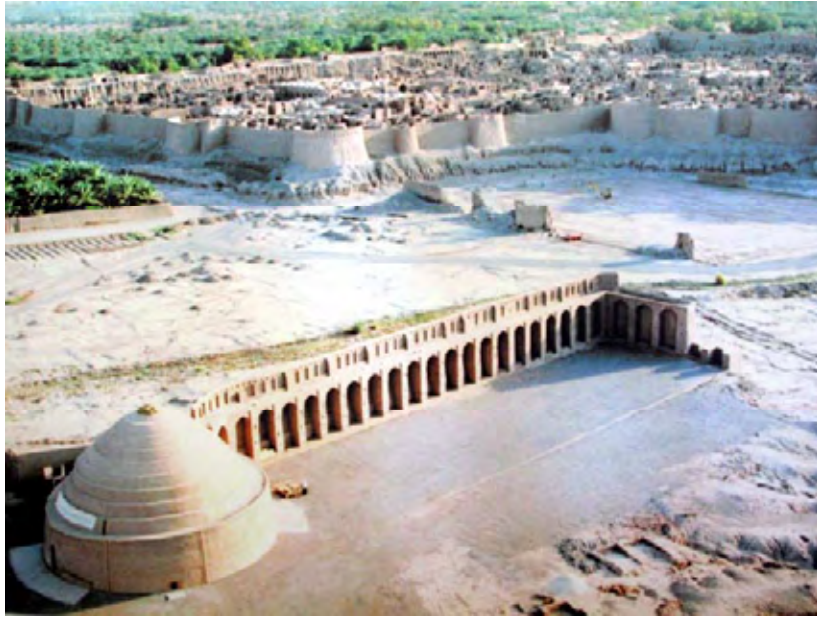


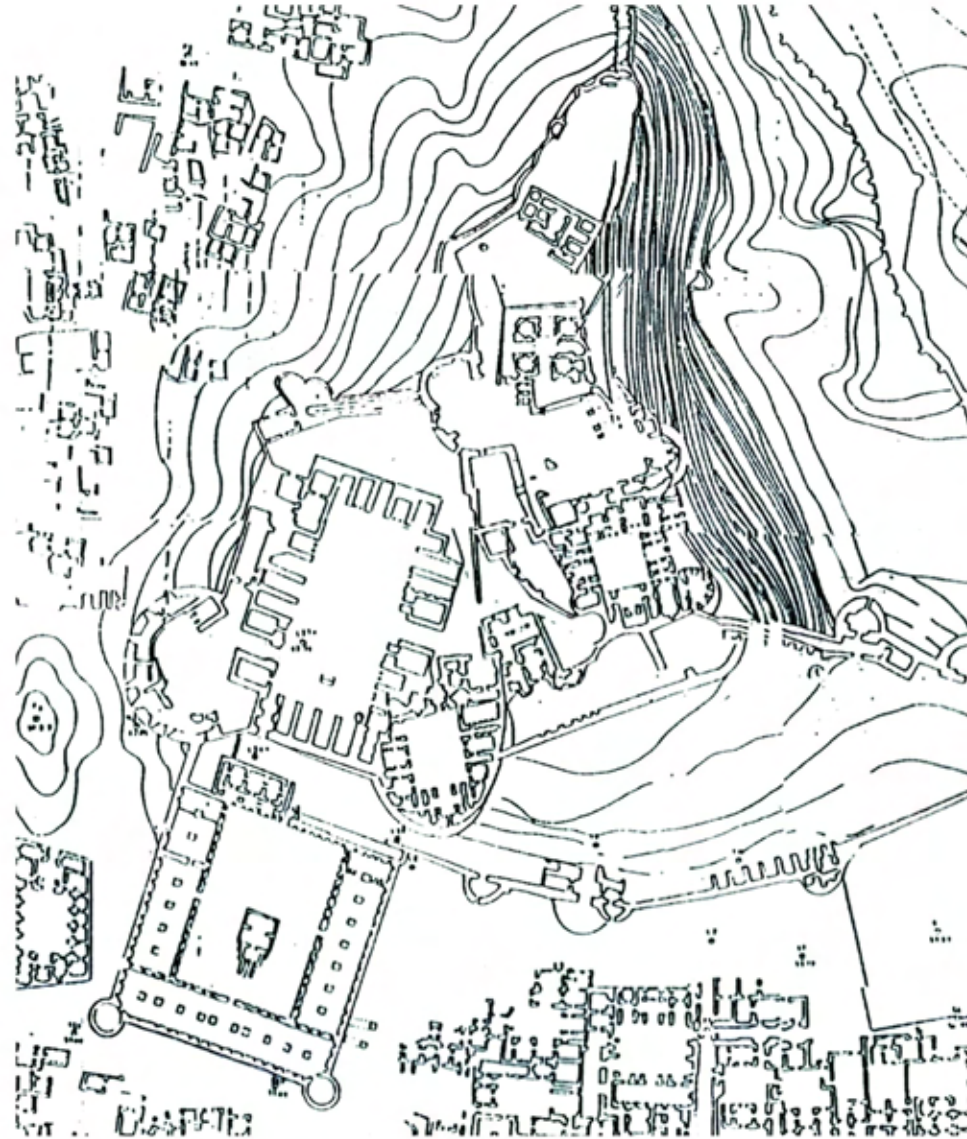
Fig.13. Yakhdan before and after earthquake

Fig. 14

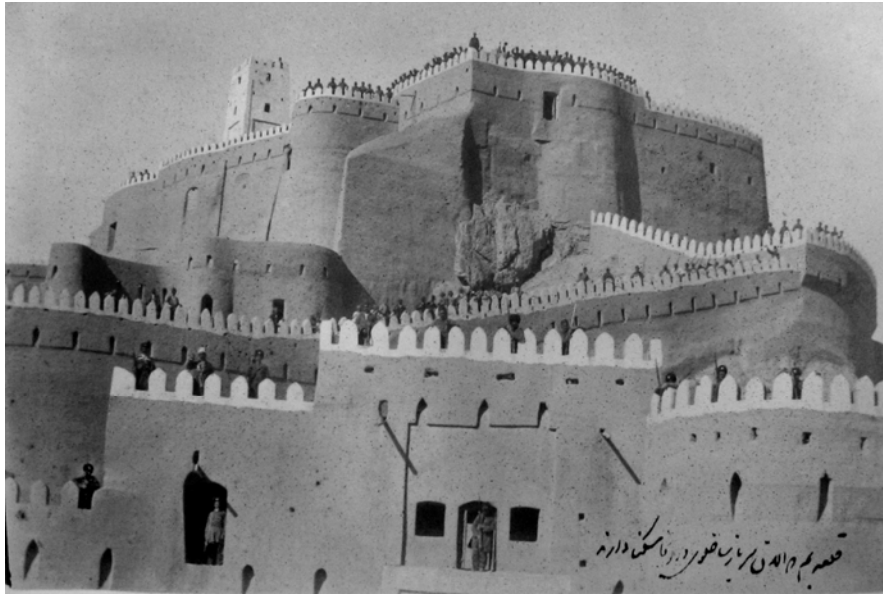
Citadel Area



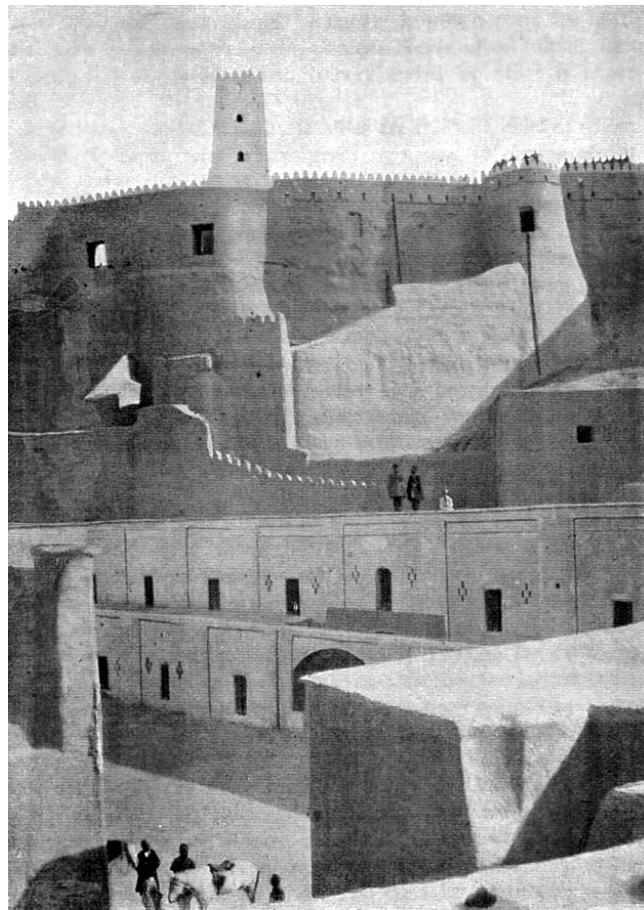
April 2004



Plan



a



b

Fig. 15. Two early photographs of the Citadel of the Arg-e Bam.
a. A view of the Citadel in 1892
b. The picture of the Citadel taken by Sir Percy Sykes in 1896.



Fig. 16. a. View of the Stables and the Citadel (early 20th century)
b. The South Gate of the Arg (early 20th century)



Fig. 17. Governor's Residence before and after earthquake



Figure 18. Chāhahrfasl before and after earthquake



Fig. 19. Garrison before and after earthquake



Fig. 20. The Stables before and after earthquake.



Fig. 21. West Sabat House



Fig. 22. Mirza Na'im School before and after earthquake.



Fig.23. Mirza Naim house before and after the earthquake

Fig. 24

Mirza Na'im Ensemble



April 2004



Plan

Fig. 26

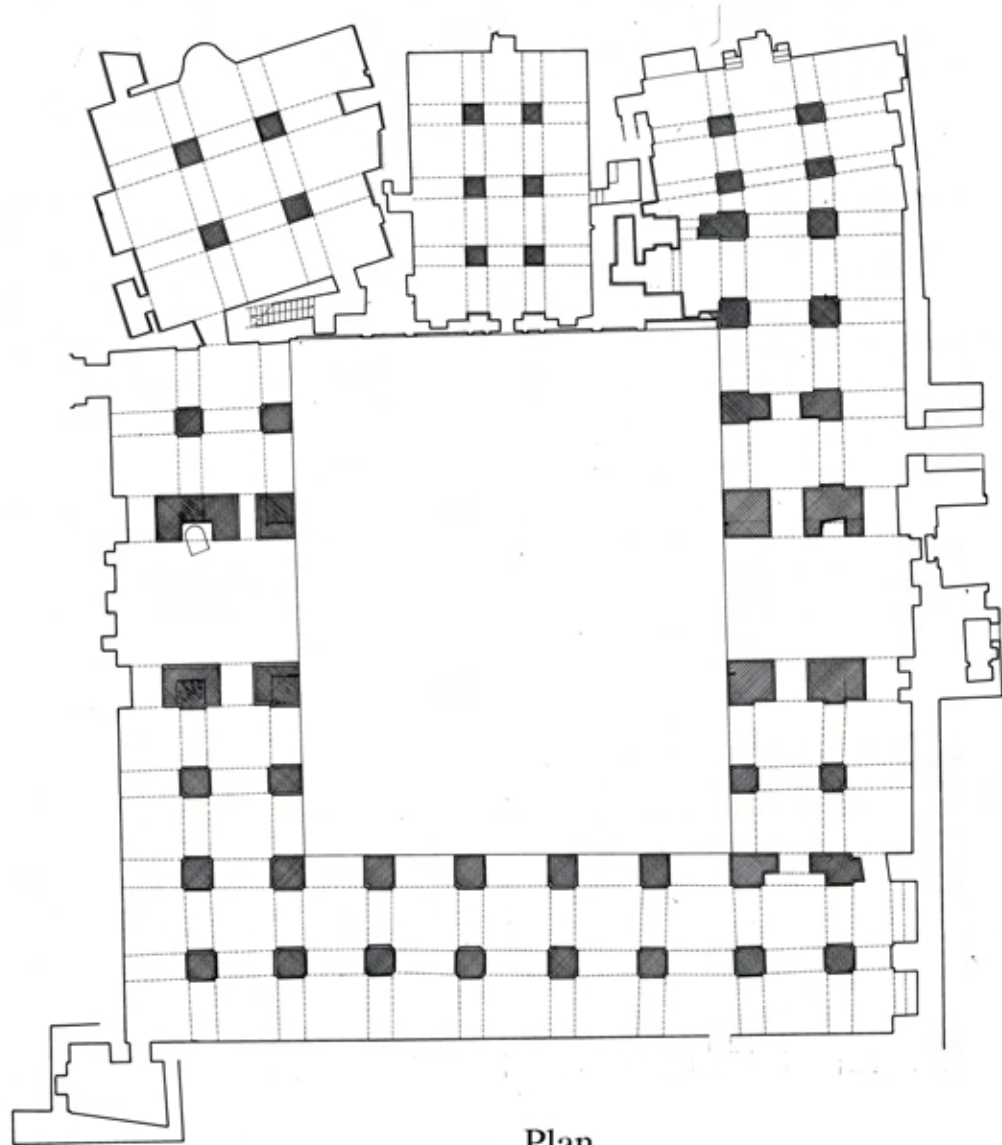
Congregation Mosque



0 2.5 5 7.5 m



April 2004



Plan



Fig. 27. The Mosque in the Arg before and after earthquake.

Fig. 28

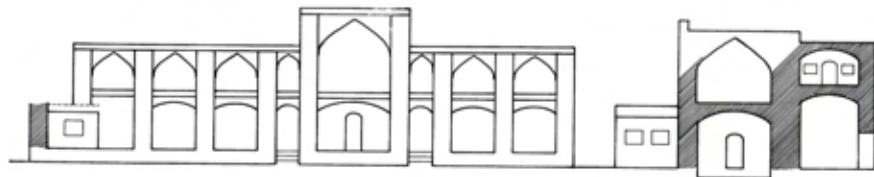
Tekiyeh



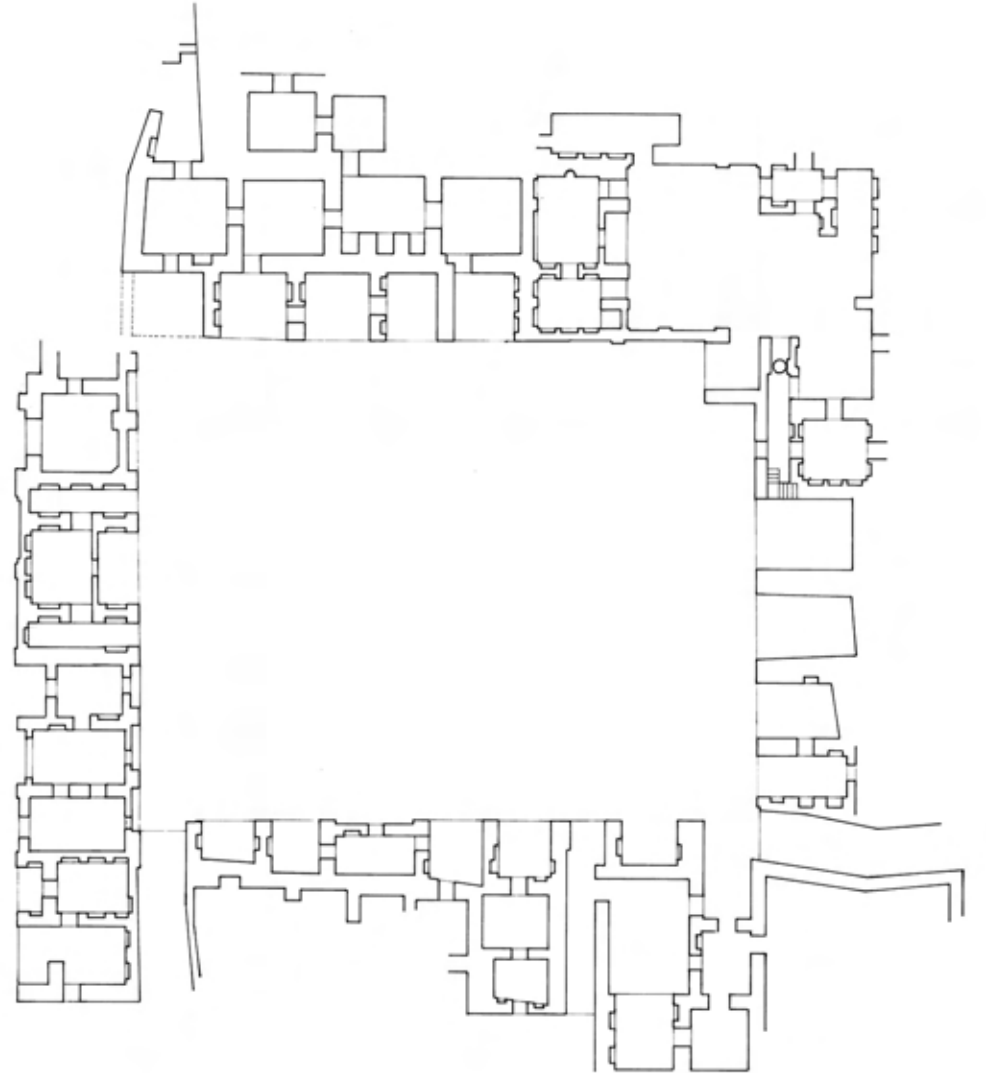
0 2.5 5 7.5 m



April 2004



Section



Plan



Fig. 29. Tekiyeh before and after earthquake

Fig. 30

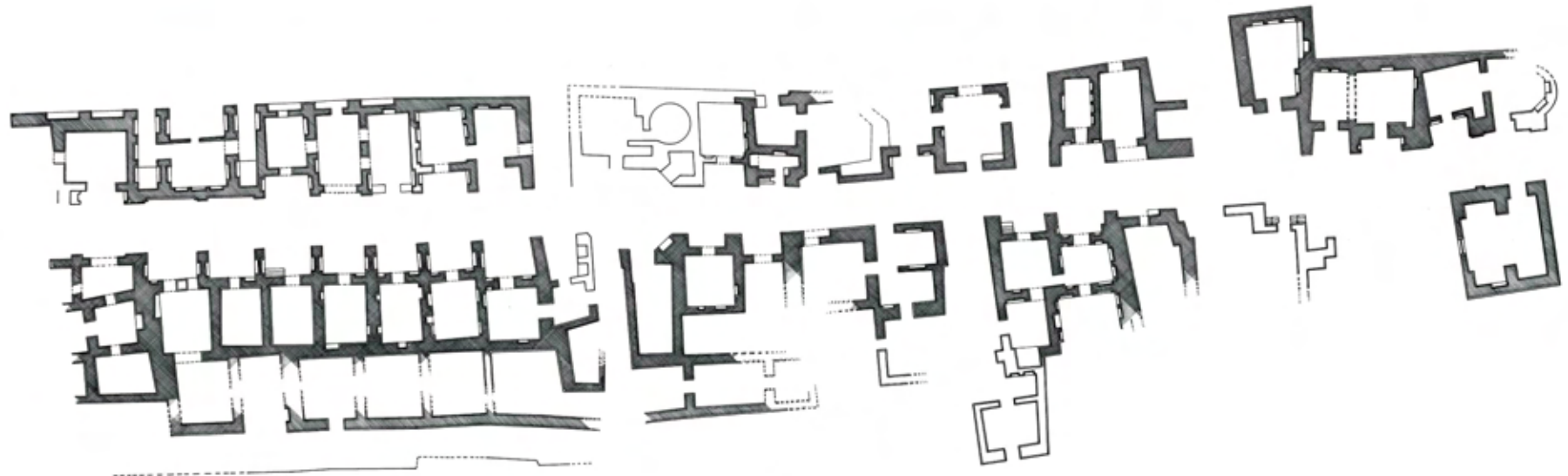
Bazaar



0 2.5 5 7.5 m



April 2004



Plan



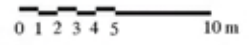
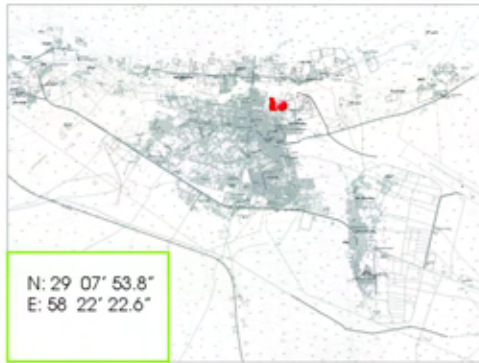
Fig. 31. Bazaar before and after the earthquake



Fig.33. Two views from one of the structures at Qal'eh Dokhtar, before and after earthquake

Fig. 34

3- Hazrat-e Rasul Mosque



April 2004



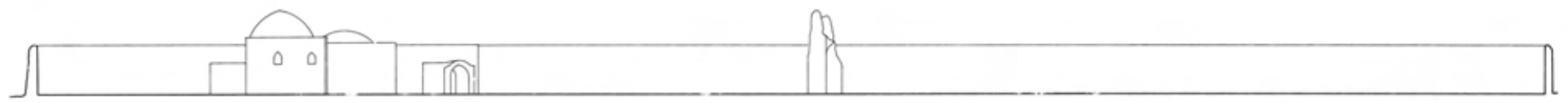
West Elevation



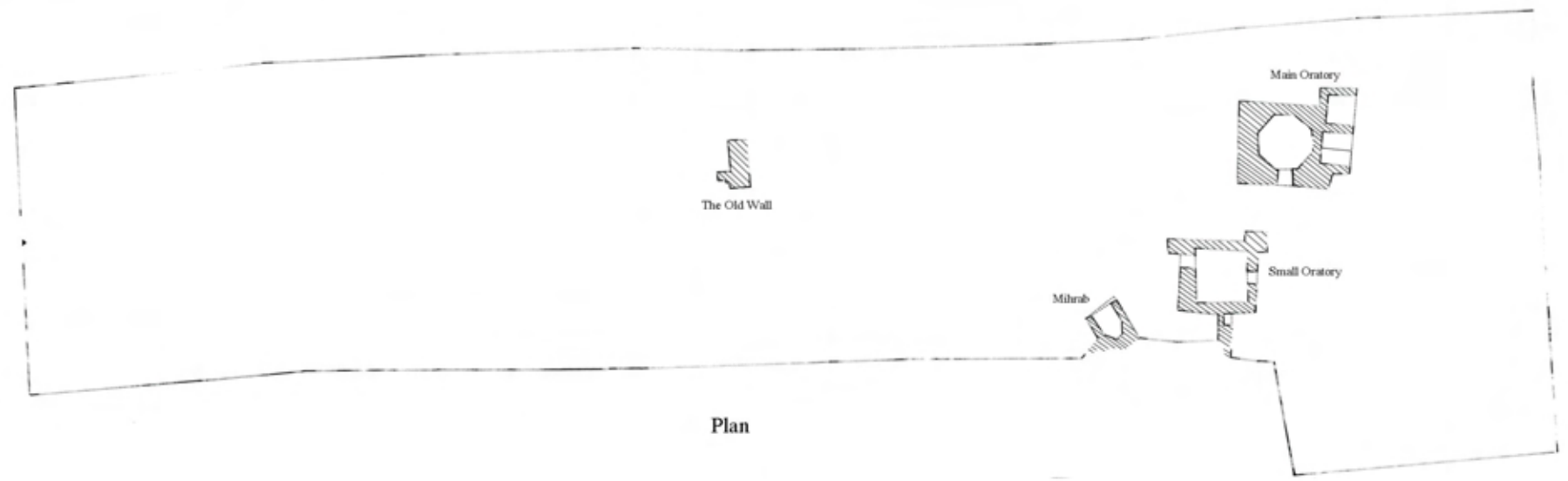
Section A-A



Entrance Elevation



East Elevation



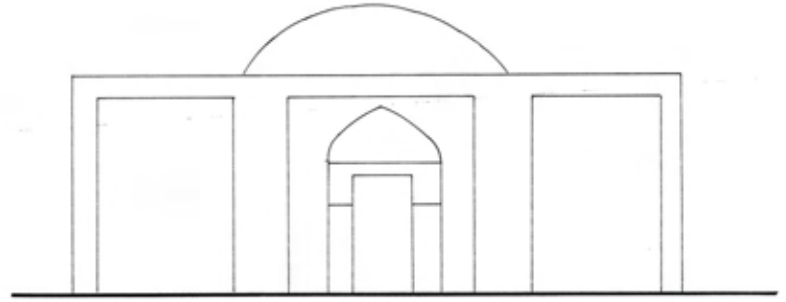
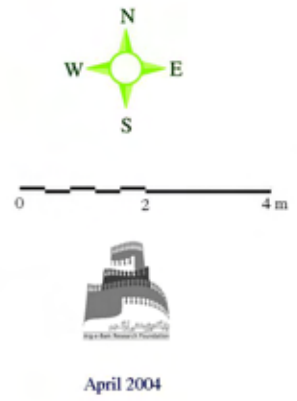
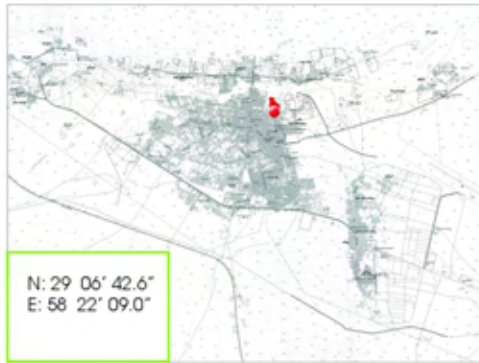
Plan



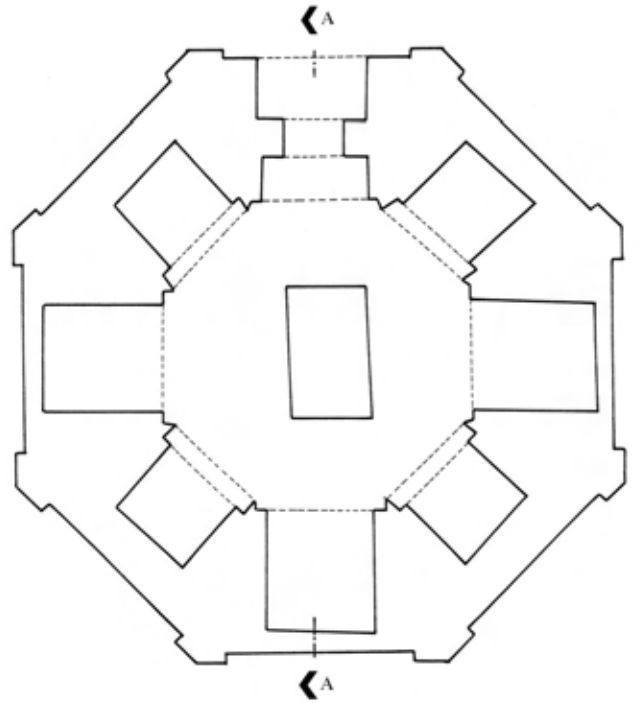
Fig.35. Hazrat-e Rasul before and after the earthquake

Fig. 36

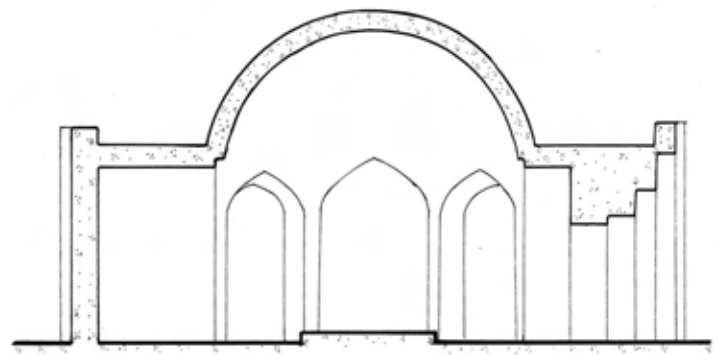
4- Shrine of Mirza Ebrahim



North Elevation



Plan



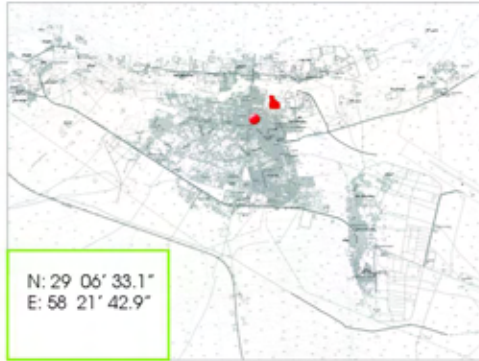
Section A-A



Fig.37. Shrine of Mirza Ebrahim after the earthquake

Fig. 38

5-1- Qeysariyeh



0 2 4 6 8 10 20 30 m



April 2004



Plan



Fig.39. Bazaar Qeysarieyh



Fig. 40. The Caravanserai of Qeysariyeh before and after earthquake

Fig. 41

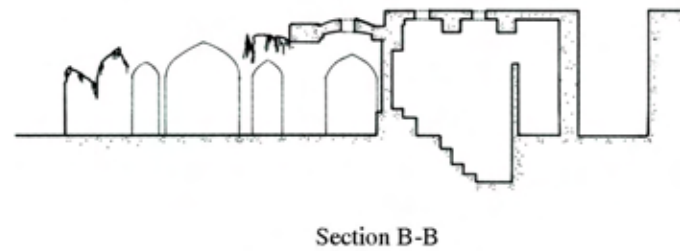
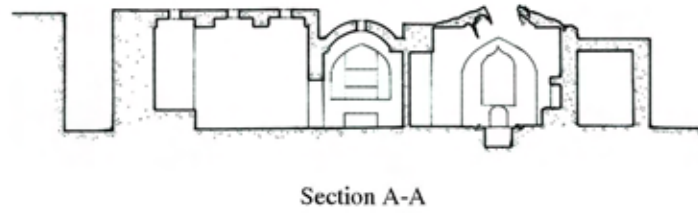
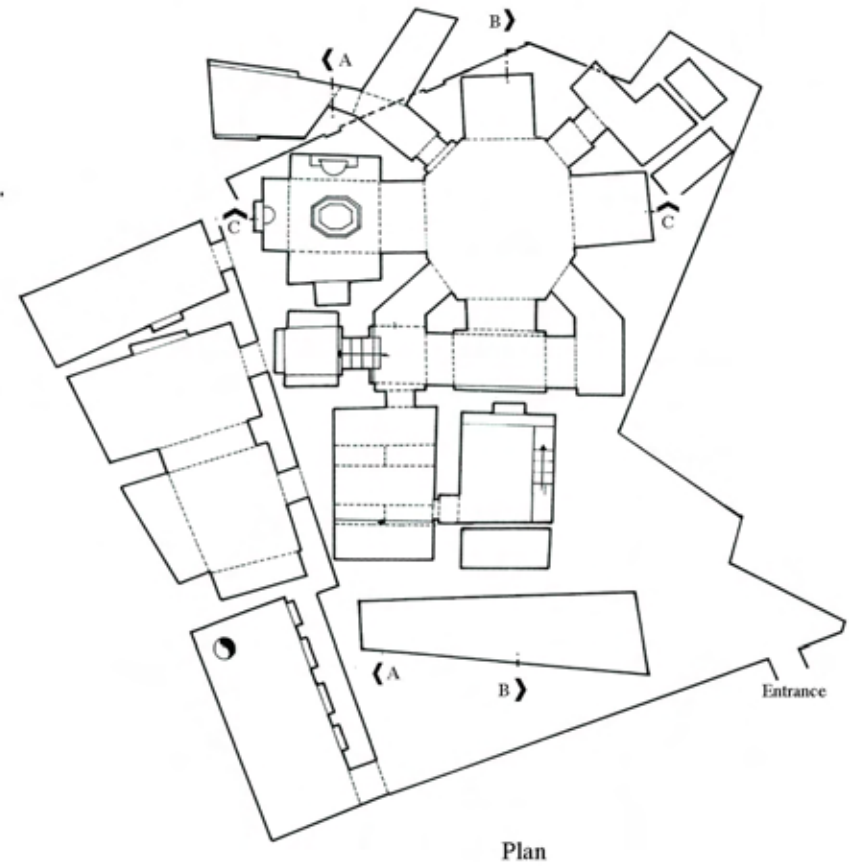
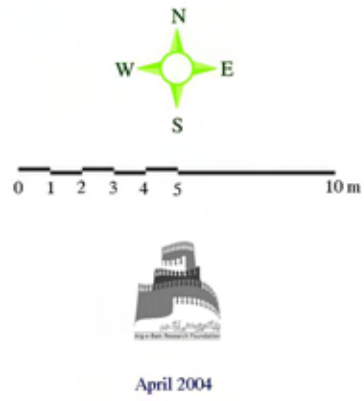
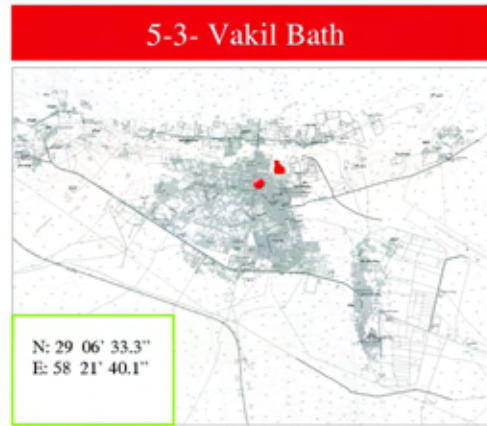
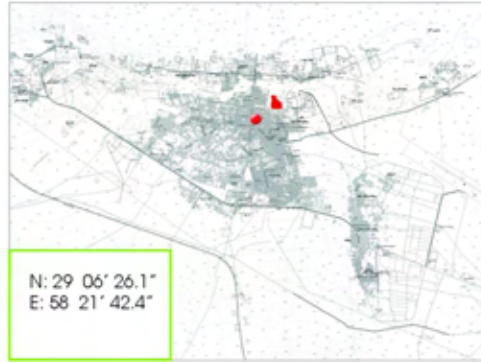




Fig.42. Vakil Bath after and before the earthquake

Fig. 43

5-2- Wakil Mosque



0 1 2 3 4 5 10 m



April 2004

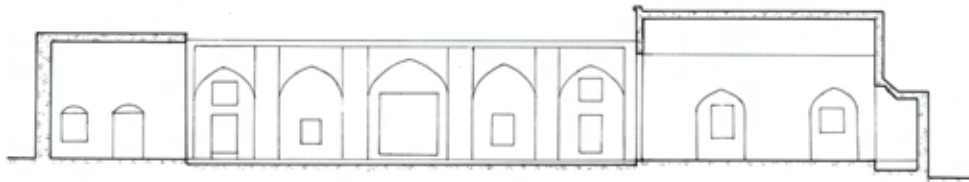
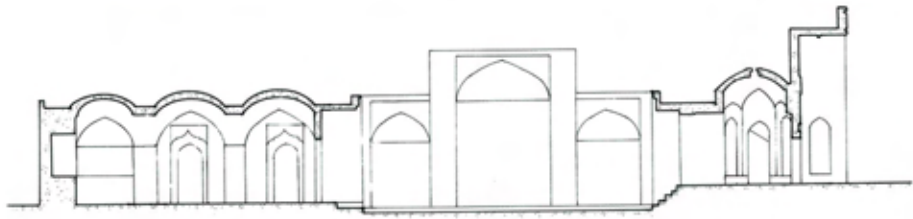
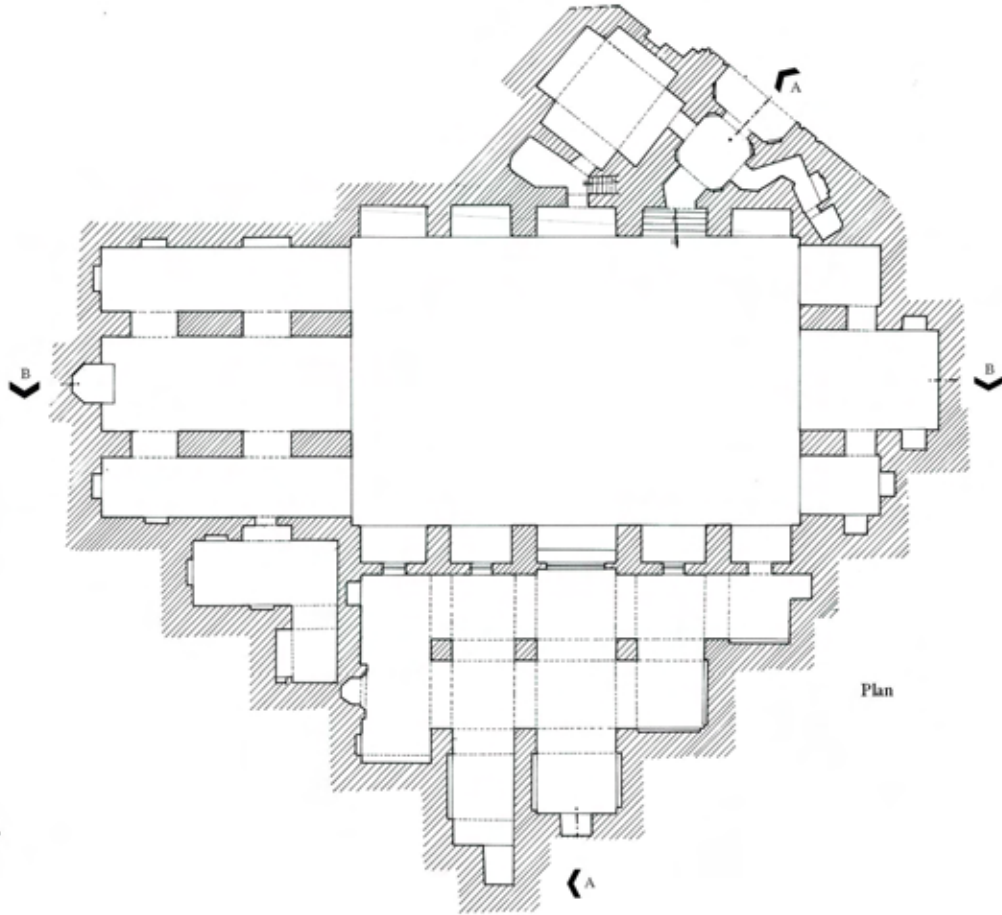
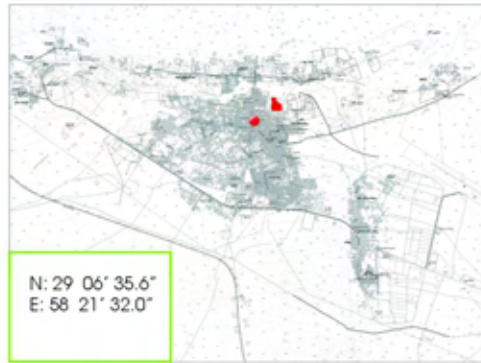




Fig.44. Vakil Mosque before and after the earthquake

Fig. 45

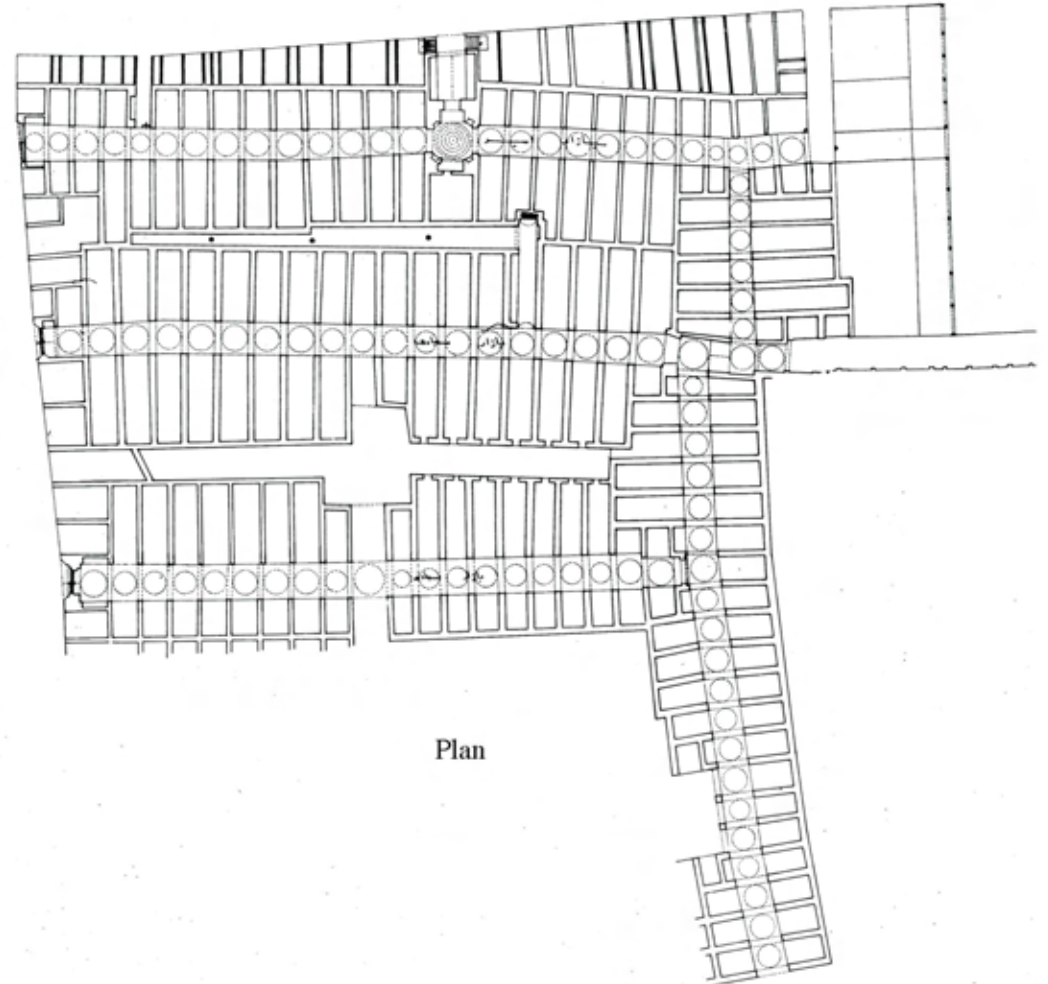
6- Bazaar



0 2 4 6 8 10 20 30 m



April 2004

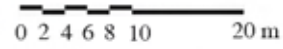
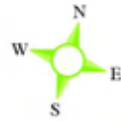
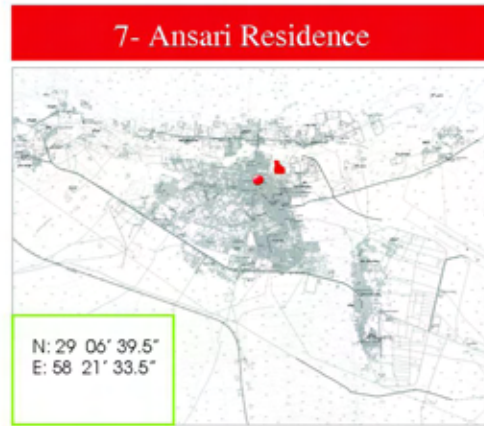


Plan



Fig.46. Bam bazaar before and after the earthquake

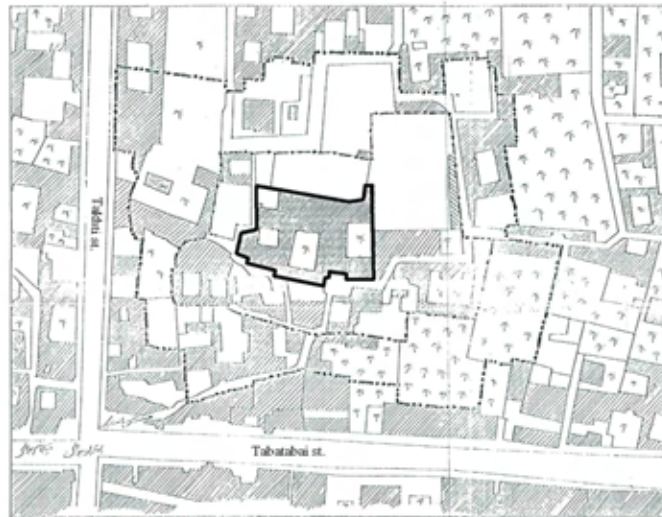
Fig. 47



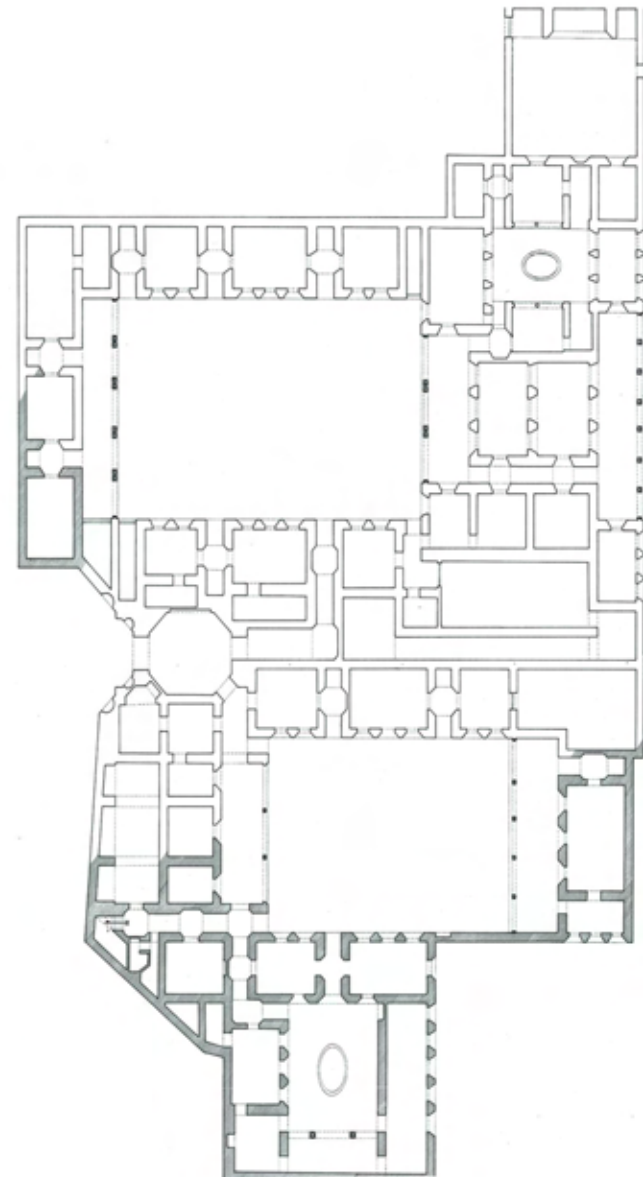
Scale for the Residence on the Right



April 2004



Site Plan



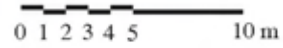
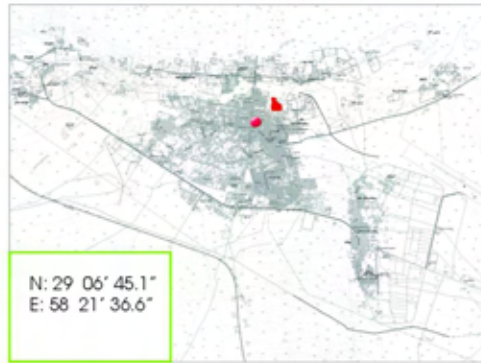
Plan



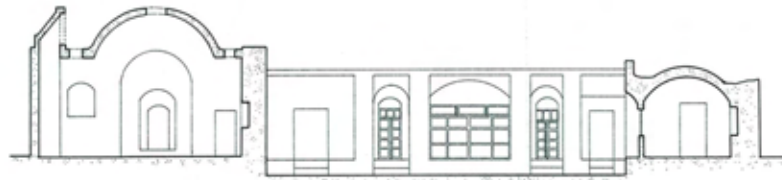
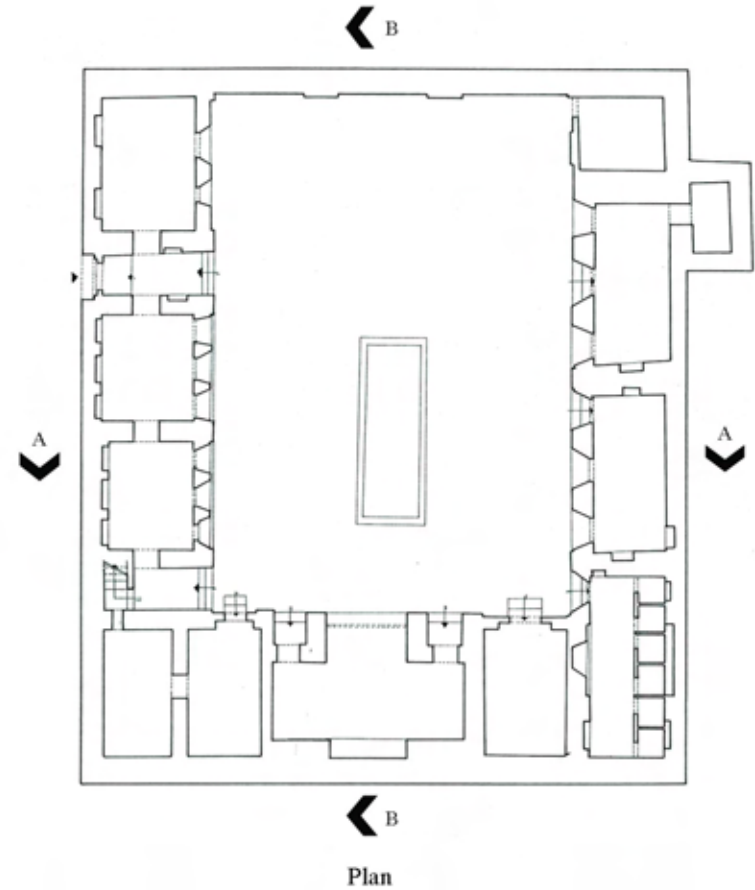
Fig.48. Ansari House after the earthquake

Fig. 49

8- Ahmadiyah School



April 2004



Section A-A

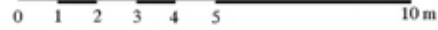
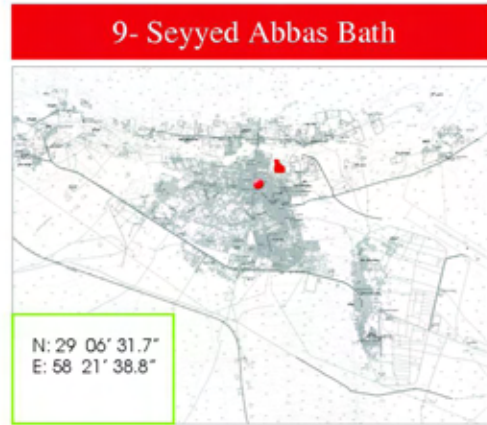


Section B-B

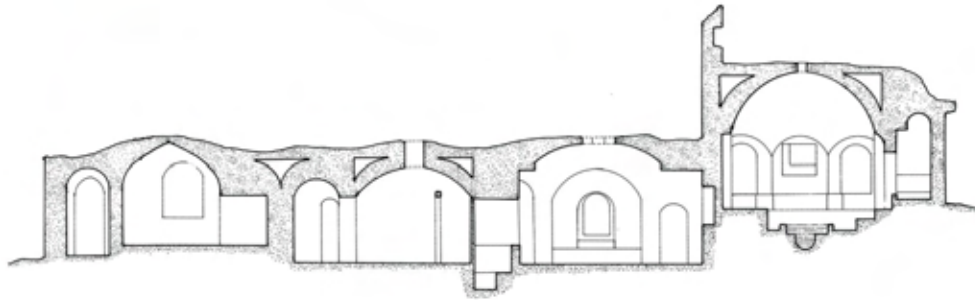


Fig.50. Ahmadiyah School before and after the earthquake

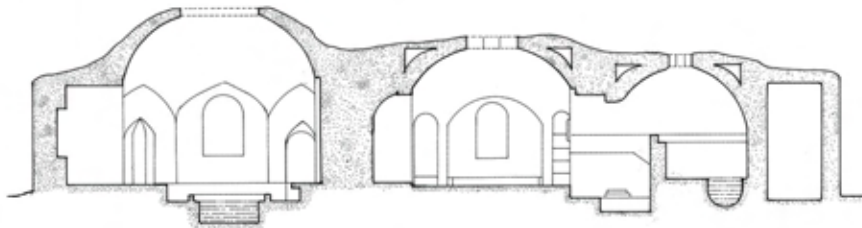
Fig. 51



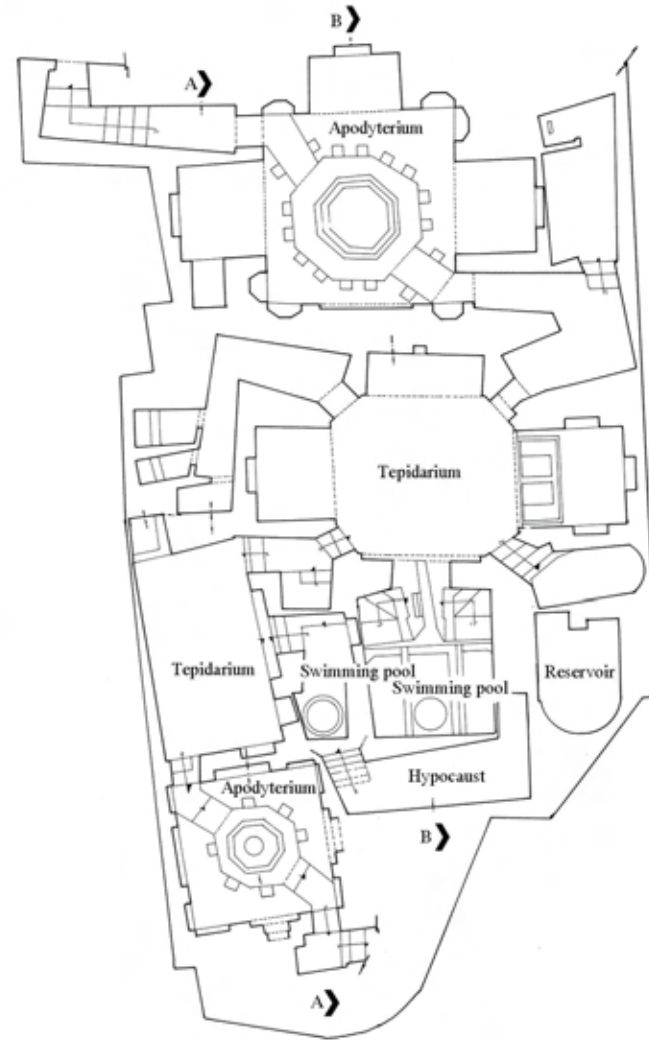
April 2004



Section A-A



Section B-B



Plan



Fig.52. Seyed Abbas Bath after earthquake

Fig. 53

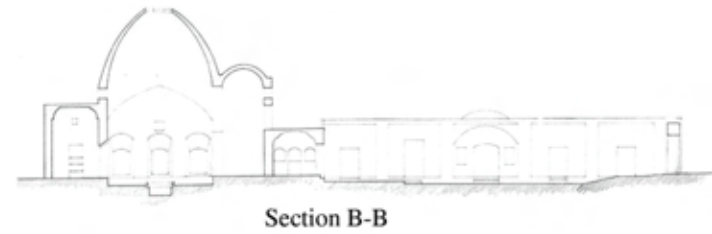
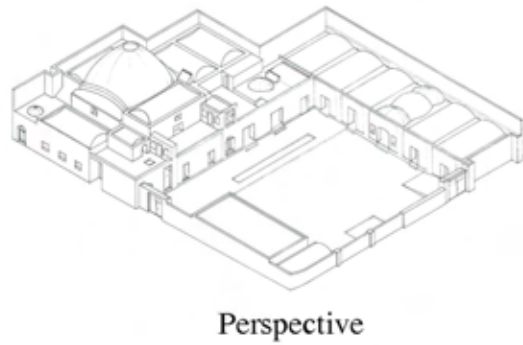
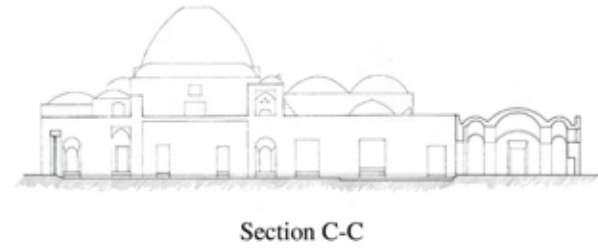
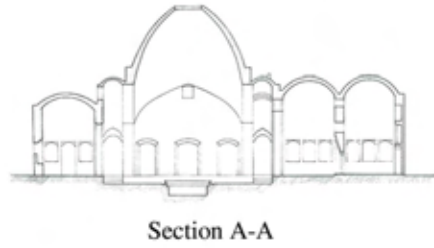
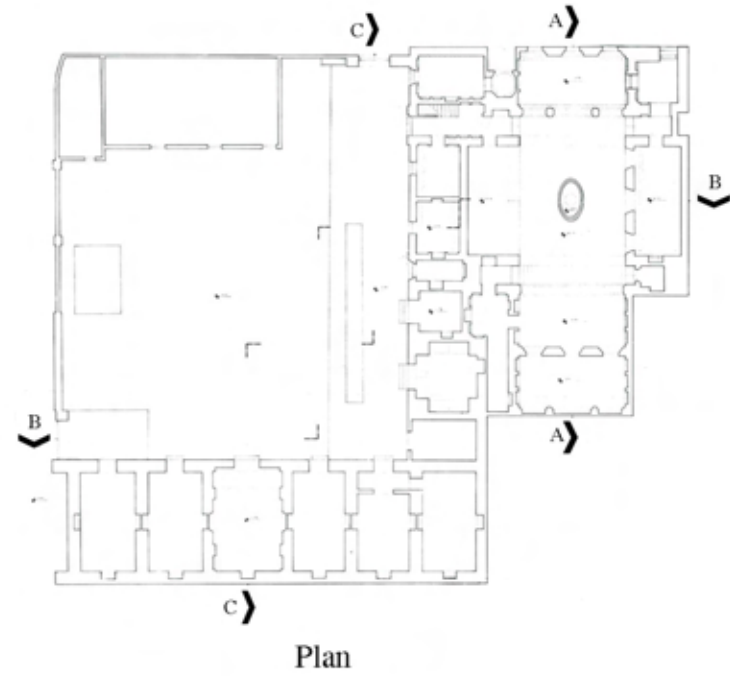
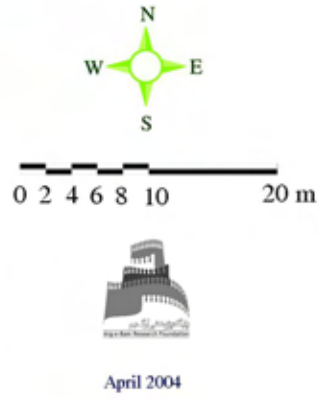
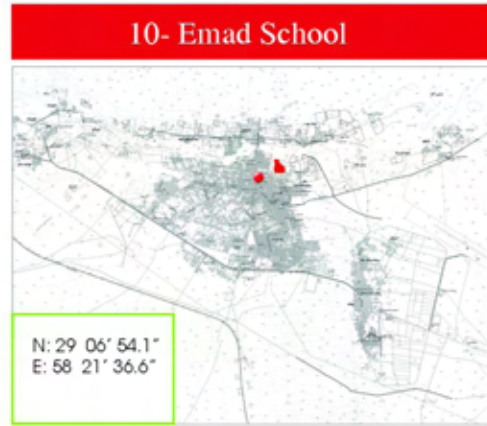
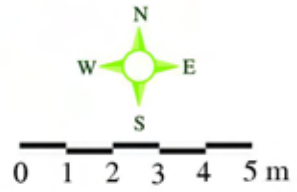
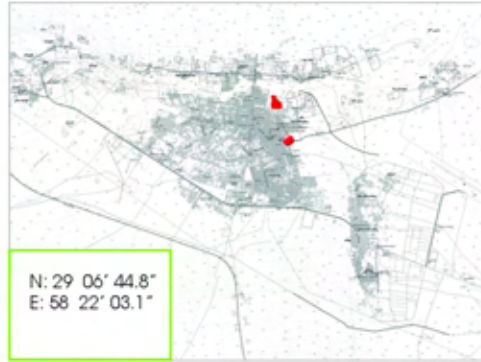




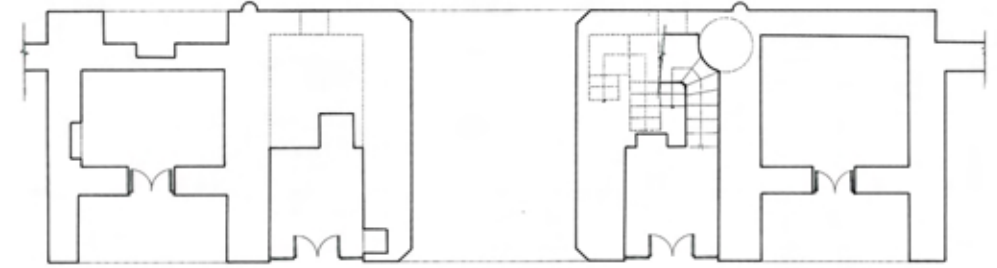
Fig.54. Views from the Emad School before and after the earthquake

Fig. 55

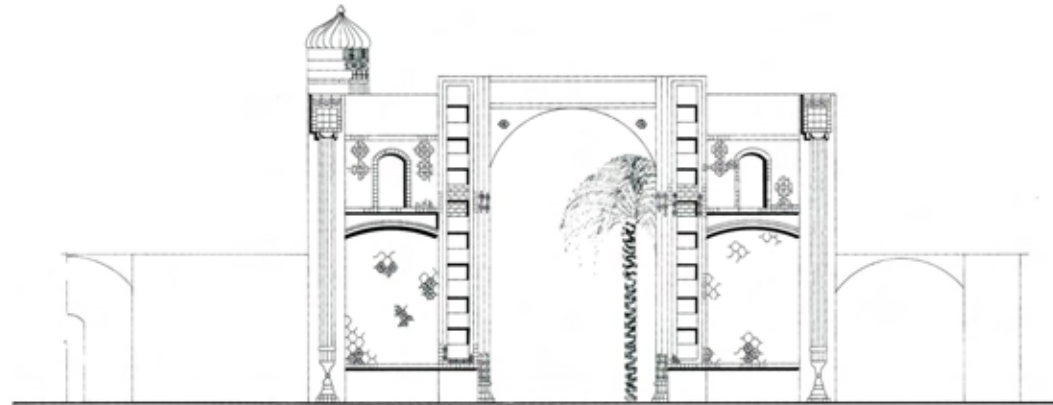
11- Emamzadeh Zeyd Mausoleum



April 2004



Plan of the Entrance



South Elevation

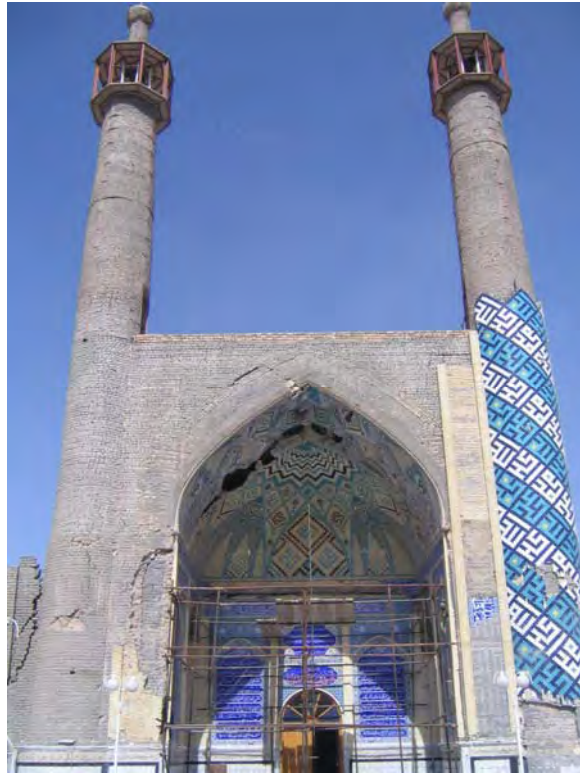
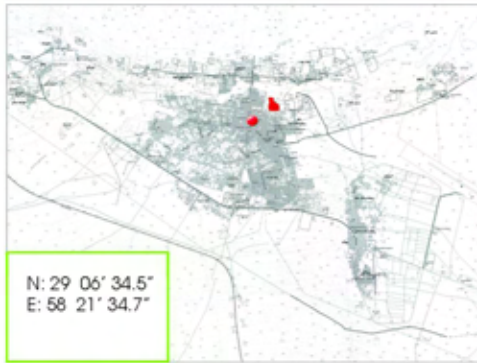


Fig.56. Emānzādeh Zeyd Mausoleum after the earthquake

Fig. 57

12- Emamzadeh Asiri Mausoleum



0 2 4 6 8 10 20 m



April 2004

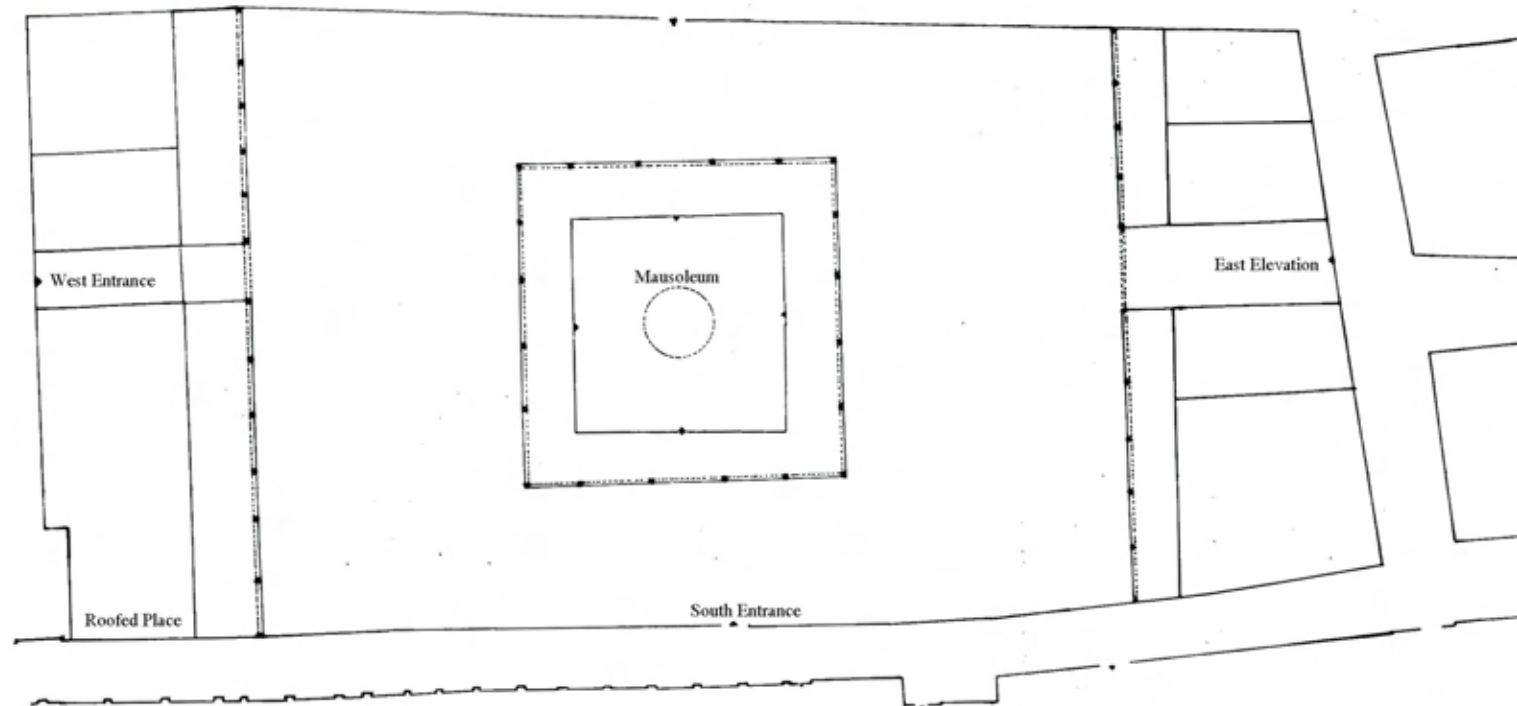
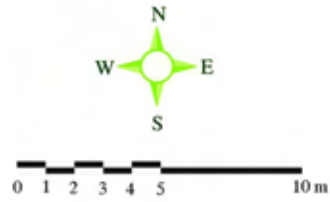
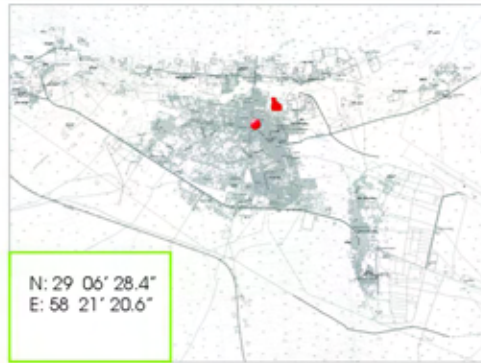




Fig.58. Emāmzādeh Asiri Mausoleum after the earthquake

Fig. 59

13- Mehdizadeh House



April 2004

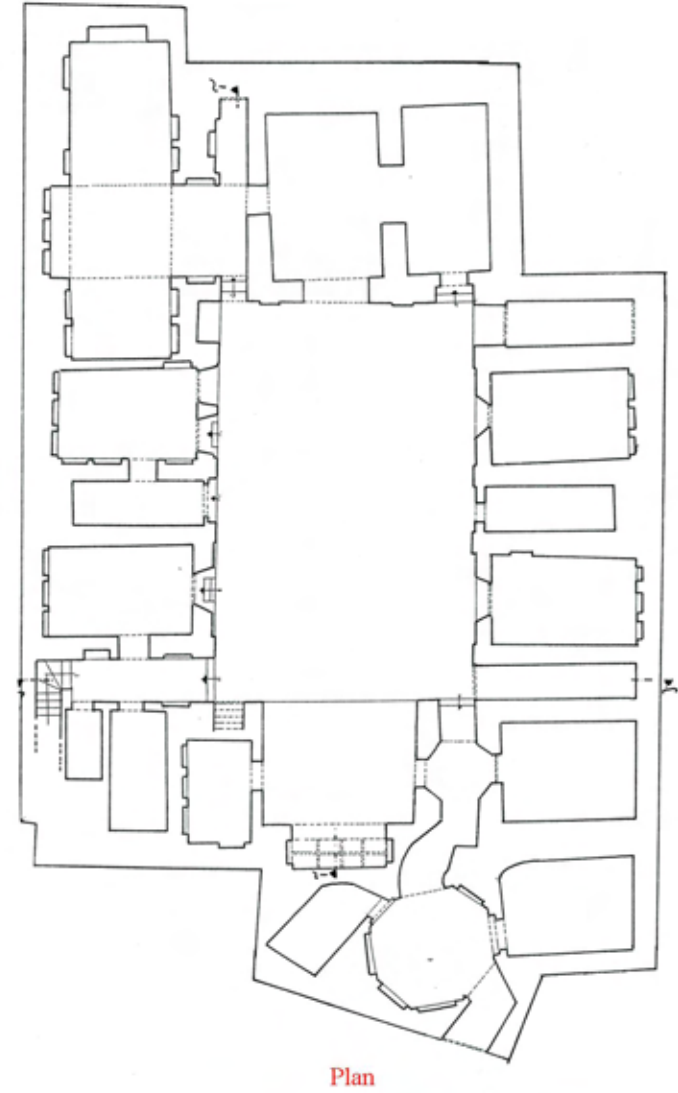
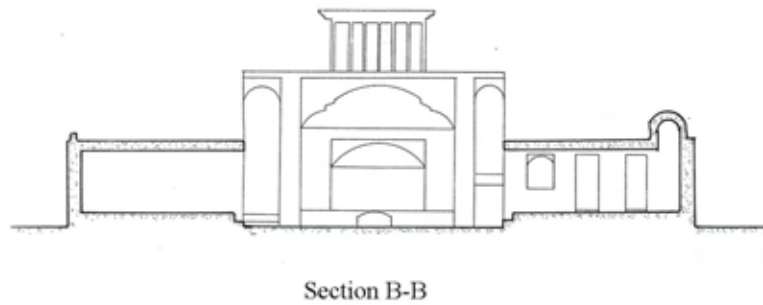
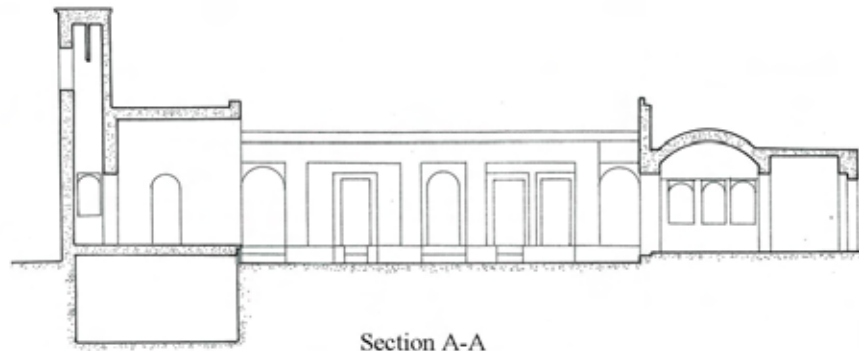




Fig.60. Mehdizadeh House before and after the earthquake

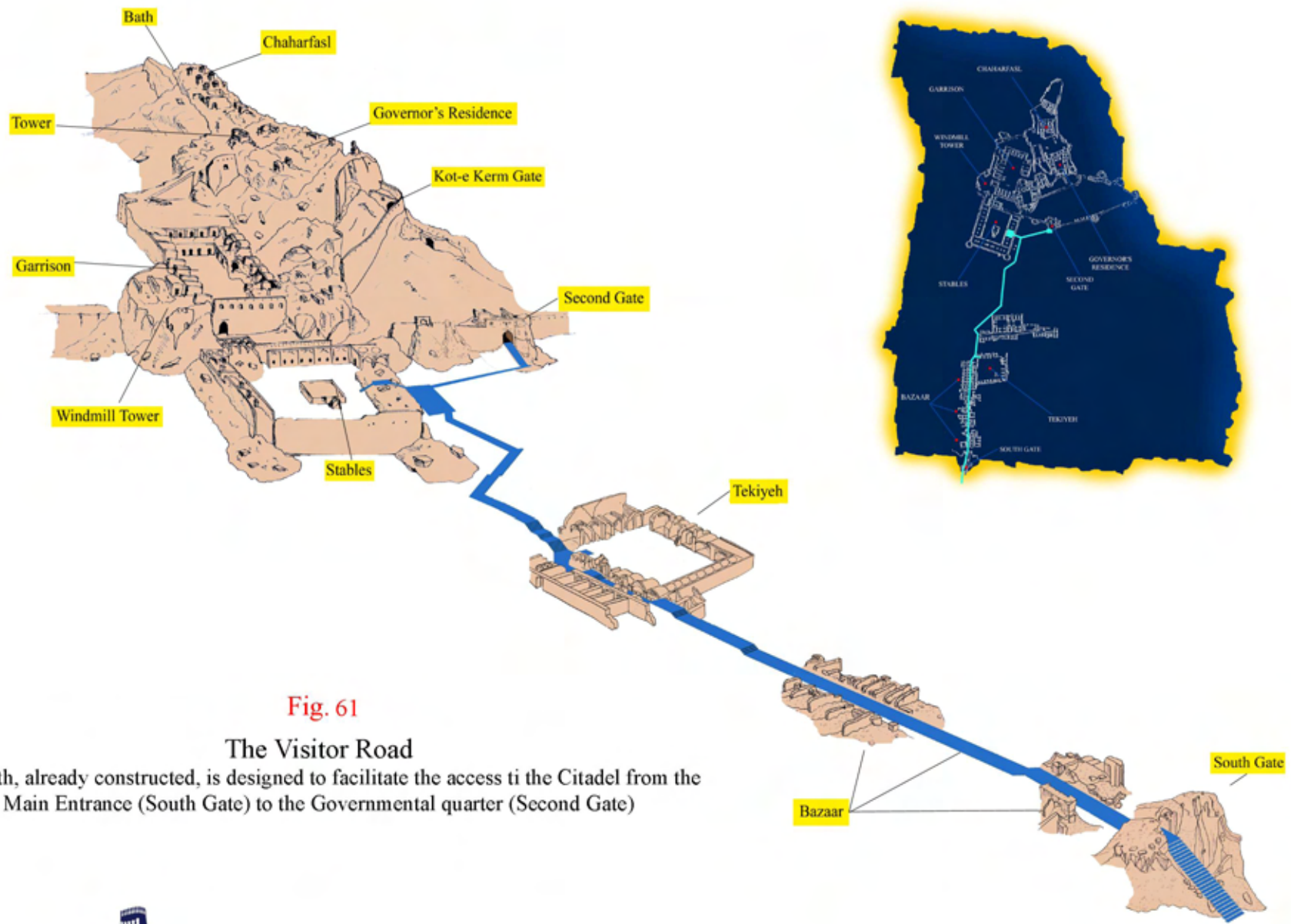


Fig. 61

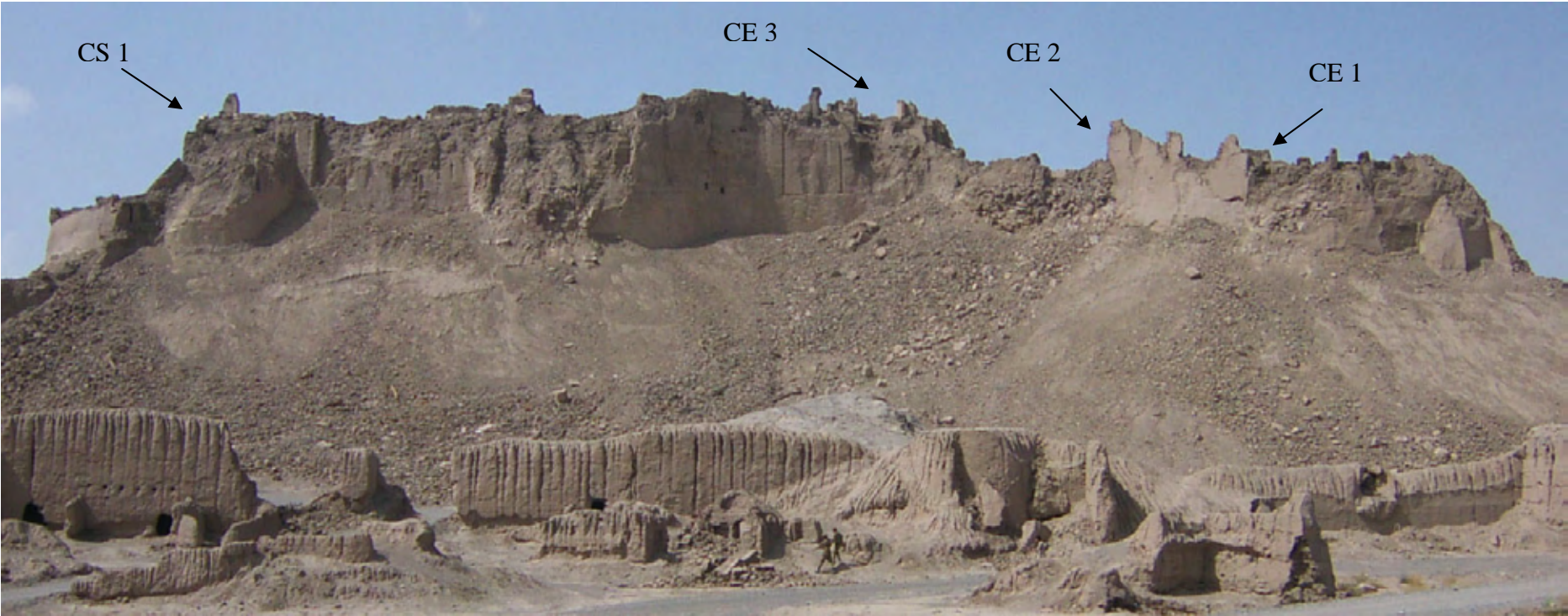
The Visitor Road

The path, already constructed, is designed to facilitate the access to the Citadel from the Main Entrance (South Gate) to the Governmental quarter (Second Gate)



Location of most dangerous zones identified during UNESCO-ICHO joint mission, March 2004

Eastern side of the castle



UNESCO-ICHO joint mission, March 2004

CW 5

Proposed location of tying belts (2)

Proposed zones where :

1. Stone masonry needs to be restored
2. Stone masonry wall needs to be reconstructed
3. Adobe wall need to be reconstructed



Location of most dangerous zones identified during UNESCO-ICHO joint mission, March 2004

Western side of the castle

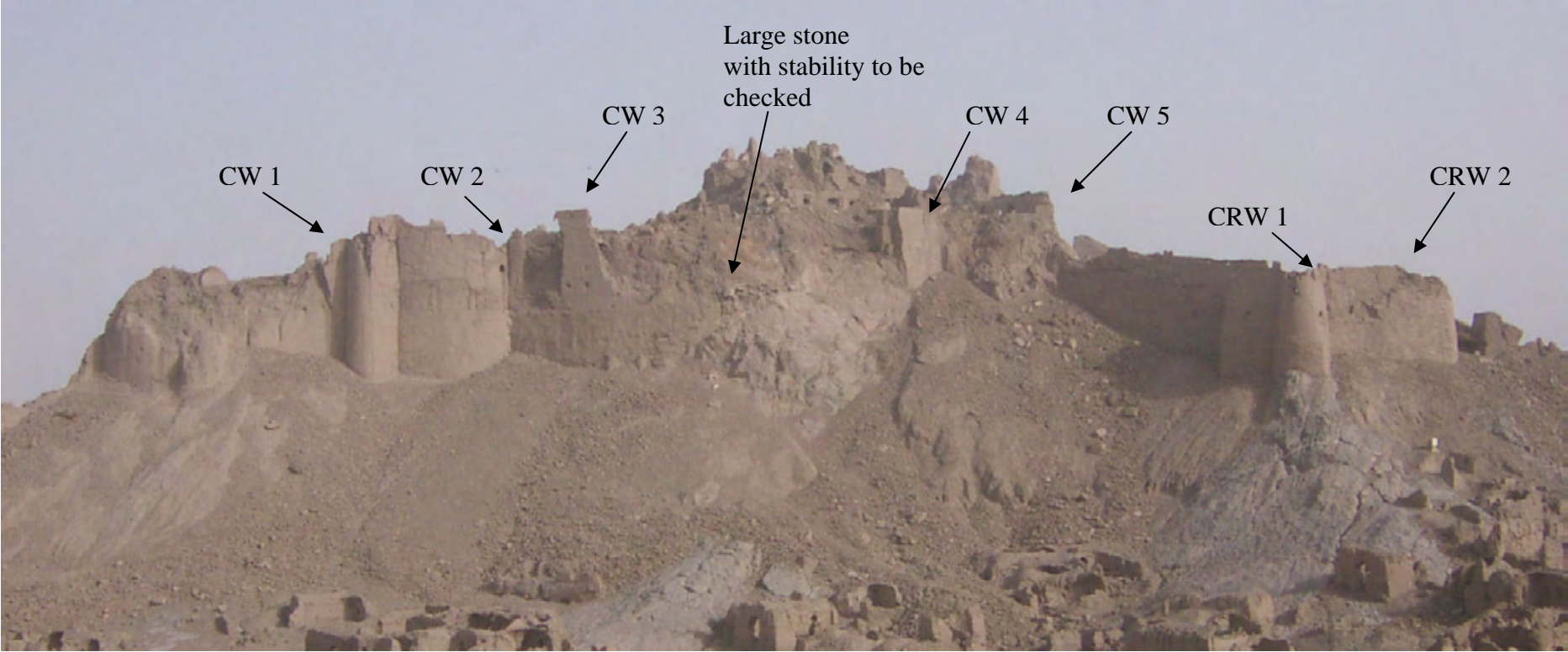
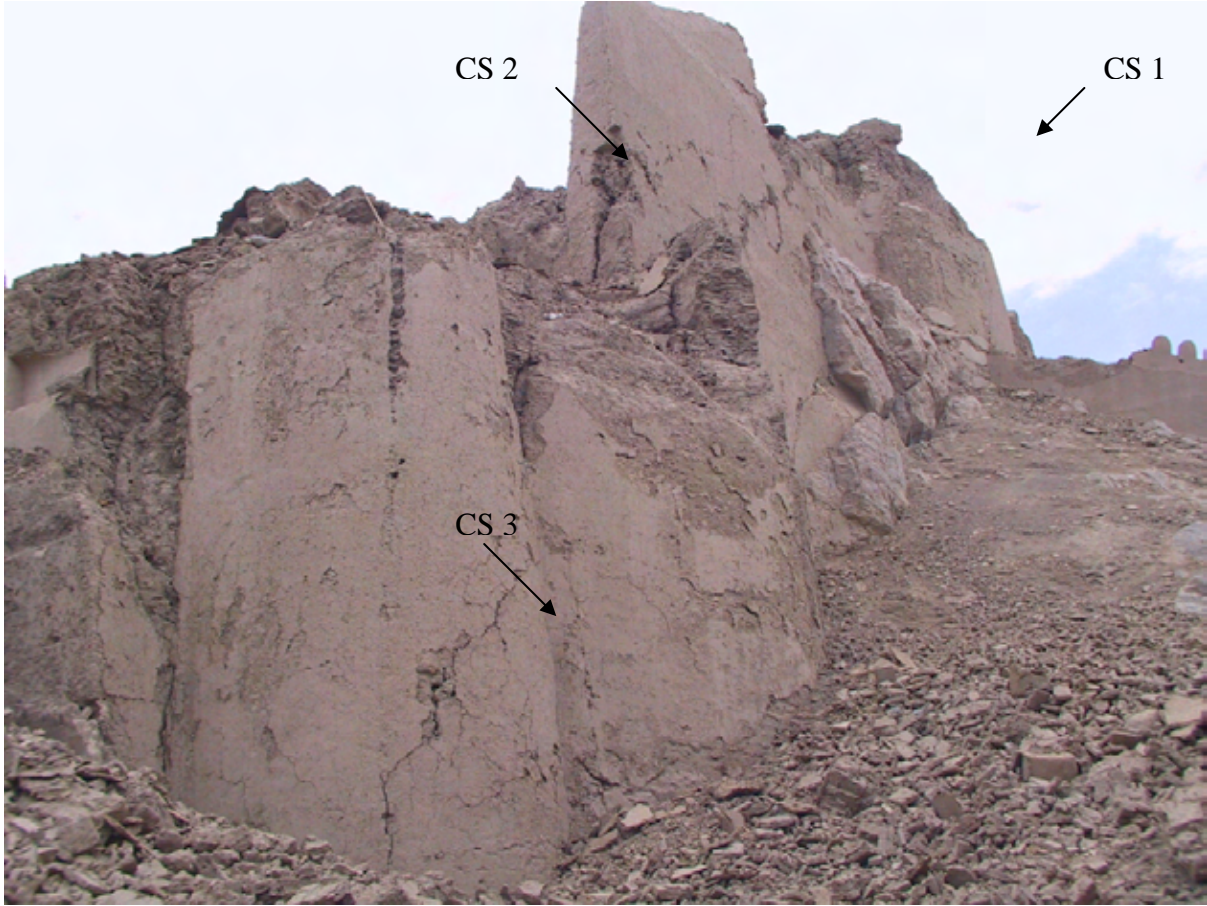


Fig. 64

Location of most dangerous zones identified during UNESCO-ICHO joint mission, March 2004

Southern side



LIST OF SLIDES

- 1- General View
- 2- The entrance of Governor's house
- 3- Third Gate
- 4- Stables
- 5- Light effects
- 6- Garrison
- 7- Garrison
- 8- General View
- 9- General view
- 10- General view
- 11- Konari Mahalleh
- 12- Garrison
- 13- Konari Mahalleh
- 14- Garrison
- 15- South enclosure of Konari Mahalleh
- 16- Carvanserai (Madreseh)
- 17- One of the domed structures of the Stables
- 18- Mirza Na'i`m Ensemble
- 19- General view
- 20- General view
- 21- General view
- 22- General view
- 23- Congregational Mosque
- 24- Stables
- 25- Garrison and its south- east tower
- 26- Garrison
- 27- Part of Popular quarter

Acknowledgement

The nomination dossier of Bam was composed by Bam Research Base team in Bam:

M. H. Talebian, director

Hadi Ahmadi, expert in restoration of historical monuments

Ali Barkhordar, expert in restoration of historical monuments

Saeid Fallahfar, expert in restoration of historical monuments

Mahshid Jafari, assistant architect - draughtsman

Hadi Jahabadian, expert in restoration of historical monuments

Masoumeh Koduri, assistant architect – draughtsman

Mohammad Mehryar, architect - consultant

Maryam Nezari Sedeh, expert in restoration of historical monuments

Saeid Rahmati, expert in restoration of archaeological objects

Babak Sedighi, photographer

Hosseyn Tayyari, architect - consultant

Assisted by Chahryar Adle and Ali Mousavi

With special thanks to Ms. Junko Taniguchi, and Professor Motonaka.



International Council on
Monuments and Sites

Conseil International
des Monuments et des Sites

Shared Legacy, Common Responsibility

INTERNATIONAL WORKSHOP FOR THE RECOVERY OF BAM'S CULTURAL HERITAGE

*BAM CITY, KERMAN PROVINCE, ISLAMIC REPUBLIC OF IRAN
17-20 APRIL 2004*

DECLARATION AND CONCLUDING RECOMMENDATIONS
OF THE INTERNATIONAL WORKSHOP

Organized by the Iranian Cultural Heritage Organization

UNESCO Tehran Cluster Office,

UNESCO World Heritage Centre, and ICOMOS

Hosted by the Province of Kerman and City of Bam

With the support of the Government of Japan, the World Bank, and

UNESCO World Heritage Fund

The BAM Declaration and Recommendations

Preamble

The devastating earthquake of 26 December 2003 in the historic desert city of Bam, Islamic Republic of Iran, caused the tragic loss of many lives and the destruction of an overwhelming part of its cultural heritage. This natural disaster stirred a strong sense of solidarity in the international community for the people of Bam. This wish to aid was also particularly strong amongst institutions and professionals in the conservation of cultural heritage.

On the occasion of the International Day of Monuments and Sites (18 April), the Iranian Cultural Heritage Organization (ICHO), the United Nations Educational, Scientific, and Cultural Organization (UNESCO), and International Council of Monuments and Sites (ICOMOS) organized an International Workshop for the Recovery of Bam's Cultural Heritage between 17-20 April 2004 in Bam. 38 international and 23 Iranian expert participants and representatives of local and national authorities, and 31 ICHO members, gathered from Canada, France, Germany, Iran, Italy, Japan, Peru, Spain, the United Kingdom and the United States of America, as well as representatives the Governments of France and Italy, International Centre for Earth Construction – Ecole d'Architecture de Grenoble - (CRATerre-EAG, France), the Getty Conservation Institute, World Monuments Fund, the International Centre for the Study of the Preservation and the Restoration of Cultural Property (ICCROM), ICOMOS, the World Bank, and UNESCO.

The workshop participants examined and reflected on the impact of the earthquake on Bam's heritage, notably Arg-e Bam and its related properties, the architecture and heritage assets which characterize this unique city, strategically located on the fringe of the desert;

Drawing from lessons learnt from previous natural disasters which affected built heritage in urban settings, such as the 1995 Kobe earthquake in Japan, and various earthquakes in India, Morocco, Turkey, and countries in North and South America,

Recognizing the universal nature of the ancient but still used earthen architecture as a living tradition adapted to desert environments, such as in Bam,

Noting with concern that human and natural threats continue to endanger Bam's heritage and realising the need for both urgent and long-term preventive considerations, which demand full co-ordination between all stakeholders,

Stressing the need to promote continued utilization of earth as a traditional building material for new constructions, thereby retaining and expanding the specialist skills and employment opportunities,

Emphasising the fact that wisdom, knowledge and correct engineering principles must combine to create the required conditions for safe building, and it is not necessarily the implementation of material such as adobe which contributes to the failure of structures,

Recognizing the heroic and successful efforts by the authorities and professionals of Iran, in particular, the Iranian Cultural Heritage Organization, to effectively respond to the post-earthquake emergency needs of Bam's cultural heritage,

Noting that the crisis-response experience for Bam's cultural heritage could serve as a valuable and useful model at an international level after future disasters,

Calling upon all national and international partners and stakeholders to actively participate in the recovery process of Bam,

Recalling existing international conventions, recommendations, charters, and declarations favouring the integration of heritage conservation within the overall development process,

Adopted the following Declaration and Recommendations, for improved planning and conservation of Bam's heritage as an integral part of the recovery process and sustainable development process after the cataclysm, and called upon the Iranian authorities, ICOMOS and UNESCO to mobilize further co-operation at both national and international level to ensure that adequate steps are taken in the short, mid and long term, to provide further guidelines for preventive measures applicable to buildings, living settlements, archaeological sites of earthen architecture and cultural landscapes in Iran and around the world, and to encourage co-operation in the fields of research, education and training in relevant disciplines.

1. Conserving the full significance of Arg-e Bam and its setting

- 1.1 Arg-e Bam, whose strategic location was chosen for agricultural, economic and defensive reasons, is the cultural and spiritual landmark of the city of Bam and a dominant feature of its landscape. It is also a highly significant and exceptional record of many archaeological layers and historical periods, representing the long and rich civilization of this city, contributed to the evolution of earthen architecture and cultural development.
- 1.2 The earthquake caused major structural damage to Arg-e Bam and affected the visual and functional nature of its relation to the city and its traditions. It also exposed some of the archaeological features. A full understanding of the impact of the earthquake from a conservation and archaeological point of view is necessary to provide a comprehensive basis for specific interventions either to conserve the site, or to re-establish some of its pre-earthquake condition in concurrence with international conventions and charters.
- 1.3 The exceptional work achieved since the day of the earthquake by ICHO has taken into account the complex character of Bam's heritage, including the spiritual role of Arg-e Bam and its related properties in the life of the citizens of Bam. In particular, the Workshop participants took note of the rapid establishment of the access path within Arg-e Bam, which was planned with care and sensitivity, and of the other related facilities and safety measures.
- 1.4 The conservation and protection of Arg-e Bam requires a balanced approach with reference to scientific and cultural data to understand its place in the living culture and its contribution to the specific identity of Bam and the nature of its archaeological site. In this sense, archaeological research work and conservation should be considered as concurrent and complementary activities to be carried out on the property.

- 1.5 The significance of Arg-e Bam and its related properties, and the consequences of the earthquake both call for the establishment of a permanent centre dedicated to research and conservation. The elaboration of long term conservation strategies and time-restricted comprehensive management plans will contribute to the protection of Arg-e Bam, which the Government of Iran is presently proposing to be recognized as World Heritage property.

2. Conserving the character and the heritage of the city and landscape

- 2.1. The diverse tangible and intangible heritage resources of Bam express values associated with the long and complex history of the city. 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. Qanats), agricultural land use, gardens, and built environment.
- 2.2. In the urgent recovery process of Bam city, the cultural, social, economic, and physical aspects must be addressed simultaneously with the conservation of Arg-e Bam. The absence of detailed and in-depth studies of the various cultural, social-economic and physical aspects of the city should not prevent recovery actions from taking place. Nevertheless they should be planned and implemented in a sensitive manner, in constant consultation with the heritage managers. Meanwhile, mid to long term planning and implementation to conserve the heritage of Bam, its character and cultural landscape should be undertaken. As part of this effort, an inventory of buildings, building elements and landscape features, should be prepared. All these efforts will provide information to implement awareness and social programmes for the people of Bam, and develop their understanding and appreciation of their earthen heritage.
- 2.3. Recovery planning and implementation should both refer to and be the subject to an integrated documentation programme. Considering the diversity of Bam's heritage and the challenges to the revitalization of Bam's cultural landscape, the techniques and media used for documentation should be appropriate to the objectives of the specified tasks at hand. All information should be incorporated into the information system of the larger management plan.
- 2.4. The foundation of Bam's strong identity is composed of gardens and plantations, monuments of religious and civil uses, traditional houses, public facilities and water systems, and such features as the walls of different types of earth constructions, for example "*chiné*", and all the manifestations of intangible heritage. The conservation, wherever possible, should be preferred and their reconstruction should be seen as a chance to perpetuate the living identity of Bam. Thus, through its urban landscape, there is an opportunity for real improvement in building technologies, and a reduction in vulnerability to natural forces, such as future earthquakes.

3. Integrating heritage in the recovery process and the future development of Bam

- 3.1. The conservation and revitalization of intangible and tangible heritage of Bam must be integrated within the General Master Plan which should be revised, as

well as complementary support programmes and special projects contributing to the recovery process of post-earthquake Bam, in order to ensure that the unique identity and cultural character of Bam are retained and fully contribute to the restoration of the life of its citizens.

- 3.2. The cultural heritage, in particular the site of Arg-e Bam and the overall character of the city also constitute primary but non-renewable resources for the future social and economic development of the city, through tourism and other related activities. As such, their conservation and adequate management, including the perpetuation of skills and traditional know-how are to be considered as resources for the city's future development.
- 3.3. The recent development of tourism and its likely future expansion are not incompatible with the scientific and cultural objectives associated with the conservation and protection of Bam's cultural heritage and should be seen as complementary. While tourism infrastructures should be planned and developed so as to limit or eliminate their potentially negative visual or physical impacts on cultural heritage, the benefits of tourism should be shared with the local economy and contribute to the conservation of the cultural resources. Finally, the interpretation or presentation of the sites should include reference to the earthquake and its consequences for the local population.

4. Preserving and enriching the tradition of earthen architecture

- 4.1. The impact of the earthquake on the built heritage of Bam and its infrastructures demonstrated that it was the quality of construction and engineering of the buildings that was the main cause of damage rather than the construction materials themselves. This also demonstrates the need to document and understand building and material performance properly. This is particularly important in the development of seismic earthen architecture technology for future use in Bam and elsewhere in Iran.
- 4.2. It is important to upgrade the social image of vernacular architecture among the local people, without which this kind of architecture will be inevitably lost due to the loss of the relevant traditional skills and know-how.

5. Protecting and preventing damage to earthen heritage in seismic areas

- 5.1. The collapse of structures and the debris resulting from earthquakes are serious risks to human life and to cultural heritage. It is now recognized that protection against such cataclysms must be considered both for historic and contemporary structures. In light of this, it should be the practice in heritage environments to go beyond the confines of standard present-day engineering analysis and design techniques. This should include a full understanding and possible use of the earthquake performance characteristics of traditional anti-seismic construction practices of the regions and nations involved.
- 5.2. To facilitate the protection and prevention of damage to earthen heritage, it is essential to:

- a. Increase understanding of the complete behaviour and performance of the earth material, structure, and construction in seismic areas;
- b. Document the traditional cultures and architectures where earth is the principle building material, paying special attention to their specific responses and relationships to the needs of the inhabitants, and environments;
- c. Document the different types of existing earthen materials and building systems, to understand and develop a glossary for the processes of decay;
- d. Maintain and monitor all types of earthen structures;
- e. Ensure that a full understanding and appreciation of earthen architecture, building materials and structures is integrated into the documentation used by all involved in conservation activities.

6. Sustaining co-operation to realize the conservation goals

- 6.1. The diversity of cultural, scientific, educational and management issues of Bam and the effects of the earthquake call for sustained co-operation at different levels, the sharing of concerns and knowledge in order to increase the capacity required for the realisation of specific projects.
- 6.2. At the local level, the recovery of Bam's cultural heritage requires the development of an integrated approach that is transparent and open towards the population. Basing itself on information and the processes of education, consultation, and participation, this approach should take into account the perspective of the local population, acknowledging the specific responsibilities of the institutions and professionals entrusted with the care, maintenance and accessibility of Arg-e Bam and other elements of Bam's cultural heritage.
- 6.3. Co-operation among governmental and non-governmental institutions and associations, at the national and international levels is essential to carry on specific tasks, such as the development of a comprehensive information system. Moreover, an interdisciplinary approach is necessary to address the various scientific, educational and conservation needs of Bam's cultural heritage. The setting up of appropriate tools and mechanisms to facilitate and sustain such national and international co-operation is required and must be implemented.
- 6.4. Co-operation must be developed with other organizations, especially those usually involved in restoration, archaeology and conservation of heritage, as well as those working in the fields of urban planning, housing, tourism and funding activities.

7. Recommendations

7.1. Recommendations for immediate action:

- a. Document, identify and analyse initial risks and implement emergency stabilisation treatments.
- b. Secure and stabilise the parts of Arg-e Bam which are vulnerable to aftershocks.
- c. Provide adequate, sensitively designed and safe access to conservation professionals, the general public, and to the citizens of Bam who will continue to utilize the Arg-e Bam for traditional and religious activities.

7.2. Recommendations for short-term actions (2004-2005):

- a. Define criteria and procedures for managing debris, taking into full consideration, on a case by case basis, the structural implications any interventions may cause on the heritage resources.
- b. Continue with rigour the consultation process between ICHO and the relevant authorities in ensuring that the Master Plan for the Reconstruction of Bam City respects the heritage areas of Bam, as defined within the core and buffer zones, which are being proposed for World Heritage inscription. In addition, the panoramic views and cultural landscape surrounding Arg-e Bam and its related properties must be taken into account within the Master Plan.
- c. Strengthen and continue the comprehensive management planning process in a short to medium time frame, for Arg-e Bam and its surrounding areas.
- d. Develop plans for visitor access and orientation, including exhibition of pre and post-earthquake events and heritage assets.

7.3. Recommendations for mid-term actions (2004-2010):

- a. Develop and implement a site management plan for Arg-e Bam and its surrounding areas. The plan must address and establish policies for conservation, archaeological researches, rehabilitation, cultural landscape protection, site interpretation, access, circulation and safety. Furthermore, the plan should guarantee compatibility with the General Master Plan being developed for Bam's reconstruction.
- b. Develop a conservation programme, which includes a comprehensive analysis resulting in interventions based on the identification of the complete range of values in accordance with international charters.
- c. Implement an open information management system to ensure access to information and to prevent wastes of effort. To this end, standard criteria for data collection, classification and entry must be established. These standards must take into consideration the needs of multiple disciplines.

7.4. Recommendations for long-term actions (2004-2015):

- a. Assess the objectives of the site management plan of Arg-e Bam, the effectiveness of the policies within the management plan, and the compatibility with the expected outcomes from the General Master Plan.
- b. Conduct scientific investigations to address issues related to the long term conservation of earthen architecture in Arg-e Bam. This could contribute, in a broader national and international context, to the development of adapted use of earthen architecture techniques for seismic areas and for contemporary needs.

8. Sustaining the momentum and focus to implement the present Declaration and Recommendations

- 8.1. Establish a permanent research centre for Arg-e Bam in particular, and on earthen architecture in general, which may also promote the use of Arg-e Bam as a training and research centre of national significance.
- 8.2. To provide Bam and its heritage with the necessary support, the participants agreed that it would be essential for ICHO, ICOMOS and UNESCO to continue their co-operation to ensure the results of this workshop are effectively

responded to. The documentation resources drawn from the information management system of Bam's heritage should comprise the foundation for sustainable conservation work. Special attention to the development of user interface design appropriate to professional communities, public outreach programmes, and pedagogical usage should be given priority. The appropriate cultural contexts and technological infrastructures can be instrumental in the dissemination strategies in this stage of implementation.

- 8.3. The urgent creation of a fund by UNESCO for streamlining assistance to Bam's heritage was recommended.

Finally, the participants of the Workshop expressed their deep appreciation to the Iranian Cultural Heritage Organization and the Iranian authorities, ICOMOS and UNESCO for jointly hosting and organizing this timely and important Workshop. Furthermore, gratitude was expressed to the Government of Japan, UNESCO and its World Heritage Committee, and the World Bank, for their generous technical and financial assistance to realize this Workshop, and to the Governments of Canada, France and Italy, the Getty Conservation Institute, and the World Monuments Fund for their technical co-operation.

Adopted in Bam, Iran, on 20 April 2004.

Appendix 2

**Reports and Recommendations of the High Level International Technical
Experts, UNESCO,
Mission led by Mr Francesco Bandarin, Director, UNESCO World Heritage
Centre, Paris, France**

**UNESCO-ICHO Joint Mission
BAM AND ITS CITADEL**

Kerman Province
Islamic Republic of Iran

22-26 January 2004

Table of contents

1. Introduction

2. Participants and schedule

3. Main findings and recommendations

State of Conservation of the Citadel and Monuments of Bam

Proposed actions:

I – Emergency measures

II – Documentation, assessment, analysis and planning

III – Long-term restoration, rehabilitation, presentation and sustainable utilization of the Arg-e-Bam and other Archaeological and Historic Monuments of Bam

4. Annexes

Schedule of the UNESCO-ICHO Joint Mission

Reports and Recommendations of the High Level International Technical Experts

Photographic information from ICHO comparing the pre-earthquake and post-earthquake state of conservation of the cultural heritage of Bam (use ICHO PPTs).

1. INTRODUCTION

The 6.5 Richter scale earthquake¹ which struck the City of Bam in Kerman Province, South Eastern Iran, at 05.26 am local time, 26 December 2003, resulted with the loss of over 43,000 lives (as of 12 February 2004), and more than 40,000 local residents left injured and or homeless. The disaster severely damaged the urban area of Bam City, the famous Arg-e-Bam (Citadel), numerous Historic Monuments within and surrounding the Bam City, the agricultural land, irrigation systems and environment of the desert oasis of Bam.

The Government of the Islamic Republic of Iran and all agencies of the United Nations immediately responded together with the international and national communities to immediately address to the catastrophic situation. Specifically counting on the technical competence within UNESCO's mandate, the Government of the Islamic Republic of Iran formally requested on 28 December 2003 that UNESCO lead the international assistance co-ordination with the Government in the fields of Culture and Education.

In response to the disaster and the to the request from the Government, the Director-General of UNESCO, immediately formed an inter-sectoral Task Force within UNESCO, and planned actions from 6 January 2004. After the initial immediate missions² undertaken with the authorities by the Director, Programme Specialist for Culture, and Education Consultant from the UNESCO Tehran Cluster Office, all which produced detailed situation reports, an UN Appeal for the Cultural Heritage which immediately resulted in mobilizing a US\$ 200,000 grant from the Japanese Government, and effective actions to address the emergency situation, the Director-General decided to dispatch a high-level technical mission to Iran to support the assessment and planning activities being undertaken by the national and local authorities.

This high level technical mission was given the following tasks, to be implemented in strict co-ordination with the UNESCO Teheran Cluster Office and the Government authorities responsible for the cultural heritage of Bam:

- a) Discuss the situation with relevant Iranian authorities and agree on a strategic action plan for the conservation of the Citadel, historic monuments and built cultural heritage of Bam;
- b) Visit Bam and assess the impact of the earthquake on the built heritage, and to assist the authorities in defining urgent measures to mitigate further damages;
- c) Support the Iranian authorities in defining a strategic action plan and guidelines for the conservation, restoration, management, and presentation of the Arg-e-Bam;
- d) Discuss forms of co-ordination and advisory support from UNESCO to the Iranian authorities, for the implementation of the various steps to conserve the cultural heritage of Bam;

e) Discuss with the Iranian authorities the submission of an Emergency Nomination for inscription of the Cultural Heritage of Bam on the World Heritage List and the List of World Heritage in Danger in 2004;

f) Provide UNESCO with an overall report focusing on the support the Organization can provide in the short, medium and long term to the activities planned by the Iranian Authorities for the conservation of the Arg-e-Bam and cultural heritage of Bam.

Footnotes:

1. From Dr Mehdi Zaré, “Bam (SE Iran) earthquake of 26 December 2003, Mw6.5: Seismological Aspects”, International Institute of Earthquake Engineering and Seismology, Tehran, I.R. of Iran.
2. Missions undertaken by the UNESCO Tehran Cluster Office prior to this mission were as follows:
 - (i) 3-5 January 2004 Mission to Bam, Education Consultant to elaborate UN Appeal for Culture in close co-operation with the Iranian authorities, Director and Programme Specialist for Culture of the UNESCO Tehran Cluster Office;
 - (ii) 8 January 2004 Mission to Bam, Director of the UNESCO Tehran Cluster Office with the UN Agencies for the Joint UN Appeal;
 - (iii) 12-14 January 2004 Joint ICHO – UNESCO Mission to Bam and Kerman, undertaken by ICHO and Programme Specialist for Culture of the UNESCO Tehran Cluster Office to prepare a detailed situation report on the cultural heritage affected by the earthquake.

2. PARTICIPANTS AND SCHEDULE

The principal participants of the UNESCO-ICHO Joint Mission were the following;

UNESCO:

- ◆ Mr Francesco Bandarin, Director, UNESCO World Heritage Centre, Paris, France
- ◆ Professor Giorgio Croci, University of Rome, Italy
- ◆ Professor Hubert Guillaud, International Centre for Earth Construction – School of Architecture of Grenoble, France
- ◆ Professor Kunio Watanabe, Geosphere Research Institute, University of Saitama, Japan
- ◆ Ms Junko Taniguchi, Programme Specialist for Culture, UNESCO Tehran Cluster Office, I.R. of Iran

ICHO:

- ◆ Sub-Committee for Technical and Conservation Interventions for Bam's Cultural Heritage, one of the 7 Sub-Committees reporting to the National Task Force for Bam's Cultural Heritage, chaired by Engineer Mr M.H. Mohebbali (Deputy of Conservation and Restoration, ICHO).
- ◆ Dr Rasool Vatandoust, Director, Department of International and Cultural Relations, ICHO (also Director of RCCCR, ICHO)
- ◆ Mr Fakoor Pass, Director of ICHO Kerman Province Office
- ◆ Dr Mohammad H. Talebian, Temporary Director of the Arg-e-Bam Project, ICHO (Also Director of the Persepolis, Pasargarde, and Chogha Zanbil World Heritage Projects)
- ◆ Dr Shahriar Adle, Archaeologist and Special Advisor to Mr M Beheshti, Vice Minister and Head of ICHO (Also Research Member of CNRS, France)
- ◆ Ms Mojdeh Momenzadeh, Assistant Director, Department of International and Cultural Relations, ICHO

The mission was operational from 22 to 26 January 2004. The mission visited Bam between 22-24 January 2004, and had meetings in Tehran with the Iranian authorities and UNESCO Tehran Cluster Office staff on 22, 25, 26 January 2004 (see Annex B for the full itinerary of the mission).

3 MAIN FINDINGS AND RECOMMENDATIONS

3.1. State of Conservation of the Citadel (Arg-e-Bam) and Monuments of Bam

The seism that struck Bam on 26 December 2003 severely damaged the city and its historic monuments. More than 43,000 citizens out of a population of 102,000 lost their lives in the disaster. At the time of the mission, the emergency rescue and humanitarian relief operations had been almost completed with commendable efficiency and full support of the central and local government authorities, as well as several international specialized organisations. Following the UN Flash Appeal and other appeals made by active IGNO's and NGO's, resources were rapidly collected to provide basic shelter, food and medical care, and to start the revitalization process of an urban area that had been dramatically destroyed by the catastrophic natural disaster. A major reconstruction plan for Bam City is currently under preparation, and the removal of ruins and rubble was already commencing within the city centre at the time of the Joint Mission.

The cultural heritage of Bam suffered significant damage from the earthquake. The Arg-e-Bam (citadel), one of the most important archaeological and historic properties of the country, had lost a large portion of the standing structures dating from the late Safavid Period. The vertical structures of Arg-e-Bam were visibly damaged from both static and structural aspects. The careful restoration and reconstruction activity conducted in the past 32 years by the Iranian authorities has been more or less completely destroyed. Ironically, the earthquake revealed rich archaeological strata which has now increased the heritage value of the Arg-e-Bam, and which now demands scientific research and analysis in the coming years ahead (See Annex C).

There were 27 historic monuments in Bam Area which were legally designated and protected by ICHO as important cultural heritage. Besides Arg-e-Bam, and its Royal Stables, Sabat House, Jame Mosque, Mirza Naim Complex, (located within the Arg-e-Bam complex), there were 22 other ICHO monuments (Naderi Tower, Ansari House, Naderi House, Geisarie Bazaar, Arshan House, Raheem Abad Koushk, Vakil Mosque, Rasool Mosque, Tomb of Mirza Ebraheem, Old Bazaar, Dome of Shah Khorshid, Emamzadeh Sayed Abdulah, Soroush Zabolostani, Ice House, Khale Dokhtar, Emad School, Pirmah Shah Citadel, Ahmadih School, Old Hospital, Vakil Bashi House, Mehdizadeh House, and Naser Nezam House.)

Several of these other historic monuments have been damaged to a serious degree. In some cases, those monuments within the city have experienced severe damage and destruction, ranging from 80-100% damage. In other cases, such as Khale Dokhtar (Daughter's Citadel), located north east of the Arg-e-Bam, the monuments have been damaged to a lesser degree (See Annex C).

The overall situation demands careful planning of activities aimed to conserve, restore, revitalize, present and redevelop the historic areas, based on clear guidelines and a strategic, realistic action plan to be implemented in the coming months and years.

The Joint Mission recognized the need to examine improved traditional building techniques in order to increase earthquake resistance for adobe structures, not only for

Bam but also for historic cities and desert oasis Silk Road centres in Iran. The Joint Mission also underscored the need to make use of the lessons learned in Bam, to develop comprehensive plans aimed at preventing and limiting the seismic risks of other historical areas and the monuments of Iran.

3.2. Proposed actions

The Joint Mission recommended that the following actions be undertaken in different stages, bearing in mind that the implementation of the proposed actions will necessarily overlap.

Action I – EMERGENCY MEASURES: first half of 2004

Action II – DOCUMENTATION, ASSESSMENT, ANALYSIS AND PLANNING: 2004 and 2005

Action III – LONG-TERM RESTORATION AND REHABILITATION OF BAM'S HERITAGE: 2005-2015

ACTION I – EMERGENCY MEASURES

The Joint Mission concluded that the Arg-e-Bam and the Historic Monuments of Bam require urgent interventions aimed at preventing further damage to the structures in case of after-shocks, and to ensure the safety of the personnel involved in the emergency activities in the area. Furthermore, it was fully recognized that a number of urgent activities were required to ensure the conservation of the documentation on the site and to commence the research and analysis needed to proceed with the restoration plans. These actions will be implemented in 2004, and ICHO were already starting the actions by the time the Joint Mission visited Bam.

1. ESTABLISHMENT OF AN ICHO CAMP IN BAM:

The urgent establishment of a camp was being undertaken by ICHO to allow ICHO staff to undertake all the necessary emergency measures. As all equipment in the previous ICHO Bam Office had been destroyed in the earthquake, everything from computers, printers, telephone lines, office furniture and other essential equipment for ensuring living conditions were recognized as urgently required items.

2. MINIMUM PROTECTION OF THE HERITAGE ASSETS:

Establishment of fences along the perimeters of the heritage areas is necessary for minimum protection of the heritage assets. ICHO was already limited access into the Arg-e-Bam for both the safety of the heritage assets as well as that of the potential visitors.

3. *COMPILATION OF INFORMATION:*

It is recommended that systematic compilation of documents, existing maps, drawings, plans, aerial photos, photographs, slides, etc. be combined with all other information on Arg-e-Bam and cultural heritage of Bam, including structural information such as building material characteristics, strengths, stabilization processes and performances, conservation history, etc. This activity will accompany all the phases of the restoration process post-earthquake. It was underscored that information compilation and management must be undertaken with a long-term vision in mind, by establishing a sustainable Information Management System to cope with both the varying quantity and quality of information available.

4. *ON-SITE INSPECTION:*

The Joint Mission recommended that a preliminary diagnosis of the following situations be undertaken:

- Structural damages, typology, materials,
- Geology, including structural failures and patterns,
- Geotechnical conditions of the area,
- Archaeology,
- Safety of structures, including mapping of all potential risks to heritage assets, identifying priority security areas.

5. *PROVISIONAL CONSERVATION INTERVENTIONS FOR SAFETY AND STABILITY:*

The Joint Mission recommended that an interdisciplinary team should carefully examine and design provisional conservation interventions for safety and stability of the heritage assets of Bam. An international high level technical and scientific mission should visit Bam in March 2004 to assist the Iranian authorities and experts in taking urgent decisions for the safety of the structures of the Arg-e-Bam and Monuments of Bam.

The provisional conservation interventions should focus on:

- a. Areas where immediate intervention on the structures are demanded, where, for example, removal of parts where stabilization is impossible, and consolidation of damaged structures. Small interventions indispensable for the stabilization of the most important heritage assets should also be examined.
- b. Management and organization of the debris of the historical areas. A plan needs to be elaborated for the removal of the debris based upon the prioritized actions necessary for stabilizing the important heritage assets. Re-use of remaining sound traditional building materials should also be considered for inclusion in the plan.
- c. Security of the structures as well as all personnel working within the heritage areas and future visitors to the property. This would include the establishment of provisional emergency routes or pathways within the heritage areas to ensure the

safety of staff working within the heritage areas and future visitors, including the citizens of Bam who have always placed great importance on the Arg-e-Bam.

- d. In the entire process from the early stages of designing conservation interventions, compilation of documentation clearly identifying the archaeological priorities must be made, especially as there is need to remove some of the unstable parts in order to safeguard heritage assets.

6. ACCESS OF VISITORS TO THE CITADEL OF BAM:

Urgent steps should be taken, to make the Arg-e-Bam accessible and visible to visitors, including the citizens of Bam. It is necessary to urgently design and build provisional pathways for limited and controlled access within the Arg-e-Bam, as the Arg-e-Bam and the other Historic Monuments within Bam had always held, and still hold, an important cultural value for the people of Bam and of Iran as a whole. In addition, the Arg-e-Bam had represented an important economic income generating asset for the local community so the link between the cultural heritage and the people of Bam were not only intangible but truly tangible. The presentation of an exhibition on the cultural heritage values of Bam and on the restoration works underway and foreseen was also recommended to increase the awareness of the people of Bam and Iran on the conservation and research requirements of Arg-e-Bam, in light of the newly revealed archaeological heritage assets within the Arg.

7. ORGANIZATION OF A JOINT UNESCO-ICHO HIGH-LEVEL TECHNICAL AND SCIENTIFIC STEERING COMMITTEE

It is recommended that a Joint UNESCO-ICHO High-Level Technical and Scientific Steering Committee be established to discuss, elaborate and adopt principles and guidelines for the immediate, mid to long-term conservation, presentation and development plans for the heritage assets of Bam. The Steering Committee should take place in April 2004 to discuss and adopt the overall strategy for Bam's heritage, and to guide the work to be undertaken, following international conservation norms.

8. PROPOSAL OF INSCRIPTION ON THE WORLD HERITAGE LIST ON AN EMERGENCY PROCEDURE:

The Joint Mission acknowledged the great archaeological, historical, and cultural values of the Arg-e-Bam, the Archaeological and Historic Monuments of Bam, even with the destruction caused by the earthquake in December 2003. The Iranian Authorities decided to propose the inscription of the Arg-e-Bam and Monuments of Bam on the World Heritage List according to the emergency procedure foreseen in Paragraph 67 of the *Operational Guidelines for the Implementation of the World Heritage Convention*. UNESCO, and in particular, UNESCO Tehran Cluster Office, will assist in the preparation of the nomination dossier. This activity is urgent, as the proposal must be submitted to the World Heritage Committee for its examination in June 2004 at its 28th session (Suzhou, China), and the nomination dossier needs to be presented to the World Heritage Centre by the end of April 2004, latest.

The following issues are important elements to ensure successful emergency inscription of the property on the World Heritage List and the List of World Heritage in Danger in 2004:

- a. Identification of the heritage assets to be nominated
- b. Clear establishment of the core, buffer and any appropriate transitional zones
- c. Report on the state of conservation of the heritage
- d. Preliminary strategy plan for conservation, restoration and management of the heritage assets to be nominated.

9. RECORDING OF ALL ACTIONS TAKEN:

It is essential that all the step-by-step actions taken within Action I be recorded.

ACTION II – DOCUMENTATION, ASSESSMENT, ANALYSIS AND PLANNING

The second action recommended by the Joint Mission comprises a large series of analysis and research aimed at improving the knowledge of the structural, geological and geotechnical conditions of the site, extending the knowledge of the archaeological strata, and improving the performance of the materials and of the construction of all future reconstruction or restoration activities. An accurate restitution of the site as it was before the earthquake and as it is today is needed to guide the restoration strategy. This action would be implemented in 2004 and 2005.

1. ARCHAEOLOGY

While the earthquake of 26 December 2003 heavily damaged the upper layers of the historic building construction of the Arg-e-Bam, almost all reconstruction and rehabilitation work undertaken by ICHO in the past 32 years and other heritage assets of Bam, important heritage assets have been revealed from underneath the damaged layers. A full archaeological survey of the heritage areas of Bam is required to plan and implement a conservation, presentation and development plan.

2. CONSERVATION AND STRUCTURAL STABILITY

For these aspects, the following points should be taken into consideration:

- a. In-depth examination and analysis of the history of conservation for Bam's heritage.
- b. Characteristics and performances of mud brick, and possible areas of improving the quality and strengths of earthen architectural material.
- c. Studies on structures, dynamic conditions, analysis of construction history of each type of structure.

- d. Cost analysis for the conservation and structural stabilization interventions necessary.
- e. Survey of traditional architecture in the Bam oasis and surrounding area focusing on damage caused by the earthquake.
- f. Identification of the quarries for the building materials used for the earthen architectural heritage assets of Bam.
- g. Examination of the state of the art conservation techniques, with particular focus on earthquake resistance.
- h. Research on typology of historical buildings, not only with regards to the Arg-e-Bam but also the monuments and building complexes within the historic city of Bam.
- i. Collection of all data to undertake a feasibility study (technical and economical) for the re-establishment of an earth construction branch for large-scale production of earthen building materials.
- j. Definition of a research and experimentation programme on the earthen architectural building material.
- k. Elaboration of a capacity building programme for seismic resistant earthen architecture.

3. GEOLOGICAL AND GEOTECHNICAL STUDIES

- a. Collect all geological seismological data within the area and execute experiments to understand the functioning of brick structures.
- b. Compile the earthquake history of the area.
- c. Undertake shaking table tests to understand the functioning of brick structures.
- d. Investigate underground geological structures (stratigraphy, etc.) of the Arg-e-Bam, if necessary, making bore holes, etc.

4. INFORMATION MANAGEMENT

In light of the vast quantity, varying quality and possible use of the information and documentation of the cultural heritage of Bam, the Joint Mission recommended the following actions to be taken.

- a. Establish a sustainable information management system (IMS) based upon long-term heritage conservation, management and presentation needs, and organize and undertake database creation and inputting which fits within such IMS.

- b. Undertake and elaborate 3D mapping and virtual reconstruction based on aerial photos taken by the National Cartographic Centre of Iran, photos, drawings, plans, maps, 3D scanning, and any other relevant information, to research, to examine and consider for conservation purposes, and to present the evolution of the cultural heritage of Bam (including Arg-e-Bam) over the past half century and post-earthquake.
- c. Make a model of the Arg-e-Bam and the heritage assets of Bam for improved interpretation of the area's cultural values.

5. HARMONIZATION OF CONSERVATION AND REDEVELOPMENT EFFORTS OF BAM

- a. Integration of heritage protection and conservation within the overall redevelopment Master Plan of Bam City.
- b. As Bam will be a testing ground for future planning and protection of monuments against seismic risks in Iran and beyond, each step should be taken on the understanding that the process will be an important demonstrative case study for the future, impacting upon the cultural identities and architectural fabric and unique characteristics of all Iranian historic cities.

6. PRESENTATION, AWARENESS RAISING AND TOURISM REDEVELOPMENT

The cultural heritage of Bam has always held spiritual, symbolic and cultural importance for the people of Bam and of Iran as a whole. It also played an important economic income generating role for the citizens of Bam. Therefore, the revitalization of the cultural heritage of Bam is essential in the recovery process of Bam post-earthquake. To this end, assessment of the most appropriate, sustainable, and beneficial presentation and tourism redevelopment must be undertaken. Based upon this assessment, a plan of action, which integrates living cultural heritage continuation, local community participation and awareness raising activities, should be elaborated and implemented.

ACTION III – LONG-TERM CONSERVATION, RESTORATION, REHABILITATION, PRESENTATION, AND SUSTAINABLE UTILIZATION OF BAM'S CULTURAL HERITAGE

The third action recommended by the Joint Mission comprises the long-term conservation, restoration, rehabilitation, presentation and sustainable utilization of the Arg-e-Bam and other Archaeological and Historic Monuments of Bam. These activities must be linked to the overall reconstruction and recovery plan of Bam City and represent an opportunity to improve the local and national capacities to build and restore structures in a seismic-safe manner, while respecting the authentic designs and materials of the heritage assets. This action will be implemented in the coming decade and beyond.

The complexity of the task

The conservation, restoration, rehabilitation, presentation and sustainable utilization of the Arg-e-Bam and other Archaeological and Historic Monuments of Bam constitute a major challenge for the Iranian Cultural Heritage Organization, as well as for UNESCO and the international community. The complexity, scale, cost and duration all make this endeavor comparable to the great safeguarding campaigns conducted under the aegis of UNESCO in the XXth century, such as Abu Simbel and Angkor Wat.

The complexity of the task is linked to the specific nature of this group of monuments, built and rebuilt several times in varying earthen architectural material over the course of history, and comprising, therefore, the evidence of different civilizations. Never before has an earthen architectural complex of this scale, located in a seismic area, been the object of a major process of conservation, restoration, rehabilitation, presentation and sustainable utilization.

The entire process will need to be linked with the overall reconstruction and recovery plan of the Bam City, to ensure the retention of the authenticity and integrity of the cultural context and physical setting of the Arg-e-Bam and Monuments of Bam.

The need to develop a Comprehensive Strategy

To achieve these objectives, the Joint Mission recommends that a Comprehensive Strategy for the Cultural Heritage of Bam be defined by the Iranian authorities. The main components of the Comprehensive Strategy could be the following:

- a) the conservation, restoration, rehabilitation, presentation and sustainable utilization of the Arg-e-Bam and other Archaeological and Historic Monuments of Bam;
- b) the re-establishment of a local material production unit, aimed at promoting, improving and utilizing traditional building techniques and materials.
- c) develop projects for housing and public facilities utilizing strengthened traditional building techniques and materials, which take into consideration the need to increase seismic resistance of the constructions.

A Centre for Earthen Architecture

The Joint Mission recommended that the Iranian authorities consider the possibility of establishing a centre for earthen architecture in Bam. The Centre could have the task of stream lining the different contributions from national and international institutes and the activities being implemented in the field of earthen architecture in the Bam area, and to build upon the existing experience and knowledge in Iran and beyond for the long-term conservation, restoration, rehabilitation, presentation and sustainable utilization of the earthen architecture and earthen architectural techniques in Bam. The Centre could build professional capacities in the various fields related to earthen architecture, and also serve to draw the co-operation of other state-of-art technical institutions in Iran in

relevant fields such as earthquake engineering, seismology, housing development, geology, tourism, etc.

The Comprehensive Conservation and Management Plan for the Cultural Heritage of Bam

The Joint Mission recommended that a comprehensive conservation and management plan for the cultural heritage of Bam be elaborated, with appropriate assistance of international expertise, to be mobilized by UNESCO, international IGNO's such as ICOMOS, ICCROM, and other bilateral partners. Such comprehensive conservation and management plan would ideally take into consideration, the following aspects;

clear objectives for the long term restoration, rehabilitation, presentation and sustainable utilization of the Arg-e-Bam, other Archaeological and Historic Monuments of Bam and cultural heritage of Bam within the context of the overall recovery process of Bam City post-earthquake

established priorities, based upon careful analysis and evaluation of the cultural heritage needs and recovery needs of the people of Bam and Iran

realistic costs and activity implementation plans, which are possible to mobilize and achieve.

4. ANNEXES

A. Schedule of the UNESCO-ICHO Joint Mission

B. Reports and Recommendations of the High Level International Technical Experts (in alphabetical order)

1. Professor Giorgio Croci, University of Rome, Italy
2. Professor Hubert Guillaud, CRATerre-Ecole d'architecture de Grenoble, France
3. Professor Kunio Watanabe, Saitama University's Geosphere Research Institute, Japan.

C. Photographic information from ICHO comparing the pre-earthquake and post-earthquake state of conservation of the cultural heritage of Bam (use ICHO PPTs).

Appendix 3

**Report of Mission to Bam
Kerman Province, Iran
(12-14 January 2004)
and
UNESCO Situation Report for Cultural Heritage in Bam
(as of 20 January 2004)**

Junko Taniguchi

Programme Specialist for Culture

UNESCO Tehran Cluster Office

I. INTRODUCTION

- 1.1 During the first UN inter-agency meeting following the earthquake, UNESCO was elected to take the lead in Education and Culture. On 28 December 2003, UNESCO was asked by the Iranian Cultural Heritage Organization to be the lead UN agency in assisting the Government to co-ordinate all international assistance for addressing the cultural heritage needs in the Bam, including those from other UN Agencies. Many top senior officials reiterated this to the media and to UNESCO, including President Khatami of the I.R. of Iran.
- 1.2 Following the invitation from the Iranian Cultural Heritage Organization (hereafter ICHO) and in particular, the Director of the International Relations Department of ICHO and the Chief of Planning and Implementation of the Bam Task Force, and under the authorization of the Director of the UNESCO Tehran Cluster Office, I undertook a joint mission to Bam City and Kerman City with representative ICHO experts between 12-14 January 2004.
- 1.3 This Report is composed of
 - I. Introduction**
(page 1)
 - II. Terms of Reference**
(page 2)
 - III. Acknowledgements**
(page 3)
 - IV. Findings of the Mission**
(page 4~8)
 - V. Summary of other actions taken prior to and after the Mission**
(page 10)
 - VI. Concluding Remarks**
(page 11)
 - VII. Annexes**
(page 12~)
 - VIII. Illustrations**
(page xx)
- 1.4 The contents of this Report in their totality comprehensively records all actions taken by UNESCO Tehran Cluster Office and myself, and the information obtained before, during and soon after the mission until 20 January 2004, to assist the Iranian authorities in addressing the cultural heritage needs in the Bam area.

II. TERMS OF REFERENCE

- 2.1 The objectives of my mission were as follows;
- 2.1.1 Undertake a site-visit to the Arg-e-Bam and as many of the 24 Historic Monuments of Bam City with the Iranian cultural heritage authorities to assess on an urgent basis, the state of conservation of the property, following the earthquake on 26 December 2003.
 - 2.1.2 Undertake consultations with the national and provincial authorities on priority actions which are required to document, research, record, conserve, present and eventually develop the cultural heritage assets of the Arg-e-Bam and the Historic Monuments of Bam City, taking into consideration both the damaged heritage assets and the new tangible heritage assets which have been revealed following the earthquake, as well as revitalization of the intangible heritage assets and cultural industries of the Bam area for social development.
 - 2.1.3 Based upon 2.1.2, discuss a broad mid to long term action plan for appropriately addressing the conservation needs of the Arg-e-Bam and the Historic Monuments of Bam, as well as the revitalization of intangible cultural heritage and cultural industries and tourism of Bam.
 - 2.1.4 Discuss the capacity of ICHO and other potential national partners in the implementation of the priority actions and mid to long term action plan for the conservation and revitalization of the cultural heritage of Bam.
 - 2.1.5 Discuss and identify with the national authorities, possible and appropriate international financial and technical co-operation to address the priority actions and actions within the broad mid to long term action plan.
 - 2.1.5. Finalize with the Iranian authorities, the Draft Tentative List for the Arg-e-Bam and the Historic Monuments of Bam.
 - 2.1.6. Finalize with the Iranian authorities, the Draft International Assistance Emergency Request for assisting in financing the emergency actions for Arg-e-Bam and the Historic Monuments of Bam, including the preparation of the emergency nomination of the property on the World Heritage List and the List of World Heritage in Danger.
 - 2.1.7. Discuss the feasibility and schedule for preparing an emergency nomination for Arg-e-Bam and the Historic Monuments of Bam for submission to the World Heritage Committee for examination at its 28th session in June/July 2004, for possible inscription on the World Heritage List and the List of World Heritage in Danger.

- 2.1.8. Prepare for the high level cultural missions from UNESCO to Bam.
- 2.1.9. Report on any other pertinent issues or useful information related to UNESCO's actions in Bam.

III. ACKNOWLEDGEMENTS

- 3.1 I express my deep gratitude to the Representatives, experts and colleagues of ICHO, who have wholeheartedly welcomed and supported the work of UNESCO in the field of Culture. In particular, I modestly thank Mr Seyyed Mohammad Beheshti, Vice-President and Head of ICHO and Dr A. Rasool Vatandoust, Director of the Department of International and Cultural Relations of ICHO (and Director of the Research Centre for Conservation of Cultural Relics) for making available the time and facilitation of their dedicated staff and colleagues, without which my mission would not have been successfully completed.
- 3.2 Special thanks are also expressed to the following Representatives and experts who warmly welcomed my mission to Bam and provided me with valuable information, assistance, guidance and advice:
- Mr Khoshrou Seyed Hassan, Member of Parliament, Kerman Province
 - Mr Seiavoshi, Deputy to the Governor of Kerman Province
 - Mr Tadayon, Director of Urban Planning, Kerman Province
 - Mr Daudi, Deputy to Mr Beheshti for Management and Finances, ICHO
 - Mr Mohammad Hasan Talebian, Temporary Manager of Arg-e-Bam Site, ICHO
 - Mr Fakoor Pass, Director of ICHO Kerman Province
 - Mr Saeid Rahmati, Deputy Manager of Arg-e-Bam Site, ICHO
 - Mr Ahmadi, Assistant to Mr Mohammad Hasan Talebian, Arg-e-Bam ICHO Camp, ICHO
- 3.3 It continues both to be an honour and a learning experience to work closely with the colleagues and experts in the field of cultural heritage and social development in Iran.
- 3.4 Finally, I express deep appreciation to my colleagues at UNESCO Tehran Cluster Office, Headquarters and the Regional Advisor for Culture in the Asia-Pacific, for their continued support and for their trust in my work to assist the Iranian authorities in addressing the situation in Bam.

IV. FINDINGS OF THE MISSION

4.1 *State of conservation of the Arg-e-Bam and the Historic Monuments of Bam City*

- 4.1.1 The Arg-e-Bam and many of the Historic Monuments of Bam City suffered heavy damage and destruction due to the 6.3 Richter Scale earthquake of 26 December 2003. It is clear that many of the monumental, historic and vernacular architecture have been severely damaged to the extent that the stability of the remaining walls and sections appear to be unstable. It is very difficult, however, to scientifically indicate what percentage of each monument has been damaged at this stage. A considerable portion of the destroyed or damaged architectural elements of Arg-e-Bam and the Historic Monuments of Bam City appear to date from the past 300~400 years of construction or building up over ancient or medieval structures. A list of the principle Historic Monuments, some visited during the mission, are listed in Annex A, accompanied by descriptions of the damage witnessed.
- 4.1.2 The conservation and reconstruction interventions dating from the past 32 years up until the earthquake have also suffered severe damage. However, there were, for example, certain structures such as the water reservoir within the Governor's stable within Arg-e-Bam, which appears to have suffered very little damage.
- 4.1.3 In general, the ICHO experts pointed out that the north-south axis structures and walls suffered far greater damage than the east-west axis structures and walls. It seemed evident that certain mud-brick walls withstood the earthquake with higher performance than others, even along the east-west axis.
- 4.1.4 While the heritage value of the later Islamic period construction and urban development of Arg-e-Bam has been affected by this earthquake, the damage to these structures has also resulted with the revelation of archaeological and architectural evidence within and around the Arg-e-Bam which had been so far unknown. These revelations and exposure of archaeological remains and evidence of the evolution of architectural development of the Arg-e-Bam area present an added and important heritage value to the property. Scientific surveying, documenting, recording, researching and analyzing the newly exposed evidence can result in in-depth understanding of the significance of the Arg-e-Bam, as a possible Sasanian urbanized centre and major Silk Roads trading point, which gradually evolved with the passage of time and the Muslim transformation of the city. To borrow the words of the ICHO experts, Arg-e-Bam and its surrounding Historic Monuments have now become an encyclopedia and university of earthen architectural history.
- 4.1.5 There are 24 Historic Monuments of the Bam City protected under national law and managed by the ICHO. These 24 monuments include certain monuments within and immediately surrounding the Arg-e-Bam, as well as bazaars, mosques, hospitals or historic houses, which were still in use by the citizens of

Bam at the time of the earthquake. Most have suffered heavy or severe damage. For many of the historic monuments and vernacular architecture which were in use by the citizens of Bam, it is very important for reconstruction and rehabilitation to be undertaken following international conservation and restoration norms.

- 4.1.6 It is important to note that the ICHO Office of Bam was located in a rehabilitated historic house within Arg-e-Bam. This building has been heavily damaged, and the Director of the Arg-e-Bam project, Mr Brahimi, was seriously injured in this building. ICHO has recuperated some documentation which was kept in this building, but there remain both documentation and artifacts which need to be recuperated from the rubble. The list of staffing of ICHO in Bam is attached as Annex B.
- 4.1.7 There have been three large aftershocks, and daily small aftershocks in the Bam area since 26 December 2003. On the day before my mission, the largest of the aftershocks caused additional damage to some of the fragile monuments and structures. During meetings in Bam, we there were at least two small aftershocks we could feel well per day. The security of both the historic cultural assets as well as the experts and people working in the area is a matter of serious concern, and visitors, including myself, must be very careful where they are walking and be alert at all times.

4.2 Priority Actions following international conservation norms

- 4.2.1 Based upon preliminary assessment of the state of conservation of the Arg-e-Bam and Historic Monuments of Bam City, ICHO policy makers and experts have agreed and decided that urgent documentation, recording, research and assessment of all the heritage assets of Arg-e-Bam and the Historic Monuments of Bam is first priority **PRIOR to planning and implementing consolidation, conservation intervention, and possible reconstruction of certain monuments.** As Programme Specialist for Culture, I concur entirely with this view, which follows internationally accepted conservation norms. In order to quickly implement this priority action, ICHO has immediately established a camp with 43 persons (5 technical experts, 17 guards, 15 craftsmen/labourers, 4 drivers, 2 support assistants) as of 9 January 2004. Plans for strengthening this camp was underway at the time of the mission.
- 4.2.2 In Kerman ICHO Office and ICHO Headquarters, all documentation which had been transported to Tehran and Kerman prior to the earthquake for digitalization have been safeguarded, and together with the maps, photos, and plans recuperated from the rubble of the ICHO Office within Arg-e-Bam, is being scanned into electronic format at Kerman ICHO Office. Some plans and photos have also been safeguarded in electronic format by the ICHO HQ Library and Documentation Centre. ICHO Bam Team and the Sub-Committee for Documentation is trying to ensure smooth and effective information sharing of this mass data, and also to collect various information sources from universities,

experts around the world, and national agencies for maps and aerial photos (National Cartographic Centre [NCC]). UNESCO Tehran Office obtained low to medium resolution satellite images and maps from NCC and NII (Japanese National Institute for Informatics), but will need to continue assisting the authorities in mobilizing inexpensive or free-of-charge information for Bam's cultural heritage management. The team members for the actual documentation management and sorting at Kerman ICHO are listed in Annex C, together with the current system of documentation and information management actions being taken.

- 4.2.3 For the data management and planning of mid to long-term information management for documentation, conservation, management and presentation of the heritage properties, ICHO asked UNESCO to assist in mobilizing international technical and financial assistance. As of 14 January, there had not been a plan yet elaborated on how the data would be managed. It is important to ensure that scanning of documents be undertaken with high resolution for use for later 3D virtual reconstruction, for example, and to this end, more detailed information and consultation is necessary. UNESCO Tehran has requested UNESCO HQ CI and NII to contribute to assist the Iranian authorities and UNESCO Tehran, within the scope of an existing programme UNESCO-NII MoU signed Digital Silk Roads ASPICO-DSR project. Annex D describes related actions.
- 4.2.4 After 4.2.1 and 4.2.2 are undertaken on a preliminary basis to permit scientific experts to analyze the possible conservation intervention to be planned and implemented, ICHO has underscored the importance of organizing an international high level scientific technical expert meeting to discuss and adopt an action plan for the conservation and restoration of Arg-e-Bam and the Historic Monuments of Bam. This can be achieved with the financial assistance of the Japan FIT for cultural heritage, earmarked to support the project proposal included in the UN Appeal for cultural heritage.
- 4.2.5 Within the comprehensive action plan for the revitalization of the cultural heritage in the Bam area following the earthquake, intangible heritage and cultural industries of the Bam area, and tourism, were underlined by both ICHO and myself as important and key elements to be considered together with the build and tangible heritage. The integration of such continuing cultural heritage and tourism promotion for social development and rehabilitation of the citizens of Bam is crucial. Annex E reports on the findings of the intangible cultural heritage, cultural industries in the Bam area, and tourism, but another compact but intense mission will be necessary to obtain more information. ICHO will also be examining this further.

4.3 *Broad mid to long term conservation and revitalization plan*

- 4.3.1. ICHO expert representatives and I agree that an international high level scientific technical expert meeting will facilitate and assist the Iranian authorities to define a realistic broad mid to long term conservation and revitalization plan, appropriately

addressing the conservation needs of the Arg-e-Bam and the Historic Monuments of Bam, as well as the revitalization of intangible cultural heritage and cultural industries and tourism of Bam.

4.4 *International assistance for Bam*

- 4.4.1. A table of international assistance for Bam is attached as Annex F. Besides the pledged or potential assistance forthcoming from various donor governments or institutions, UNESCO has pledged US\$ 25,000 from the Participation Programme, and a minimum of US\$ 50,000 from the Emergency Reserve of the World Heritage Fund. To obtain the latter, ICHO and I discussed and amended the draft International Assistance request, which was submitted on 16 January 2004 to the Director of the World Heritage Centre (see 4.6 and Annex G).

4.5 *Tentative List for nominating Arg-e-Bam and the Historic Monuments of Bam on the World Heritage List*

- 4.5.1 Although Arg-e-Bam figured on the National Tentative List in Iran, the formal Tentative List submission had not been done before the earthquake. After visiting the properties and discussing the heritage values of Arg-e-Bam and the Historic Monuments of Bam with the authorities, ICHO and I finalized Tentative List for the Arg-e-Bam and the Historic Monuments of Bam, which was officially submitted on 16 January 2004 to the World Heritage Centre's Director. Annex H attaches the Tentative List format finalized.

4.6 *International Assistance Emergency Request*

- 4.6.1. After visiting the properties, assessing the priority needs, and bearing in mind the time and financial constraints faced by the Iranian authorities today, ICHO and I finalized the International Assistance Emergency Request for assisting in financing the emergency actions for Arg-e-Bam and the Historic Monuments of Bam, including the preparation of the emergency nomination of the property on the World Heritage List and the List of World Heritage in Danger. This document, Annex G was submitted on 16 January 2004.

4.7 *Emergency nomination for inscription of Arg-e-Bam and the Historic Monuments of Bam on the World Heritage List and the List of World Heritage in Danger*

- 4.7.1. The nomination preparation was discussed, and in particular, the definition of the core, buffer, and transitional protective zones were discussed, bearing in mind the heritage values of the property. The target date of submission to UNESCO HQ WHC was determined as end of April 2004. UNESCO Tehran Cluster Office will assist in the preparation of this emergency assistance, following the request of ICHO.
- 4.7.2. As most of the historic monuments in Bam are surrounded by privately owned land or developed area, ICHO and I discussed with the Director of Urban Planning

of the Kerman Province, the need to ensure adequate development control in the surrounding areas of the historic monuments. He took full note of the need to protect both the authenticity and the integrity of the historic monuments, and pledged his full co-operation to work with ICHO to prepare appropriate core, buffer and / or transitional protective zones.

- 4.7.3. The importance of qanats was also discussed. In the Bam area, there were at least 8 major historic qanats (see Annex D) providing valuable water resources to Bam, especially for the irrigation of the palm trees which produced dates, one of the major agricultural produce of Bam. Some of the oldest qanats in the Bam area are believed to date from the Achaemenid and Sassanian period, which draw mountain water resources to Bam from 50 ~ 60 km away. Pre-earthquake, 4 qanats were in good condition and continuously used. ICHO does not have exact and detailed documentation on the qanats in Bam. However, as qanats are historic, while the Ministry of Irrigation and Water Resources are responsible for the management and maintenance of qanats, ICHO are sometimes consulted on the conservation of the historic qanats. The possibility of later adding the qanat system within the nomination was touched upon.

4.8 *High level cultural missions from UNESCO to Bam.*

- 4.8.1. The symbolic importance of high level missions from UNESCO to Bam for cultural heritage was reiterated and underscored prior to, during and after the mission, to demonstrate to the people of Bam and Iran, the DG's declaration to stand by people of Iran to address the conservation challenges of Bam following the earthquake. Thanks to the full co-operation of the DG, the ADG/CLT, DIR/WHC, the Director of the UNESCO Tehran Cluster Office, and various HQ colleagues, the DG decided that two high level missions would take place. The first would be led by DIR/WHC between 21-27 January 2004, and the second would be ADG/CLT joining the Administrator of UNDP during a flash visit to Iran on 9 February 2004.
- 4.8.2. The Schedule of the DIR/WHC led mission is attached as Annex J.
- 4.8.3. Co-ordination with UNDP has already commenced to prepare the ADG/CLT mission in February. A short description on the relationship with UNDP for cultural heritage is attached as Annex K.

4.9 *Any other pertinent issues or useful information related to UNESCO's cultural actions in Bam.*

- 4.9.1. ICHO immediately responded to the earthquake, and since 26 December 2003, it has taken the following actions, besides the actions already mentioned above:
- ✧ Immediate establishment of a National Task Force for Bam's Cultural Heritage, headed by Vice President and ICHO Head, Mr S. M. Beheshti. The Task Force meets daily, and is composed of the chairpersons of 7 sub-committees (see Annex L), and the Chief of

Implementation of the Bam Project, Mr M. Talebian.

- ✧ Urgent assessment from 26 December 2004 of the state of conservation of Arg-e-Bam and the 24 Historic Monuments in Bam City and identification of priority actions necessary.
- ✧ Immediate assessment of the safety of ICHO staff members of the Bam Project, and care for the injured, and the family of the staff members who perished. (see Annex B for details of the staff of the ICHO Bam Project, before and after the earthquake).
- ✧ Invitation of numerous international and UNESCO missions to Bam and co-ordination with UNESCO on pledged or possible international assistance (see Annex F for details).
- ✧ Elaboration of a plan for the establishment of inter-disciplinary teams to swiftly document, research, record, assess the state of conservation, and plan conservation intervention of the Arg-e-Bam and the Historic Monuments of Bam (see Annex M)
- ✧ Listing of all the hardware, equipment, and machinery necessary for establishing a fully functioning ICHO Camp which will provide for 60 staff members (see Annex N)

4.9.2. Co-ordination with UNESCO HQ SC and UNESCO Tehran Cluster Office DIR is underway to address the issues related to earthquake resistance and risk preparedness for cultural heritage, especially for of earthen architecture. Discussions and consultations will continue with the International Institute for Earthquake Engineering and Seismology, other international seismology institutes, geology experts, and of course, ICHO.

4.9.3. It is important to bear in mind that Arg-e-Bam had been for quite some time, a centre of research for earthen architecture. The Arg-e-Bam and the surrounding Historic Monuments provided researchers, experts and students with an ideal environment for studying earthen architectural history, history of urban morphology, conservation, amongst other disciplines. The icehouse located on the north east of the Arg had been restored and converted into a conference hall, and the Mirza Naeim School was used as an archaeological and architectural research centre too. Every three years, two thematic workshops related to urban design and architecture were organized. This character of Arg-e-Bam is also an important point to take note of in the overall comprehensive planning for the future of Bam.

V. SUMMARY OF OTHER ACTIONS TAKEN PRIOR TO AND AFTER THE MISSION

- 5.1 UNESCO Tehran Cluster Office, HQ, ICHO and other relevant Iranian national bodies have been in daily contact since 26 December 2003, through telephone, email, and meeting consultation and information exchange. On 2 January 2004, a Joint Statement was issued by ICHO and UNESCO, attached as Annex O.
- 5.2 In addition to what has already been mentioned, together with UNESCO, the Iranian authorities have taken the following actions;
 - 5.2.1 Preparation of a US\$ 200,000 project proposal to include within the UN Flash Appeal for the first three months of work to be undertaken including the organization of an international scientific technical expert meeting (see Annex P for the excerpt of the UN Flash Appeal), released on 8 January 2004.
 - 5.2.2 The Permanent Delegation have taken necessary actions to quickly obtain the exceptional Participation Programme contribution for US\$ 25,000 which is being provided to the Government through the National Commission for UNESCO (letter 20 January 2004 from ODG).
- 5.3 I have undertaken;
 - 5.3.1 Daily consultation with ICHO;
 - 5.3.2 Daily consultation and information exchange with various donor governments, specialized institutions, agencies, organizations, experts and HQ to assist the Iranian authorities in mobilizing appropriate and timely international financial and technical assistance for Bam's cultural heritage, since 26 December 2003;
 - 5.3.3 Information collection and dissemination to the general public through numerous Iranian press, NII's website;
 - 5.3.4 Liaison with UNESCO HQ BPI for photographic and accurate information on Bam;
 - 5.3.5 To solicit international technical and financial assistance from various government agencies, institutions, and universities, and NGO for Bam. Besides all the international technical and financial assistance which are underway referred to in one way or another within this report, it is important to mention that the University of Tehran's Faculty of Literature and Human Sciences's Dean expressed his University's readiness to assist in the cultural heritage activities for Bam. The Senior Lecturer at this Faculty has completed a PhD on

Bam's urban development using archaeological sciences, and I have obtained valuable information on already available resources on Bam which will assist the ICHO experts and UNESCO in our work.

VI. CONCLUDING REMARKS

- 6.1 The work of ICHO, Kerman Province, the Government of Iran, and UNESCO's assistance to the authorities to address the cultural heritage needs at Bam following the earthquake remains a challenging one. However, the work to be achieved at Bam will be a useful model for the future in terms of post-disaster cultural heritage conservation and revitalization, not only for the people of Iran, but for the international community as a whole. Therefore, the timeliness and quality of international assistance mobilized by Iran and UNESCO will be important key factors, which will define how successful the concerted efforts will be.
- 6.2 It will be important in the co-ordination work of UNESCO that information is shared to the extent possible in a timely manner. This requires particular attention as there are at least three disciplines already involved (CLT – cultural heritage conservation and revitalization, SC – for geology, seismology, risk preparedness), CI – information technology). At a slightly later stage, when UNESCO addresses the cultural awareness raising needs through heritage awareness activities, or the need to assist the rehabilitation of education for performing arts, crafts, or cultural industries, we will need to also involve ED. To this end, it will be important that a mechanism be established to ensure complete harmony and effective actions within UNESCO.
- 6.3 The task before us remains great, and long term commitment by UNESCO is necessary for Iran, as well as for UNESCO's credibility. It is important that UNESCO does not lose momentum in the mobilization of technical and financial assistance for Bam and the Government in addressing the situation at Bam.

Appendix 4

UNESCO. High-level technical mission to Bam for assessment and planning activities

12 to 16 March 2004

Table of contents

1 Introduction

2 Participants and schedule

3 Emergency measures, main findings and recommendations

3.1. Proposed emergency measures at the castle level

3.2. Debris on and around still standing structures

3.3. Still standing structures

3.4. Visitors track

3.5. Access to the citadel

3.6. Access to the castle platform

3.7. Identification and marking of holes under ground

3.8. Manpower and equipments

4 Preparation of the nomination file for inscription of Bam's Cultural Heritage on the List of World Heritage in Danger

5 Organization of the 17 – 20 April 2004 Bam Workshop

6 Other related meetings

7 Annexes

a) Schedule of the UNESCO-ICHO Joint Mission

b) Plans indicating location of dangerous zones and brief description of proposed works

c) Provisional program for the April workshop

d) Letter of invitation to the April seminar

e) Reports and Recommendations of the High Level International Technical Experts

1. INTRODUCTION

The 6.5 Richter scale earthquake which struck the City of Bam in Kerman Province, South Eastern Iran, at 05.26 am local time, 26 December 2003, resulted with the loss of over 43,000 lives (as of 12 February 2004), and more than 40,000 local residents left injured and or homeless. The disaster severely damaged the urban area of Bam City, the famous Arg-e-Bam (Citadel), numerous Historic Monuments within and surrounding the Bam City, the agricultural land, irrigation systems and environment of the desert oasis of Bam.

The Government of the Islamic Republic of Iran and all agencies of the United Nations immediately responded together with the international and national communities to immediately address to the catastrophic situation. Specifically counting on the technical competence within UNESCO's mandate, the Government of the Islamic Republic of Iran formally requested on 28 December 2003 that UNESCO lead the international assistance co-ordination with the Government in the fields of Culture and Education.

In response to the disaster and the to the request from the Government, the Director-General of UNESCO, immediately formed an inter-sectoral Task Force within UNESCO, and planned actions from 6 January 2004. After the initial immediate missions² undertaken with the authorities by the Director, Programme Specialist for Culture, and Education Consultant from the UNESCO Tehran Cluster Office, all which produced detailed situation reports, an UN Appeal for the Cultural Heritage which immediately resulted in mobilizing a US\$ 200,000 grant from the Japanese Government, and effective actions to address the emergency situation, the Director-General decided to dispatch a high-level technical mission to Iran to support the assessment and planning activities being undertaken by the national and local authorities.

As a follow-up to this first high level technical mission, a second high level technical and advisory expert mission was organized with the aim to define precise emergency measures which could be implemented immediately in order to reduce the risks of further damage to the property. This mission was also an opportunity to discuss the nomination dossier for inscription on the World Heritage List, as well the organization of the April 2004 Bam Workshop.

2. PARTICIPANTS AND SCHEDULE

The principal participants of the UNESCO-ICHO Joint Mission were the following;

UNESCO:

- ◆ Architect Dr Dinu Bumbaru (Canada), Secretary General of ICOMOS International,

- ◆ Professor Yasuyoshi Okada of the Institute for Cultural Studies of Ancient Iraq, Kokushistan university, Japan
- ◆ Professor Giorgio Croci, University of Rome, Italy
- ◆ Architect Thierry Joffroy, International Centre for Earth Construction – School of Architecture of Grenoble, France
- ◆ Ms Junko Taniguchi, Programme Specialist for Culture, UNESCO Tehran Cluster Office, I.R. of Iran

ICHO:

- ◆ Dr Rasool Vatandoust, Director, Department of International and Cultural Relations, ICHO (also Director of RCCCR, ICHO)
- ◆ Mr Eskandar Mokhtari, Director of ICHO Tehran Province and Chairperson of the Sub-Committee for Documentation of Bam within the ICHO Task Force for Bam
- ◆ Mr Mohammad H. Talebian, Temporary Director of the Arg-e-Bam Project, ICHO (Also Director of the Persepolis, Pasargarde, and Chogha Zanbil World Heritage Projects)
- ◆ Architect and Engineer, Mr Meryar
- ◆ Architect Moyubi
- ◆ Mr. Saied Rahmati, Restorator of relics
- ◆ Mr. Hassan Rezvani, archaeologist
- ◆ Mr. Sayeed Galahfar, Restorator
- ◆ Mr. Hadi Ahmadi, Restorator
- ◆ Mrs. Jafari, Architect

The mission was operational in Bam from 12 to 16 March 2004. Focus was given primarily to the citadel (Arg e Bam) even though several other sites located both inside and outside the town of Bam were visited.

3 EMERGENCY MEASURES, MAIN FINDINGS AND RECOMMENDATIONS

At the request of ICHO, the castle, where the house of the governor is located was given more attention. After inspection, a set of 12 points where risks were evaluated as high was determined and several of them were taken as samples (through determination of families of cases) so as to discuss possible options for further damage prevention.

The mission however examined the overall citadel and identified potential threats related to the enormous quantity of debris at ground level and on some of the structures and to the presence of visitors having in mind the coming Norooz, occasion at which many visitors are expected (possibly up to 1,000 per day). Still standing structures were also visited and potential problems identified (general assessment). Finally the proposed visitors' path was also examined.

It was made clear by all partners that these emergency measures were to be considered within a longer term perspective as some threats, even if minor at the time of the mission, would remain, both from structural (some measures will only be temporary) and archaeological points of view (risks of fall of artifacts from the revealed layers of successive occupations, and of small portions of ancient walls located inside the overall structure).

3.1. Proposed emergency measures at the castle level

3.1.1. Removal of debris

Debris represents a threat to the security of workers. They are also additional weight to the walls and platform which can have a negative effect in case of after shocks. This is also the case of debris which is blocked in trenches that exists between external walls and the filling of the platforms.

Removal of debris by hand.

Removal of debris by hand, using mountain climbing equipment so as to be able to access to dangerous zones.

Removal of debris using chutes.

Other mechanisms were considered, but those more complicated to install (wagons on rails, cable wagons) would need further consideration, studies and cost evaluation. It was however agreed that removal of debris was very urgent and should start immediately with simple and doable means.

Removal of debris will have to be undertaken under the supervision of archaeologists so that valuable heritage assets can be conserved. Adobe bricks which remain in good state should be stored for possible re-use in the future. Adobe bricks with and without straw should be stored separately as their properties are different and suit different uses.

Removal of debris will also allow to have a better view of the condition of the structures and so to better assess the overall condition of the castle.

However, special attention may need to be taken to debris that support destabilized structures. Proper assessment of areas concerned needs to be made. Monitoring of works is also needed to ensure full security of the workers as well as to avoid destruction of fragile structures without having properly documented them, if considered important (i.e. a value assessment by experts is necessary on a case by case basis).

Priority spots for this comprise: CW1, CW2, CE3, CRW1 and CRW2

3.1.2. Removal of dislocated masonry at the top of the walls

At the top of some walls there are still some dislocated portions. Many of them were recent restorations that probably do not have specific values. They represent a danger in case of after shock, as they could fall down. Their removal would reduce the overall weight of the walls and so diminish the potential further damage.

Removal of dislocated masonry blocks will have to be done after a photographic survey and done under the supervision of archaeologists so that valuable pieces could be conserved or at least documented.

There are a number of places concerned but as a priority the following spots have been identified : CE1, CS1, CW2, CRW2 and (stability and possibility of repair to be checked) CW1, CW4(a large portion of recent wall to be checked) and CS2.

3.1.3. Removal of dislocated parts of the platform (filling)

This concerns few areas. Some portions of this filling are in perilous equilibrium. They represent a danger in case of after shock, as they could fall down.

Most dangerous area : platform just besides CW5

3.1.4. Tying of some walls with belts

This concerns mainly two areas where belts can hold walls during aftershocks which continue.

The types of belts to be used are still to be determined, but those could be either nylon belts as used for tying truck loads, or large nylon ropes. Details for possible implementation were discussed.

See photograph in annex for CW5.

For CW2, tying of the wall needs to be done together with the installation of one or several struts that would avoid possible movement towards the platform. The belt can be installed at the platform level after removal of the debris. It should be tight to the wall base of the bath house.

Tying walls is also probably needed in between windows of the first floor of the barracks, just above the entrance.

3.1.5. Repair of walls bases

The pendulum effect (horizontal) and the 1G vertical shock entailed by the earthquake have provoked some breakage of the structures in compression, mainly at the stone block basis and in the masonry at the junction with the stones. If some walls have collapsed, some are still in place (often combined with a limited slide).

Some of these walls need to be and can be repaired. In some cases, a simple propping should be made before taking action. Portion of wall CW 5 also needs to be tight with a belt (see 3.1.4).

Before new masonry is put in place, a flat surface needs to be prepared to ensure proper bonding.

Further tying will probably be necessary to ensure proper cohesion with internal structures.

Spots concerned : CE2 and CW5

3.1.6. Standing stone walls

The stone walls have been weakened by the erosion of the mud mortar. This has made them prone to cracking of some of the stones under high and punctual pressures and further failures that have provoked failures of walls;

To avoid further damages that could occur under over pressures at the occasion of possible aftershocks, it is recommended that gaps between the stones be refilled with appropriate mortar.

This concerns most of these stone walls, but in particular wall south of CE2. There is also a very huge stone in a perilous state in between CW3 and CW4

3.1.7. Archaeological survey of surfaces revealed

As there are still risks of failure of some of the exposed surfaces, that include archaeological layers of successive occupation, it would be desirable to carry out surface archaeological survey of these exposed zones of the core of the filling of the platform. This will have to be done using mountain climbing equipments.

3.2. Debris on and around still standing structures

Accumulation of debris is present in many places of the site. This includes portions just around still standing structures.

Standing structures are very few and are now precious. The areas surrounding such standing structures should be cleared to avoid the possibility of damp retention (in case of high rainfall which needs to be taken into account even though those are rare) and further, necessary steps to prevent possible humidity transmission at the base of these structures should be taken to mitigate new risks of deterioration.

There are also some superficial drainage systems that are blocked (e.g. above the northern part of the barracks, just under the castle ramp).

Those debris needs to be cleared and stored in places that still needs to be determined.

Specifically at the base of the castle, this debris may contain interesting artifacts. For example, a canon ball was found during the inspection. Therefore the presence of archaeologists for these works is essential and necessary.

Another priority: the Jame (Friday) mosque. It is likely that the population of Bam would like to re-use the area of the destroyed Friday mosque as this place is holy to them. In a first step this could be done at the courtyard level when gradually the area could be enlarged so as to be able to accommodate more people. Of course access to the location of the mosque also needs to be considered. Such a work would probably be well received by the population and therefore help ICHO in getting confidence and support from the population of the city.

Special attention may need to be taken to debris which support destabilized structures. Proper assessment of areas concerned needs to be made. Monitoring of works is also needed to ensure full security of the workers as well as to avoid destruction of fragile structures. Some debris may have to be kept until proper analysis regarding their importance and value is completed.

Adobe bricks which remain in good condition should be stored for possible re-use in the future. Adobe bricks with and without straw should be stored separately as their properties are different and suit different uses.

3.3. Still standing structures

In addition to the above, some few repairs in the vaults are also necessary: These minor repairs would render the structures safe. Action on the former tea house, which serves as an entry to the upper portions of the citadel is particularly important.

When removing the debris, adobe bricks which remain in good state should be stored for that purpose. Adobe bricks with and without straw should be stored separately as their properties are different and suit different uses. Adobes with straw are lighter and have better shear and tensile strengths. They are better suited to vaults and domes construction.

3.4. Visitors track

After removal of debris and safety measures in the vaults, some of the still standing structures could be opened to the public which would quickly add interest to the visit. There are still sufficient parts of these buildings which are sufficient to imagine how it was before the earthquake and the possibility to observe the inside of the structures can be used to describe the specific building techniques of the vaults and cupolas. Structures that should be considered include the tea house, the barracks, the stables, the caravanserai, the former gateway (south east of the castle),...

The water reservoir within the courtyard of the stables is an interesting structure that can be used to illustrate the sophisticated water collection system (Qanats and siphons) that has made possible people to settle within this environment, where naturally water is scarce during a major part of the year.

The area located at the north–west of the citadel has very interesting remains of old structures, which have almost not been restored, therefore presenting a high level of authenticity and moreover has a high pedagogical value, as it presents a great variety of ancient building techniques, including the possibility to observe the structures from the inside, through “natural” full size sections. Those are mostly one storey high and have been very slightly damaged by the earthquake, rendering the overall area very accessible for visitors.

Of course access to these areas should be controlled to avoid visitors to climb on fragile structures. If this is difficult to achieve during Nooruz, having guides to lead the visitors within the site may solve this security problem and make possible the visit of these very interesting remaining parts of the citadel. That would render the visit more cultural and scientific than free visits that were done before which were probably more entertaining.

3.5. Access to the citadel

After destruction of some of the towers and of portions of the city walls, access to the citadel is now possible from several points. Some of the footpaths are very dangerous (e.g. south east of the castle) as they pass near holes on the top of some dug-out caves and vaults. There are also possibilities for unauthorized visitors to be in perilous situations and to destroy some of the structures in the access limited zone. The problem of the access can be solved through removal of debris that provide access but also through the reinforcement of the security team.

This would also allow to re-reveal parts of the city wall and ensure visibility of the works done.

Debris outside could easily be stored in a selected northern part of the surroundings of the citadel.

3.6. Access to the castle platform

At present, access to the castle platform is through slopes formed by debris. This is not safe and could affect some of the remains under the debris.

For the short term, a footpath (zigzag shape) should be created above the barracks building. However, as soon as possible better equipment, such as aluminum steps with hand rails, should be acquired for better efficiency and security.

3.7. Identification and marking of holes under ground

Arg e Bam possesses numerous ancient wells, toilet pits and tombs. Some of them have partly collapsed and presents some opening on the ground level which sometimes are not so visible.

All areas concerned should be recorded and indicated by warning signs or posts.

3.8. Manpower and equipments

3.8.1. Manpower

Additional manpower is required. As a first evaluation man power should be strengthened by:

Security (40), more specifically during Noorouz.

Labourers: there is a need for several teams working simultaneously so as to ensure that there will not be delays in the removal of the debris. It would be possible to engage 100 to 200 to be divided up into teams with supervising archaeologists and conservators. This could be an opportunity to employ jobless citizens of Bam and therefore contribute to alleviating social reconstruction in the city of Bam.

There is a need for constant supervision for such operations. Archaeologists specifically in the zone with high potential of findings (around the castle) are particularly essential. (possibly 10-15 archaeologists)

Field restoration experts (4)

Craftsman (masons) (3 to 6)

Mountain climbing experts (2 to 3)

3.8.2. Equipments

Equipment required for these short term activities mainly comprise:
(Quantities are indicative and depend on number of laborers employed)

- . Mountain climbing equipment (2 belts and 100 ml of mountain rope)
- . about 200 ml of belts for tying walls
- . Ladders
- . Scaffolding
- . Aluminum steps (if possible)
- . Transportation equipment (25 wheelbarrows, 2 to 3 small tractors with tows)
- . 25 buckets
- . 50 baskets or large recipient for carrying fine debris
- . 40 shovels
- . 20 picks
- . 10 sledge hammer
- . hundred identification posts
- . stakes and colored rope or ribbon for signage of dangerous areas

Trucks are also needed but probably can be rented on load basis.

4 PREPARATION OF THE NOMINATION FILE TO THE WORLD HERITAGE IN DANGER

Several meetings were held between ICHO experts, Ms. Taniguchi of UNESCO and Mr. Bumbaru of ICOMOS to assess progress made by ICHO experts on the preparation of the nomination file and possible documents that could be annexed to the nomination form.

The presence of the Secretary General of ICOMOS was an opportunity to discuss in-depth possible options for the exact composition of the site (Arg e Bam, and a selection of related sites inside and outside the town) and also on the definition of the buffer zone and to provide recommendations for further work to be done for this nomination file. CRATerre-EAG expert who has rich experience in the preparation of nomination files also provided recommendations.

It was agreed that ICHO should first concentrate on the first part of the nomination, including delimitation of the site, proposal for core and buffer zones, overall description, justification, statement of significance, comparative analysis, authenticity, and criteria proposed. That will allow to have substantial issues to be further discussed on the occasion of the forthcoming expert mission to be undertaken by Mr. Makoto Motonaka, Expert, Japanese Agency of Cultural Affairs. Decisions on this part of the nomination will permit to define more precisely the contents of the other parts of the nomination form and to select documents that will actually be useful as appendixes.

Of course, in the mean time work can continue on the mapping of the Arg and of the other related historical sites. On going work and research activities would also probably be useful for the development of other chapters of the nomination or for reinforcing the nomination through provision of appendixes.

5 ORGANIZATION OF THE FORTHCOMING APRIL WORKSHOP

This activity was mostly carried out by D. Bumbaru representing ICOMOS, J. Taniguchi of UNESCO, R. Vatandoust and M. Talebian for ICHO. However, the other experts present (Crocchi, Joffroy and Okada) were consulted to provide advice on the list of persons that could be invited and on the workshop programme. Several ICHO staff also participated to meetings which were to discuss logistical issues.

This resulted in many decisions taken concerning the details of the organization: exact dates, venue, accommodation, and also the repartition of responsibilities for further organizational needs.

In addition, a provisional programme has been prepared and a list of possible participants established. An invitation letter has been drafted and immediately sent to selected experts who are invited, together with the provisional workshop programme. These documents are annexed to the present report.

6 OTHER RELATED MEETINGS

Back from Bam, several days in Tehran were the opportunity to meet with representatives of other organizations involved in some other aspects of the “reconstruction” of the city of Bam.

Those comprised mainly:

- . the UNDP resident representative; Mr. F.J. Lyons and his assistant, Mr. Saroj Jha,
- . the members of the World Bank mission,
- . the president of IIEES, International institute of earthquake Engineering and seismology, Mr. Ghafory-Ashtiany and the head of Lifeline Engineering Dpt..

These meetings were the opportunity to present some of the results of the mission, and to discuss possible links that could be established between the initiatives developed by each organization. An important issue that was raised during these meetings was the nomination to the World Heritage of Arg e Bam and the need to define a buffer zone for this outstanding site, and to develop rules for this buffer zone that would ensure that the identity and the overall values of this ancient city be kept.

UNDP strategy already takes into account this important cultural value of Bam city and it was agreed that UNESCO should continue to be present at the different occasions during which important decisions would be taken for the future reconstruction program. It would be particularly important to be present at the Technical consultation on urban redevelopment and planning for the “new” city of Bam” to be organized in Kerman on April 15.

It was also suggested that CRATerre-EAG participate in the coming “Technical workshop on appropriate building technology designs, construction and shelter and public lifeline infrastructure delivery mechanism” to be organized in Bam 12-16 April. Contacts should also be made with SCRB, IHF and NDTF to discuss possibilities of developing improved traditional building techniques that would ensure that the identity of the city can be kept, when in the mean time ensuring full safety for its inhabitants in case of tremor.

The involvement of IIEES for carrying out structural tests was also suggested. The interest of the institution in undertaking such a research program was confirmed by its President. The possibility of organizing a meeting in France to develop such a research program with LGIT (Laboratoire de Géophysique Interne et Tectonophysique, an organization which is already an important partner to IIEES), also involving representatives of the Iranian organizations involved in the reconstruction of Bam as well as other international experts was suggested.

Finally, the World Bank clearly expressed the possibility to include in their project a budget line entirely devoted to cultural activities. That could be directed towards conservation works at Arg e Bam, the reconstruction of the buffer zone and/or of some of the 24 historic buildings in town. If a precise budget breakdown cannot be prepared

before the overall loan project is finalized, it would still be possible to have a budget included, presenting general guidelines and criteria for the selection of projects that could further be used for decision making on each individual project envisaged.

Annex a)

Mission schedule

Wednesday 10

. Arrival in Teheran of M. Bumbaru and Prof. Okada

Thursday 11:

. Arrival in Teheran of M. Joffroy

. Meeting with Junko Taniguchi with the experts arrived: presentation of existing documentation on the situation in Bam

. Meeting with the World Bank mission to Bam: Discussion on the possibility of integrating a cultural component to the World Bank project in Bam. Discussions were also held on the possibility to have an influence on the City development Plan and to ensure continuity in the urban structure of the city, more specifically for the areas surrounding the citadel.

. Departure to Bam

. First informal meeting with Mr. Talebian, Head of ICHO Bam and Mr. Hadi Ahmadi, restorer.

Friday 12

. Quick informal visit of the city of Bam

. First meeting with ICHO, Discussions on progress of the documentation work. Presentation of the proposed tourist track.

. Assessment of the archaeological findings made at the front towers.

. Visit of the site, following the proposed visitors track.

. Quick inspection of the external city wall and of the ice-house

. Inspection of Khale Dokhtar, a smaller citadel located opposite the main citadel, on the other side of the river.

. Arrival of Professor Croci in Bam

. Preliminary discussions on the stabilisation works, in regard to specific questions raised by Prof. Croci

Saturday 13

. General assessment of the condition of the top section of the citadel

. Discussion held on the specific case of the stability of a portion of wall under major risk of collapse, located just above the Barracks. Possible measures have been discussed and evaluated. This has led to the elaboration of a simple solution that could be realised with existing means.

. Arrival of Dr. Vatandoust. Presentation of mission aims and mission experts.

. General assessment of historic buildings within town (Caravanserai, Bath house and market place, and historical houses under ICHO management)

. Second discussion on possible measures to be taken at portion of wall examined in the morning.

. Planning of activities for the next day.

Sunday 14

. Departure of M. Vatandoust

. Detailed identification of the areas of the castle where further failures could occur.

. Meeting with M. Beheshti, Director of ICHO and Mr. Fakoor Pass, Director of ICHO Kerman province office

- . Completion of information collected in the morning
- . Presentation of the observation made during the day and discussion on possible solutions.

Monday 15

- . Selection of representative spots illustrating the various cases of risks.
- . All spots are visited with the overall group of experts. Discussions are held on state of conservation, level of risks and possible measures. New areas of concern are also designated at this occasion.
- . Specific discussion on removal of debris and possible technical alternatives.
- . Discussion on the possible enlargement of the buffer zone to be proposed for the nomination of the site to the World Heritage.
- . Synthesis of the field work with focus on options which have reached consensus amongst all experts which are part of this report.

Tuesday 16

- . departure of M. Talebian and Arch. Mehryor to Teheran
- . Overall inspection of the city wall
- . Overall inspection of the madrasa (coranic school) besides the Friday mosque
- . Inspection of the old hospital
- . Departure of the mission to Teheran

Wednesday 17

- . Departure of M. Bumbaru and Prof. Okada
- . Prof. Croci visits Persepolis with M. Talebian
- . Preparation of first draft of report by T. Joffroy and J. Taniguchi
- . Meeting at UNDP with Fredericks Lyons Resident Representative and Saroj Jha, Assistant Resident Representative, T. Joffroy, J.Taniguchi
- . Meeting with his Excellency the Ambassador of France, First Councillor, Third Secretary, T.Joffroy, J.Taniguchi
- . Meeting with the World Bank Mission to Bam, T.Joffroy, J.Taniguchi

Thursday 18

- . Prof. Croci departs
- . Meeting of M. Joffroy with the French Cultural Councillor, M. Grimaud and the Cultural Attaché, M. Sixte Blanchy
- . Meeting of M. Joffroy with IIEES, M. Ghafory-Ashtiany, President and Mr Mahmoud. Hosseini, Director of Structural Engineering Research Division
- . Meeting at ICHO, M. Vatandoust, M. Talebian and M. Mokhtari, M. Joffroy
- . Meeting at UNESCO Cluster Office

Friday 19

- . Meeting at ICHO office for WH sites with J. Taniguchi, M. Vatandoust, M. Talebian and M. Mokhtari
- . Preparation of report by M. Joffroy and J. Taniguchi

Saturday 20

- . Departure of M. Joffroy

Appendix 5

Supplement to the section 'a' entitled:

a. Authenticity/Integrity

Reasons for the Authenticity of the site:

- 1) **Materials:** Fortunately all the ancient levels, the structures under the restorations, and buildings added are well preserved. Many of these hidden layers have been revealed by the earthquake. Becoming familiar with the master workers and preparation of the materials and the technology used, the traditional methods and mixtures that made up the materials is an important feature that must be kept in the repairs and restorations that will be done in the future.
- 2) **Design:** Although the traditional culture for architecture and city planning and comparing techniques with other similar sites before restoration is done is normal practice, this has been preserved in Bam. When undertaking the present repairs, making use of traditional workers who have learned their trade by experience from their predecessors, will ensure the continuity and originality of the site.
- 3) **Workmanship:** The continuity of the culture of architecture and training of generations of local architects and workers not only will retain the original structures but will also keep the quality and technology of the site so that the new buildings will look like the old ones.
- 4) **Setting:** This site is located on a rocky heights near the Posshtrud River and is surrounded by agricultural fields and gardens. This is an important and unique feature of the Bam Complex. The river is still on the North and date palms are still on the east and south of the site; thus ensuring the retaining and preservation of the pre-earthquake setting.
- 5) **Authenticity and the continuation of tradition**

5-1) Since a long time ago, Iranians had special belief in mountains - places and high rocks as sacred and safe Venues, which still continues. Attention to the natural landscape as a connection between human and nature is seen prominently during various periods of time at the Kohandezh section of Arg. Also the construction of the all- seasons structure during the Safavid dynasty, at the highest point which overlooked the whole city and region from four sides, confirms this matter.

5-2) The existence of sacred venues during the Islamic period beside Kohandezh both inside and outside Arg which until now is the shrine for Bam residents, indicates the importance of this region as a heritage site.

5-3) The Jaame mosque at south east of Arg, Piambar mosque at the north western part of the market place – a Tekyeh at north east of market place–Madreseh at west of the stable–the Rasool mosque at the south of Yakhdan and the Sahebolzaman well, (at the south eastern side of the jaame mosque which has a special place in memory and hearts of Bam citizens and during Monday and Friday special ceremonies are held there) shows the continuance of this tradition. In addition, at some occasions like mourning ceremonies and during religious festivals, people actively participate in Arg of Bam.

6) Spirit and sense / feeling

6-1) Arg-e-Bam is a unique mud brick complex in Iran which has much popularity and the people of Bam identify them selves with Arg and the complexes attached to it. Durhng the interviews with people after the earth quake, most of them insisted on the conservation and restoration of Arg before construction of their homes. It's noteworthy that Arg is on of the important visiting places of Bam citizens and even after the earth quake, people visit it daily. The people of Bam see their identity in Arg and their unique palm groves and Qanats. Many epical stories are prevalent among local people, the most important of them is the story of Kerm-e-haft Vad In Shahnameh, which was mentioned before. The feeling of Bam and Iranian people for this historical complex is so intense that the whole country and world reacted in an unprecedented way to this tragedy, unlike other earth quakes of the world. During different sessions of Iranian government authorities and the reconstruction center of Bam region, managers of Bam city council and the city of Baravat, demanded serious attention to their identity, meaning the cultural heritage of Bam.

7) Use

After a long history during which the Arg of Bam was a prosperous city with a prominent social – economical and political position, the continuance of Arg's cultural and social life, after a short period of recession, is achieving a new meaning by novel concepts. The most important of them are:

a- The first congress of architecture and city – planning which was held in the year 1374 AH. With the participation of more than 800 specialists and 53 lectures. Relating to this congress, 30 round table sessions and eleven expert exhibition also created a dynamic atmosphere at the complex.

b – The second congress of architecture and city planning in the year 1378 AH. was held with more splendor than the first one because of the participation of more than 1200 specialist researchers.

c – After a brief period of suspension, the Imam Hussain mourning ceremonies were again held at the Tekyeh of Arg with the presence of 2000 people during the Moharram month of 1376 AH. And according to same old traditions recently after the 5th of day earth quake (in 1382 AH) under the auspices of Arg-e-Bam's research center, a group of mourners were invited to Arg's Tekyeh on the occasion of Imam Hussein's Arbaeen which had tremendous spiritual effects on locals and mourners.

d- Also in the year 1381 AH, in order to preserve the immaterial heritage and continuance of cultural heritage, a festival of traditional sports and games was held in Arg complex with the cooperation of the physical education administration and cultural heritage organization's anthropological center of Kerman province.

11- The exhibition and Norooz ceremony in the year 1379-80 AH. was another opportunity for the gathering of interested individuals in this complex.

11. In the month of Khordad of the year 1381 AH. this complex was also the venue for closing ceremonies of the festival of provincial products held by the radio television (seda- o- sima) administration.
12. Also noting the great popularity of Arg-e-Bam's historical complex among tourists, it's necessary to inaugurate free designing and technical drawing classes for students – opening of a traditional tea – house and buying two shops at the entrance of market- place for presenting publication of the cultural memorial foundation etc. And regarding the persistent presence of believers by the Sahebalzaman well, it can be said that each one of these instances have a role in the incessant presence of people and are the living stream of Arg -e- Bam's historical complex.
13. The earth quake specially had major role causing the destruction and collapse of the city Qanats and has drained many of these water resources. So it's feared that on one hand, the water shortage makes an irreparable damage on Bam city gardens (which are partially an integral constituent of the landscape and the original function of Arg-e-Bam complex) and on the other hand changes the traditional irrigation pattern of the region. For this reason, in addition to city reconstruction centers, experienced personal have been invited for restoration and reopening of qanats and have rapidly begun their work on ruined qanats. As a result, up till now, due to the cooperation of agricultural Jihad of Yazd- Fars-Khorasan and eastern Azarbaijan provinces, 28 qanats have been prepared for usage. Also the pollination operation of palm trees has been performed swiftly.
14. As a result, a part of the western rampart under the control of army and security forces was quickly set aside to this and designing the visiting route was included in the fraud work of the resident team of Arg-e-Bam research center. Describing patiently the reasons for the inevitable limitation of visit (especially to inner sections) to persistent and important visitors was also the task for these personnel. Without exaggeration, Bam citizens were as much concerned for the safety of their family and relatives and mourned for their dead, as they regretted the damage on Arg and on every occasion came sadly and distressed to see Arg. Part of the time of the aid and relief forces and of course most of the reporters' time and political – cultural ... personalities was devoted to visit Arg -e- Bam.

Authenticity and the continuation of tradition

15. Since a long time ago, Iranians had special belief in mountains - places and high rocks as sacred and safe Venues, which still continues. Attention to the natural landscape as a connection between human and nature is seen prominently during various periods of time at the Kohandezh section of Arg. Also the construction of the all- seasons structure

during the Safavid dynasty, at the highest point which overlooked the whole city and region from four sides, confirms this matter.

16. The existence of sacred venues during the Islamic period beside Kohandezh both inside and outside Arg which until now is the shrine for Bam residents, indicates the importance of this region as a heritage site.
17. The Jaame mosque at south east of Arg, Piambar mosque at the north western part of the market place – a Tekyeh at north east of market place–Madreseh at west of the stable-the Rasool mosque at the south of Yakhdan and the Sahebolzaman well, (at the south eastern side of the jaame mosque which has a special place in memory and hearts of Bam citizens and during Monday and Friday special ceremonies are held there) shows the continuance of this tradition. In addition, at some occasions like mourning ceremonies and during religious festivals, people actively participate in Arg of Bam.

Authenticity – spirit and sense

18. Arg-e-Bam is a unique mud brick complex in Iran which has much popularity and the people of Bam identify them selves with Arg and the complexes attached to it. Durhng the interviews with people after the earth quake, most of them insisted on the conservation and restoration of Arg before construction of their homes. It's noteworthy that Arg is on of the important visiting places of Bam citizens and even after the earth quake, people visit it daily. The people of Bam see their identity in Arg and their unique palm groves and Qanats. Many epical stories are prevalent among local people, the most important of them is the story of Kerm-e-haft Vad In Shahnameh, which was mentioned before. The feeling of Bam and Iranian people for this historical complex is so intense that the whole country and world reacted in an unprecedented way to this tragedy, unlike other earth quakes of the world. During different sessions of Iranian government authorities and the reconstruction center of Bam region, managers of Bam city council and the city of Baravat, demanded serious attention to their identity, meaning the cultural heritage of Bam.
19. After a long history during which the Arg of Bam was a prosperous city with a prominent social – economical and political position, the continuance of Arg's cultural and social life, after a short period of recession, is achieving a new meaning by novel concepts. The most important of them are:
 20. a- The first congress of architecture and city – planning which was held in the year 1374 AH. With the participation of more than 800 specialists and 53 lectures. Relating to this congress, 30 round table sessions and eleven expert exhibition also created a dynamic atmosphere at the complex.
 21. b – The second congress of architecture and city planning in the year 1378 AH. was held with more splendour than the first one because of the participation of more than 1200 specialist researchers.
 22. c – After a brief period of suspension, the Imam Hussain mourning ceremonies were again held at the Tekyeh of Arg with the presence of 2000 people during the Moharram month of 1376 AH. And according to same old traditions recently after the 5th of day earth quake (in 1382 AH) under the auspices of Arg-e-Bam's research center, a group of mourners were invited to Arg's Tekyeh on the occasion

of Imam Hussein's Arbäeen which had tremendous spiritual effects on locals and mourners.

23. Also in the year 1381 AH, in order to preserve the immaterial heritage and continuance of cultural heritage, a festival of traditional sports and games was held in Arg complex with the cooperation of the physical education administration and cultural heritage organization's anthropological center of Kerman province.
24. The exhibition and Norooz ceremony in the year 1379-80 AH. was another opportunity for the gathering of interested individuals in this complex.
25. In the month of Khordad of the year 1381 AH. this complex was also the venue for closing ceremonies of the festival of provincial products held by the radio television (seda- o- sima) administration.
26. Also noting the great popularity of Arg-e-Bam's historical complex among tourists, it's necessary to inaugurate free designing and technical drawing classes for students – opening of a traditional tea – house and buying two shops at the entrance of market- place for presenting publication of the cultural memorial foundation etc. And regarding the persistent presence of believers by the Sahebalzaman well, it can be said that each one of these instances have a role in the incessant presence of people and are the living stream of Arg -e- Bam's historical complex.
27. The earth quake specially had major role causing the destruction and collapse of the city Qanats and has drained many of these water resources. So it's feared that on one hand, the water shortage makes an irreparable damage on Bam city gardens (which are partially an integral constituent of the landscape and the original function of Arg-e-Bam complex) and on the other hand changes the traditional irrigation pattern of the region. For this reason, in addition to city reconstruction centers, experienced personal have been invited for restoration and reopening of qanats and have rapidly begun their work on ruined qanats. As a result, up till now, due to the cooperation of agricultural Jihad of Yazd- Fars-Khorasan and eastern Azarbaijan provinces, 28 qanats have been prepared for usage. Also the pollination operation of palm trees has been performed swiftly.
28. As a result, a part of the western rampart under the control of army and security forces was quickly set aside to this and designing the visiting route was included in the fraud work of the resident team of Arg-e-Bam research center. Describing patiently the reasons for the inevitable limitation of visit (especially to inner sections) to persistent and important visitors was also the task for these personnel. Without exaggeration, Bam citizens were as much concerned for the safety of their family and relatives and mourned for their dead, as they regretted the damage on Arg and on every occasion came sadly and distressed to see Arg. Part of the time of the aid and relief forces and of course most of the reporters' time and political – cultural ... personalities was devoted to visit Arg -e- Bam.



Bam Earthquake: UNESCO's Response

The Director-General of UNESCO, Mr Koïchiro Matsuura, today convened the first meeting of the Task Force he established to coordinate UNESCO's action in response to the Bam earthquake. The Task Force will also prepare the Organization's contribution to the joint United Nations Flash Appeal.



As a first response, emergency funds were decentralised to the UNESCO Tehran Office for immediate priorities such as children in need and damaged cultural heritage. Technical missions will however be undertaken in the coming weeks to assess the needs that fall within the Organization's fields of competence and that need to be included in a global Organizational Plan of Action for Bam. Mr Matsuura stressed the necessity of such a Plan ensuring an appropriate response to the immediate requests already received from the Iranian Authorities, corresponding to the joint United Nations efforts for Bam, and including medium to long-term needs such as awareness raising on disaster prevention and preparedness.

In the field of culture, the Iranian Authorities have requested that UNESCO coordinate all international efforts for the rehabilitation of cultural heritage. Contacts have therefore been established with competent institutions for technical and financial support. UNESCO is working closely with Iranian Cultural Heritage Department and with ICOMOS and ICCROM to assess the state of damage of the Historic City of Bam with a view to preparing an action plan for the city's rehabilitation. Technical guidelines on conservation practice are also being developed for the city. In addition, the World Heritage Centre will examine the possibility of the inclusion of Bam on the Heritage in Danger List under Article 67 of the World Heritage Convention, at the June 2004 session of the World Heritage Committee.

Concerning education, all 131 schools in Bam and its surrounding area have been severely damaged and rendered unusable. UNESCO is therefore working with other competent United Nations agencies to provide emergency assistance to ensure the continuity of the Bam children's education, as well as elaborate a plan of action for the rehabilitation of the education system in the region.

The Director-General underlined the Natural Science sector's specific role, particularly in relation to the inclusion of awareness raising on disaster preparedness and prevention elements in any future Plan of Action for Bam. While post-disaster response and recovery represent the priority of the moment, the international community should reflect upon the need to encourage measures devoted to reducing the exposure to future inevitable hazards and disasters. Given the increased vulnerability to natural hazards in the world today, UNESCO will enhance its advocacy role in the need for a shift in emphasis from post-disaster reaction to pre-disaster action and prevention, in the framework of the United Nations International Strategy for Disaster Reduction and in concert with other United Nations Partners.

As such, UNESCO's action in Bam in the field of the Natural Sciences will concentrate on:

- cooperation with competent Iranian institutions for the promotion of preparedness for future earthquakes and other hazards, as well as the mitigation of their effects;
- provision of technical advice on the process of reconstruction in order to ensure the earthquake-resilience of future construction;
- partnership enhancement with scientific and technical institutions including the International Institute of Earthquake Engineering and Seismology in Tehran which was established in the late 1980s under UNESCO's impetus with a focus on integrating earthquake risk prevention in reconstruction and development; and
- encouragement of the analysis of lessons learnt from the present earthquake, including recommendations to prevent future losses.

The next meeting of the Task Force, scheduled to take place after the official launch of the joint United Nations Flash Appeal, will examine this document in order to ensure coherence between UNESCO's intersectoral response, and any action the Organization is requested to take within the interagency response to the Bam earthquake.

Author(s)	The Spokesperson
Source	Flash Info n°001-2004
Publication Date	07 Jan 2004

© 2004 - UNESCO

Distribution limited

WHC-04/28.COM/14A
Paris, 24 May 2004
Original: English/French

UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANIZATION

CONVENTION CONCERNING THE PROTECTION OF
THE WORLD CULTURAL AND NATURAL HERITAGE

WORLD HERITAGE COMMITTEE

Twenty-eighth session

Suzhou, China
28 June – 7 July 2004

Item 14 of the Provisional Agenda: Tentative Lists of States Parties submitted as of 15 May 2004 in conformity with the *Operational Guidelines*

SUMMARY

This document presents the Tentative Lists of all States Parties submitted in conformity with the *Operational Guidelines* as of 15 May 2004. The Committee is requested to note that all nominations of properties to be examined by the 28th session of the Committee are included in the Tentative Lists of the respective States Parties.

In order to provide the World Heritage Committee with a greater opportunity to review new additions to the Tentative Lists, this document is completed by 3 annexes:

- *Annex 1* presents a full list of States Parties indicating the date of the most recent Tentative List submission.
- *Annex 2* presents new Tentative Lists (or additions to Tentative Lists) submitted by States Parties since the last session of the Committee.
- *Annex 3* presents a list of all properties submitted on Tentative Lists received from these States Parties, in English alphabetical order. Property names are listed in the language in which they have been submitted by the State Party.

Draft Decision 28 COM 14A: see page 2

TENTATIVE LISTS SUBMISSIONS SINCE 5 JUNE 2003 Annex 2

in accordance with Decision 27 COM 8A.4

State Party	Site Name	Date of submission	N	C
AFRICA				
BURKINA FASO	Parc National du W du Niger et aires protégées adjacentes	30/01/2004	Yes	No
CAPE VERDE	Camp de concentration de Tarrafal	07/05/2004	No	Yes
CAPE VERDE	Ville de Sao Filipe	07/05/2004	No	Yes
CAPE VERDE	Cova e Montantes de Ribeiras da Torre et do Paul	07/05/2004	Yes	No
CAPE VERDE	La Saline de Pedra Lume	07/05/2004	Yes	Yes
CAPE VERDE	Le Plateau de la ville de Praia	07/05/2004	No	Yes
CAPE VERDE	Cidade Velha, ancienne Ribeira Grande	07/05/2004	No	Yes
MAURITIUS	The Apravasi Ghat (Coolie depot)	28/07/2003	No	Yes
MAURITIUS	Le Morne Brabant Mountain	28/07/2003	No	Yes
SOUTH AFRICA	Vredefort Dome	29/09/2003	Yes	No
SOUTH AFRICA	Makapan Valley	29/09/2003	No	Yes
SOUTH AFRICA	The Richtersveld Cultural Landscape	02/02/2004	Yes	Yes
SOUTH AFRICA	Alexandria Coastal Dunefield	15/05/2004	Yes	No
SOUTH AFRICA	Taung Skull Fossil Site (extension to Sterkfontein)	15/05/2004	No	Yes
SOUTH AFRICA	Tswaing Meteorite Crater	15/05/2004	Yes	No
SOUTH AFRICA	The !Xam Khomani Heartland	15/05/2004	No	Yes
SOUTH AFRICA	Kimberley Mines and Associated Early Industries	15/05/2004	No	Yes
SOUTH AFRICA	Cape Floral Region	15/05/2004	Yes	No
ARAB STATES				
EGYPT	Historic quarters and monuments of Rosetta/Rachid	28/07/2003	No	Yes
EGYPT	Oasis of Fayoum, hydraulic remains and ancient cultural landscapes	28/07/2003	No	Yes
EGYPT	The An-Nakhl fortress, a stage on the pilgrimage route to Mecca	28/07/2003	No	Yes
EGYPT	Two citadels in Sinai from the Saladin period (Al-Gundi and Phataoh's island)	28/07/2003	No	Yes
EGYPT	The monasteries of the Arab Desert and Wadi Natrun	28/07/2003	No	Yes
EGYPT	Raoudha nilometre in Cairo	28/07/2003	No	Yes
EGYPT	Necropolises of Middle Egypt, from the Middle Empire to the Roman period	28/07/2003	No	Yes
EGYPT	Pharaonic temples in Upper Egypt from the Ptolemaic and Roman periods	28/07/2003	No	Yes
EGYPT	Abydos, city of pilgrimage of the Pharaohs	28/07/2003	No	Yes
EGYPT	Alexandria, ancient remains and the new library	28/07/2003	No	Yes
EGYPT	Great Desert Landscapes	12/06/2003	Yes	No
EGYPT	Mountain Chains	12/06/2003	Yes	No
EGYPT	Desert Wadis	12/06/2003	Yes	No
EGYPT	Bird Migration Routes	12/06/2003	Yes	No
EGYPT	Southern and Smaller Oases, the Western Desert	12/06/2003	Yes	No
IRAQ	The Marshlands of Mesopotamia	29/10/2003	Yes	Yes
IRAQ	The Sacred Complex of Babylon	29/10/2003	No	Yes
JORDAN	Jerash Archeological City (Ancient Meeting Place of East and West)	13/01/2004	No	Yes
JORDAN	Old City of Salt	13/01/2004	No	Yes
ASIA AND THE PACIFIC				
INDIA	River island of Majuli in midstream of Brahmaputra River in Assam	02/03/2004	No	Yes
INDIA	The Great Living Chola Temples at Thanjavur, Gangaikondacholapuram and Darasuram	24/02/2004	No	Yes
INDIA	Sri Harimandir Sahib, Amritsar, Punjab	05/01/2004	No	Yes
INDIA	Valley of Flowers National Park	05/01/2004	Yes	No
INDONESIA	Betung Kerihun National Park (Transborder Rainforest Heritage of Borneo)	02/02/2004	Yes	No
IRAN	Arg-e-Bam and the Historic Monuments of Bam	16/01/2004	No	Yes
JAPAN	Shiretoko	30/01/2004	Yes	No
PAKISTAN	Port of Banbhore	30/01/2004	No	Yes
PAKISTAN	Tomb of Shah Rukn-e-Alam	30/01/2004	No	Yes
PAKISTAN	Tomb of Bibi Jawindi, Baha'al-Halim and Ustead and the Tomb and Mosque of Jalaluddin Bukhari	30/01/2004	No	Yes
PAKISTAN	Baltit Fort	30/01/2004	No	Yes
PAKISTAN	Mansehra Rock Edicts	30/01/2004	No	Yes
PAKISTAN	Shahbazgarhi Rock Edicts	30/01/2004	No	Yes
PAKISTAN	Archaeological Site of Ranigat	30/01/2004	No	Yes
PAKISTAN	Archaeological Site of Harappa	30/01/2004	No	Yes
PAKISTAN	Archaeological Site of Rehman Dheri	30/01/2004	No	Yes

President Khatami, for his part, thanked the people and government of Austria for their assistance for the quake-stricken people in Bam, saying the relief aid packages are more valuable morally than financially.

Iranian president added that such sympathies and relief aid helped to alleviate the widespread suffering of the people in Bam.

He also appreciated all the countries, which provided relief aid to the people in Bam.

Four Killed in Protest by Striking Workers in Iran

TEHRAN (AFP) — Four people were killed and many others seriously injured when security forces clashed with striking workers at a copper factory in southeastern Iran, an MP said Sunday.

Mansur Soleymanni Meymandi told parliament that helicopters carrying special police units were sent in to break up the protests in the village of Khatunabad, near Shahrehabak, in southeastern Kerman province.

Workers had downed tools a few days earlier to support their demands for permanent contracts, the reformist deputy said.

Special forces attacked the village and the clashes spread to Shahrehabak, where four people were killed, he said.

Meymandi criticized the authorities for failing to handle the crisis, saying police had launched an "illegal operation which humiliated people," and called on President Mohammad Khatami and parliament speaker Mahdi Karubi to intervene.

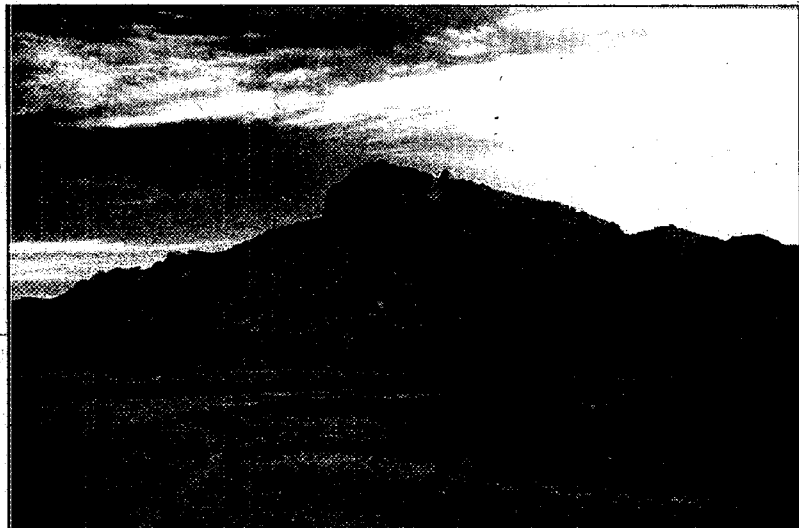
Trade unions have no bargaining power in Iran, where the right to strike does not exist.

UNESCO Official Urges Rapid Reconstruction of Bam Citadel

TEHRAN (CHN) — Head of the UNESCO's World Heritage Center wrapped up his three day visit to Bam on Saturday on an optimistic note that the historic Bam citadel could be rebuilt.

support for reconstruction of the Bam citadel since in this case international community has shown enough care.

Yet, he made it clear that the decision was up to the Iranian offi-



Francesco Bandarin said it was unlikely that Iran could furnish required documents for inscription of the Bam citadel on the list of Heritage in Danger on time, advising Iranian officials not to hurry for this purpose.

Inscription of a site on the list allows it to use international assistance for salvage. The World Heritage Committee is set to meet in China in June and Iran has only until May to provide the documents.

"Given the current conditions of the Bam citadel and its damages, there is little chance that its registration documents could be completed in the short period," he noted.

Acknowledging the effect of the inscription of a troubled site on the list, Bandarin remarked this was not the only way to garner international

specials and UNESCO was ready to cooperate in whatever way with them.

On making the Bam citadel resistant against natural disasters such as quakes, the UNESCO official pointed out the traditional construction materials like mud and adobe were not to blame for but the real culprit was incorrect construction methods and disregard for regulations.

He expressed UNESCO's readiness for extending cooperation in this regard to Iran. The largest world mud brick structure in the world, the Bam citadel was destroyed in a devastating earthquake that shook bam on December 26.

Current estimates suggest some 80 percent of the compound has been destroyed.

TEHRAN (IRNA) — old of auspicious celebrations mark anniversary of the Islamic Revolution turning line for a satellite dubbed 'R' advanced radar s 'DM-3B' were cor Sunday in a ceremony Minister of Defense Forces Logistics Shamkhani.

Radar 'DM-3B' of Nur missile which guides the combat final stage and the missile is equipped device.

The two systems manufactured in Iran's aviation industry, affiliated to the Ministry of Defense and Armed Forces.

The acquired capabilities in the missile industries in the Ministry of Defense considered a turning point in the Iranian defensive capabilities, said Iranian forces, said Shamkhani.

According to Iranian doctrine, "we never import technology, we employ to our own technology, come and experts, value gained during 8

Imam to Be

TEHRAN (IRNA) — Khomeini Inter will be inaugurated 1, i.e. the onset of 'Ten-Day Dawn' celebrations, anniversary of the Revolution.

An official in contact, Naser Qanbari on Sunday that will be operational 30 years, will carry passengers a y

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 (6th to 4th cent. B.C.). Its heyday was from the 7th to 11th 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. 7th cent.), Emamzadeh Zeyd Mausoleum (11-12th cent.), and Emamzadeh Asiri Mausoleum (12th 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 17th-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 (18th cent.), and the *Mir House*. The mosque may be one of the oldest mosques

built in Iran, going back to the 8th or 9th century, probably rebuilt in the 17th 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 (6th to 4th 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 2nd 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 (3rd 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 10th 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 16th to 18th 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 18th 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 19th 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 7th century up to the 20th 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 19th 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, 2nd 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 20th 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 (6th to 4th 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 (2nd 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 (3rd 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 7th to the 11th 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

Citadelle de Bam (Iran)

No 1208

1. IDENTIFICATION

<i>État partie :</i>	République islamique d'Iran
<i>Bien proposé :</i>	Citadelle de Bam (Arg-e Bam) et les sites associés
<i>Lieu :</i>	Province du Kerman, district de Bam
<i>Date de réception :</i>	11 mai 2004
<i>Catégorie de bien :</i>	

En termes de catégories de biens culturels, telles qu'elles sont définies à l'article premier de la Convention du Patrimoine mondial de 1972, il s'agit d'un *site*. Aux termes des *Orientations devant guider la mise en œuvre de la Convention du Patrimoine mondial*, il s'agit d'un *paysage culturel vivant*.

Brève description :

La citadelle de Bam (Arg-e Bam) et les sites qui lui sont associés s'inscrivent dans un environnement désertique, à la lisière sud du haut plateau iranien. On peut retracer les origines de Bam jusqu'à la période achéménide (VI^e au IV^e siècle avant J.-C.). Située au carrefour d'importantes routes marchandes et réputée pour la production de soie et de vêtements de coton, elle connut son apogée du VII^e au XI^e siècle. La vie dans l'oasis reposait sur les canaux d'irrigation souterrains, les *qanāts*, dont Bam a préservé quelques-uns des plus anciens en Iran. Arg-e Bam est l'exemple le plus représentatif d'une ville médiévale fortifiée construite selon une technique vernaculaire, à l'aide de couches de terre (*Chineh*).

2. LE BIEN

Description

La ville de Bam se trouve entre les monts Jebāl Bārez et le désert de Lut, à 1 060 m d'altitude au-dessus du niveau de la mer, dans le sud-est de l'Iran. Elle se trouve à 200 km au sud-est de Kerman, sur la route qui relie cette dernière à Iranshahr, sur la mer d'Oman, et à 120 km au nord de Jiroft, cœur d'une ancienne civilisation. Le climat de la région est désertique, et la température varie entre + 49°C et – 9°C. Le 26 décembre 2003 à 5h26 du matin heure locale, la ville a été touchée par un séisme de 6,5 degrés sur l'échelle de Richter, qui a fait plus de 26 000 morts (selon le recensement du 25 mars 2004) et détruit une grande partie de la ville, structures anciennes comme nouvelles.

La ville de Bam s'est développée dans une oasis créée essentiellement grâce à un ancien système de gestion des eaux souterraines (*qanāt*), qui continue de fonctionner à ce jour. La citadelle fortifiée (*Arg*), qui renferme une grande partie de la vieille ville, se trouve dans la partie nord de la ville, sur une petite colline rocheuse naturelle de 45 m d'altitude, et autour de celle-ci. Le plus récent développement urbain s'étend au sud et au sud-ouest de l'Arg. L'artère principale circule en direction est-ouest, du côté sud de la ville. Le principal cours d'eau, Posht-e Rud, est un chenal d'inondation au nord d'Arg-e Bam, à sec la plus grande partie de l'année. Sur les terres à l'ouest et à l'est de l'Arg poussent essentiellement des palmeraies, qui ont fait la réputation de Bam, et quelques arbres fruitiers. Le système de *qanāt* apporte de l'eau jusqu'à cette zone depuis les sources et les montagnes de l'ouest et du nord-ouest.

Une faille sismique, la faille de Bam, court sur un axe nord-sud, à l'est de la ville. L'épicentre du tremblement de terre se trouvait à l'ouest de cette faille, au sud de Bam. Il s'agit d'une faille cachée, allant jusqu'au substrat rocheux. Elle est couverte d'épaisses couches de sédiments, et les fissures n'affleurent à la surface qu'en de rares endroits, quoique le séisme en ait fait apparaître de nouvelles. Le sol est en contrebas de 20 à 25 m du côté est de l'escarpement, où la ville voisine de Baravat s'est développée grâce à la culture des dattiers (3 x 7 km). L'irrigation de la zone repose sur un grand nombre de *qanāt*, qui apportent de l'eau depuis l'ouest. La faille sismique fait office de barrage, permettant à l'eau de s'accumuler du côté ouest. Chaque *qanāt* apporte ainsi plusieurs fois la quantité d'eau que transporte normalement ce genre de système. De plus, les dénivelés du sol au niveau de l'escarpement facilitent l'irrigation des terres cultivées. Les *qanāt* de cette zone remontent au moins à la période parthe (hellénistique), sinon achéménide.

La zone centrale principale du bien proposé pour inscription se compose de la citadelle (Arg-e Bam) et de ses environs. En dehors de cette zone, les vestiges mentionnés des structures historiques incluent : Qal'eh Dokhtar (la forteresse de la Vierge, du VII^e siècle), le mausolée Emamzadeh Zeyd (XI^e-XII^e siècle), le mausolée Emamzadeh Asiri (XII^e siècle). Les récentes fouilles archéologiques ont révélé les vestiges de deux anciens villages ou villes à l'est de l'Arg, comprenant les vestiges d'un temple du feu et les vestiges d'anciens *qanāts*. On y observe des systèmes historiques de *qanāts* et de cultures au sud-est de l'Arg, qui remontent au moins à la période hellénistique, s'étendant sur 20 km au sud et irriguant les palmeraies de la ville de Baravat.

L'enceinte de la citadelle (Arg-e Bam) : La zone dessine un rectangle plutôt irrégulier (environ 430 m x 540 m), dont la section nord-est a été coupée. L'enceinte fortifiée possède 38 tours de guet. La porte principale se trouve au sud, et l'on dénombre trois autres portes. Des douves de 10 à 15 m de large entourent la muraille extérieure, qui abrite les quartiers du gouverneur (l'Arg à proprement parler, baptisé *Hakemneshin*) et la ville historique de Bam. Toutes les structures ont été bâties à l'aide de techniques traditionnelles superposant des couches de terre (*chineh*) et des briques de terre séchées au soleil (*khesh*), avec des structures à voûtes et à coupoles.

Les impressionnants *quartiers du gouverneur* se trouvent sur une colline naturelle (45 m d'altitude), dans la section nord de l'enceinte, et sont entourés d'un double mur de fortification. Cette zone comprend la *résidence du gouverneur*, le *Chaharfasl* (kiosque safavide du XVIIe siècle) et la *garnison*. À l'ouest de la porte d'entrée se trouve une grande structure abritant les écuries.

Le *quartier résidentiel principal* de la ville historique occupe la section sud de l'enceinte. Il est bâti sur un schéma de rues à peu près rectangulaire. Parmi les structures les plus dignes d'attention, le bazar, qui s'étend de l'entrée principale au sud jusqu'aux quartiers du gouverneur au nord. Dans la partie orientale, les bâtiments incluent la *mosquée congréganiste*, l'ensemble *Mirza Na'im* (XVIIIe siècle), et la *maison Mir*. La mosquée est peut-être l'une des plus anciennes d'Iran. Probablement reconstruite au XVIIe siècle, elle date du VIIIe-IXe siècle. Le nord-ouest de l'enceinte est occupé par un autre quartier résidentiel, le *quartier Konari*, composé des vestiges de demeures plus modestes.

Un grand *dépôt de glace* (*Yakhchāl*) se dresse à l'extérieur de l'enceinte fortifiée, au nord-est de la citadelle. Cette structure était couverte d'un grand dôme en briques de terre (aujourd'hui en partie détruite). Durant les nuits d'hiver, l'eau gelait dans un bassin vaste et peu profond abrité par un long mur. À l'aube, on récoltait la glace dans le bassin avant de la conserver dans un grand réservoir sous le dôme, en prévision de l'été. Le bâtiment avait été restauré et transformé en auditorium ; il accueillait des réunions (avant le tremblement de terre). La zone principale comprend aussi la mosquée Hazrat-e Rasul, une autre ancienne mosquée.

Le paysage culturel de Bam témoigne du développement et de l'importance stratégique du site, qui a évolué depuis l'ère pré-islamique : depuis les périodes achéménide, parthe et sassanide. On y trouve les vestiges d'un ancien temple du feu, et les récentes fouilles ont mis au jour les vestiges d'anciens peuplements avec leurs systèmes d'irrigation.

Histoire

Les débuts du développement du site de Bam sont indissociablement liés à l'invention et au développement du système de *qanāt*. Cette invention a fondamentalement vu le jour en Iran, pays dont une grande partie n'aurait été ni habitable ni cultivable si l'on n'avait pas pu transporter l'eau sur de longues distances. À la période achéménide (VIe au IVe siècle avant J.-C.), l'usage des *qanāt* était suffisamment bien établi pour justifier leur promotion systématique dans les autres régions de l'empire. Les découvertes archéologiques d'anciens *qanāt* dans la banlieue sud-est de Bam, sur la faille, les font remonter au moins au début du IIe siècle avant J.C. (période parthe), là où se trouvaient et sont toujours les champs agricoles (proches de la zone de Baravat). On peut aussi dater certaines structures de la citadelle de la période achéménide, ce qui indique que le site était certainement habité depuis le premier millénaire avant J.-C.

Une croyance populaire attribue la fondation de la ville à Haftvad, contemporain d'Ardachir Babakan, fondateur de

l'empire sassanide (IIIe siècle avant J.-C.). Haftvad est présenté comme celui qui introduisit la soie et le tissage du coton à Bam ; les vêtements de grande qualité devinrent une marchandise d'exportation importante pour la ville. La croyance populaire associe d'ailleurs le nom de Bam à l'« éclosion du ver » (ver à soie). Bam est ainsi devenue un important pôle de commerce et d'échange.

Les auteurs islamiques mentionnent pour la première fois le nom de Bam au Xe siècle ; à l'époque, c'était déjà une place marchande bien établie, apparemment entourée, selon leurs écrits, de peuplements agricoles. Elle comptait trois mosquées : la principale se trouvait à l'intérieur des fortifications ; à l'extérieur se dressait la mosquée Hazrat-e Rasul. Bam était alors célèbre pour la production d'élégants vêtements de coton, pour la puissance de sa forteresse, pour ses bazars animés et ses palmiers. Les écrivains faisaient référence au système des *qanāt*, fournissant de l'eau potable et irriguant les cultures. Les fouilles archéologiques conduites après le tremblement de terre ont confirmé cette information.

À la mort de Toqrol Shah le Seldjoukide à Jiroft, en 1168/1169, une guerre de succession entre ses fils se déclencha. La situation politique empira et, en 1179, la province du Kerman, englobant Bam, subit une invasion destructrice des nomades Ghūz, tribu turque apparentée aux Seldjoukides.

En 1213, le grand seigneur maître de Zuzan conquiert la totalité du sud-est de l'Iran. À Bam, les murailles furent détruites. Les attaques mongoles qui commencèrent en 1220 étaient essentiellement concentrées sur le nord de l'Iran, mais l'instabilité résultante se fit sentir jusque dans le sud. Bam fut libérée des impôts, et les fortifications reconstruites. En 1342, le roi Amir Mobarez al-Din reprit la citadelle, et les murs furent à nouveau restaurés. Vers 1408-1409, un général timuride occupa Bam. Il commanda la restauration de la citadelle, ordonnant au peuple de construire leurs maisons à l'intérieur de l'enceinte.

Du XVIe au XVIIIe siècle, l'Iran connut une période de calme et de prospérité. À l'époque, Bam était toujours le centre du commerce des vêtements de soie et de laine, ainsi que du cachemire. Au XVIIIe siècle, elle jouait également un rôle stratégique en tant que forteresse frontalière. Elle fut occupée deux fois par les Afghans, une première fois en 1719 puis en 1721-1730. Elle fut reprise par le gouvernement perse (Afshar, Zand, puis la dynastie Kadjar). En 1841, pendant la période Kadjar, Bam et Kerman furent brièvement occupées par la secte des Ismailiens.

À partir du XIXe siècle, la ville s'étendit en dehors des fortifications, et un nouveau peuplement, avec des jardins et des dattiers, fut établi à environ 1 km au sud-ouest de l'Arg. À l'intérieur de la zone fortifiée, les quartiers résidentiels furent réduits progressivement à l'état de ruines. En 1881, du fait de l'expansion du contrôle du gouvernement perse central vers les provinces isolées de l'Est (Balūchistān et Makran), Bam perdit son statut de siège du gouverneur en faveur de Bampur, dans le sud-est ; elle demeura toutefois sa résidence d'été. La population et les activités commerciales continuèrent de croître. De 6 000 habitants environ dans les années 1880, le nombre passa à 13 000 en 1895 et à 30 000 en 1976. À l'époque du

tremblement de terre, en 2003, la population frôlait les 100 000 habitants. Arg-e Bam resta essentiellement une base militaire jusque dans les années 1930, époque à laquelle l'armée partit. Le site fut déclaré site protégé en vertu de la législation nationale en 1945, et la première restauration eut lieu en 1948. Une campagne de restauration plus vaste commença en 1976.

Politique de gestion

Dispositions légales :

Le bien proposé pour inscription (Arg-e Bam) appartient à l'État, par l'intermédiaire de l'Organisation du patrimoine culturel iranien (ICHO). Certains des bâtiments classés en dehors de l'Arg appartiennent à d'autres institutions gouvernementales, mais toutes les éventuelles modifications doivent recevoir l'autorisation préalable de l'ICHO.

La zone de la citadelle et ses environs sont protégés depuis 1945 par la législation nationale iranienne (loi du 3 novembre 1930 sur la conservation des monuments nationaux), et par d'autres instruments de contrôle juridique et normes de protection en matière d'architecture et d'occupation des sols. Les fouilles illégales sont interdites en Iran.

Il y a deux zones tampon. La zone tampon 1 comprend la zone urbaine proche de la citadelle : aucune activité de construction ou altération n'est autorisée sans la permission et le contrôle de l'ICHO. Une zone de protection étendue du paysage est en place. Elle comprend l'ensemble de la ville, les zones d'irrigation et de cultures de Bam et de Baravat. Elle permettra un contrôle de l'occupation des sols. La ligne d'horizon et les vues sur l'Arg seront protégées, et la hauteur de construction limitée à 10 m. L'activité agricole sera autorisée dans la mesure où elle n'exige pas de constructions perturbant le paysage. Les activités minières ou les carrières seront interdites si elles affectent la vue des montagnes visibles depuis Bam. L'équilibre entre les palmeraies et les zones construites ne devrait pas changer par rapport à ce qu'il était avant le tremblement de terre.

Structure de la gestion :

L'ICHO, qui consultera les autres autorités nationales et locales et collaborera avec elles, est la principale autorité de gestion du bien proposé pour inscription. Après le tremblement de terre, l'ICHO a mis sur pied un groupe de travail pour assurer la planification et la mise en œuvre efficace et dans les délais des activités pertinentes. La gestion implique la collaboration, tout particulièrement, avec l'Organisation de dotation religieuse (Sazaman-e Owqaf), le ministère du Logement et de l'Urbanisme (Vezerat-e Maskan va Shahrsazi), et les municipalités (Shahrdari) de Bam et de Baravat. L'ICHO possède deux bureaux dans la région, le bureau régional de Kerman et le bureau du groupe de travail à Bam.

Le précédent plan directeur urbain de Bam n'est plus valide depuis le séisme ; le nouveau est en cours de préparation. Un plan de gestion d'urgence a déjà été élaboré pour faire face à la situation après le tremblement

de terre et pour garantir des mesures de protection et de conservation à Bam. Le plan a également été approuvé par l'atelier international de Bam, 17-21 avril 2004. Il inclut des mesures de sécurité pour les structures, l'élimination des débris, la construction d'installations pour le personnel, des activités de recherche et un suivi quotidien. Le nouveau plan directeur a également fait l'objet de discussions lors de l'atelier, avec des recommandations concernant les questions sur le patrimoine à prendre en compte. De nouvelles cartes aériennes sont en préparation, avec l'assistance de la France.

Ressources :

Il existe trois types de fonds gouvernementaux : budget de développement, revenus et recettes des services aux visiteurs. On compte en outre un fonds international, qui s'appuie sur des subventions accordées à Bam après le tremblement de terre. La Banque mondiale et le Japon ont également proposé de financer des projets.

Le groupe de travail de l'ICHO à Bam compte 104 personnes, une progression par rapport aux 65 qu'employait auparavant le bureau local de conservation. Les installations destinées aux visiteurs sont en cours de rétablissement.

Justification émanant de l'État partie (résumé)

La citadelle de Bam (Arg-e Bam), qui a conservé intacts son architecture traditionnelle et son urbanisme, est considérée comme le plus grand complexe de briques de terre de ce type dans le monde.

Critère i : L'inclusion dans le site des anciens sites agraires le long de la faille et de leur réseau complexe de *qanāt* est prévue pour l'avenir, et justifierait ce critère.

Critère ii : La citadelle et les sites associés témoignent des échanges culturels locaux, nationaux et internationaux. Située à l'orée du sud des déserts du plateau iranien, Bam fut et demeure une étape essentielle sur les routes nationales et internationales d'Asie du Sud-est. Qu'on les ait appelées « Route de la Soie », « Route des Épices » ou, ces dernières décennies, « Route de l'Asie » (Shāhrāh-e Asiyāī), elles sont toutes passées par Bam. Le mariage entre zones bâties et système d'irrigation souterrain a donné naissance à Bam à un paysage harmonieux. Avec les nouvelles découvertes faites sur la faille de Bam, ce paysage reflète deux mille ans d'évolution permanente de l'histoire des *qanāt*, depuis l'époque de leur invention à ce jour.

Critère iii : Bam est depuis toujours la manifestation parfaite de la vie dans une ville du désert. Dans cette perspective, le « patrimoine tangible et immatériel » de Bam intègre le « paysage culturel composé d'un environnement désertique, d'une utilisation ingénieuse de l'eau, d'un système de gestion et de distribution (*qanāt*), d'une occupation agricole des sols, de jardins, et d'un environnement bâti et urbanisé ».

Critère iv : L'ensemble de la Citadelle, et notamment le fort haut (quartiers du gouverneur) et ses murailles, constitue un exemple exceptionnel d'architecture militaire

en briques crues. Il représente quatorze siècles d'actions militaires consignées sans interruption : depuis l'invasion arabe au VII^e siècle jusqu'au XX^e siècle, époque à laquelle les murailles de terre devinrent obsolètes, résistance bien dérisoire face aux bombes et à l'artillerie lourde. Par ailleurs, le réseau complexe des *qanāt* de Bam, vieux de 2000 ans, est un exemple exceptionnel de son genre, utilisé sur un laps de temps remarquablement long.

Critère v : Bam et sa citadelle sont incontestablement un exemple exceptionnel de peuplement humain traditionnel et d'occupation des sols représentatifs d'une culture devenue vulnérable : vivant sur son système traditionnel d'irrigation souterraine (*qanāt*), l'ensemble est une ville du désert plongée aujourd'hui dans la confusion, après un tremblement de terre qui a « causé d'énormes dégâts structurels à l'Arg-e Bam et affecté la nature visuelle et fonctionnelle de sa relation à la ville et à ses traditions ».

Critère vi : Bam porte les cicatrices du tremblement de terre qui l'a dévastée le 26 septembre 2003. Cette tragédie rend malheureusement Bam éligible sur la base de ce critère, conjointement aux autres.

3. ÉVALUATION DE L'ICOMOS

Actions de l'ICOMOS

L'ICOMOS a co-organisé la 9^{ème} conférence internationale sur l'étude et la conservation de l'architecture de terre à Yazd, en novembre-décembre 2003, laquelle incluait une visite de Bam afin de débattre de ses politiques de conservation. Après le tremblement de terre, l'ICOMOS a organisé une mission d'urgence pour discuter d'une campagne de sauvegarde internationale. L'ICOMOS a également co-organisé l'atelier international qui s'est tenu à Bam en avril 2004, atelier qui a préparé la déclaration et les recommandations de Bam pour la gestion d'urgence du site et la préparation du nouveau plan directeur territorial pour Bam et Baravat.

Conservation

Historique de la conservation :

À partir du XIX^e siècle, les habitants étant désireux de partir s'installer dans de nouveaux peuplements à l'extérieur d'Arg-e Bam, les quartiers résidentiels sont progressivement tombés en ruines. En revanche, les quartiers du gouverneur et les murs ont été entretenus, le site restant utilisé par l'armée jusqu'en 1930. À partir de 1945, le site a été protégé dans le cadre du patrimoine national. De 1976 jusqu'au tremblement de terre de 2003, le bien a fait l'objet de programmes de conservation et de restauration, comme l'un des principaux sites du patrimoine en Iran.

État de conservation :

Le tremblement de terre de 2003 a causé des dommages importants à une grande partie de la ville de Bam. Un autre tremblement de terre, mineur cette fois, a frappé la région en mai 2004. La région est une zone sismique active, et il y a eu des tremblements de terre dans les environs de Bam. Néanmoins, aucun séisme majeur n'avait jamais été enregistré à Bam elle-même. Le territoire le plus particulièrement affecté a été celui qui se trouve immédiatement à l'ouest de la faille de Bam, où se trouvait l'épicentre de la secousse principale et où se sont également concentrées les secousses suivantes. La zone la plus terriblement touchée de Bam a été détruite à 80-100 %, tandis que l'impact a diminué progressivement aux alentours. Les bâtiments récents étaient essentiellement des structures mixtes, combinant terre, acier et béton armé. Le système souterrain de *qanāt* a lui aussi été endommagé. Son fonctionnement continu est fondamental pour la survie des activités agricoles et des cultures de palmiers, et sa réparation, jugée prioritaire, a immédiatement commencé.

Arg-e Bam a également souffert de dommages dus aux secousses, tout particulièrement visibles dans l'effondrement de la porte principale ainsi que dans les dommages causés aux murailles et aux quartiers du gouverneur, qui étaient avant cela en excellent état de conservation. L'accès aux visiteurs est maintenant exclusivement autorisé via un chemin éclairé la nuit qui va de la porte principale aux quartiers du gouverneur, au nord. On observe des craquelures et des fissures critiques dans plusieurs grandes structures de terre, nécessitant une attention de toute urgence. La majeure partie de la zone résidentielle était déjà en ruines avant le tremblement de terre. Cependant, les débris ont ici envahi les rues et rendu l'accès difficile et risqué. On note que les débris contiennent des informations archéologiques et jouent en outre un rôle de soutènement pour les murs encore debout. Certains édifices ont été moins endommagés, parmi lesquels les écuries, récemment restaurées.

Suite à la destruction, les archéologues découvrent de nouvelles traces de l'histoire du lieu, dans l'Arg lui-même et dans ses territoires avoisinants. Cela inclut les vestiges d'anciens peuplements et de systèmes d'irrigation datant au moins de la période parthe-hellénistique du II^e siècle avant J.-C.

Gestion :

Avant le tremblement de terre, la ville de Bam avait un plan directeur mis en oeuvre, et le site d'Arg-e Bam était l'un des principaux projets de conservation en Iran. Quelques mois après le tremblement de terre (mai 2004), les plans d'urgence ont été adoptés et sont actuellement mis en place. Ils concernent toute la ville et ses infrastructures, l'apport d'un toit et de services aux habitants étant la priorité, aux côtés de la restauration des zones du patrimoine endommagées.

L'UNESCO a organisé plusieurs missions, impliquant le bureau régional de l'UNESCO à Téhéran et le Centre du patrimoine mondial. Il y a également eu des missions de l'ICOMOS et d'autres organisations et spécialistes de pays étrangers. Parmi les initiatives : l'atelier international pour la restauration du patrimoine de Bam, du 17 au 20 avril 2004, auquel ont assisté des spécialistes de la conservation nationaux et étrangers, ainsi que les autorités chargées de l'urbanisme de Bam. L'atelier s'est penché sur la situation

à Bam et a préparé la déclaration de Bam, tout en faisant des recommandations pour le plan d'action et le plan directeur.

La proposition d'inscription initiale comprenait principalement Arg-e Bam et ses environs immédiats. Par la suite, la zone principale a été étendue au territoire qui se trouve à l'ouest de la faille de Bam incluant l'ancien système de *qanāts*. Le tremblement de terre a mis au jour des traces des phases historiques du site les plus anciennes, et les fouilles archéologiques ont commencé. Le programme de gestion comprend également la prestation de services et d'installations aux visiteurs.

Analyse des risques :

Une catastrophe majeure comme celle de Bam entraîne évidemment des problèmes qui touchent à divers égards les valeurs du patrimoine. L'état physique des structures de terre endommagées mais toujours debout est précaire et nécessite une intervention urgente. L'impact d'éventuels tremblements de terres futurs est une question primordiale, à laquelle il faut trouver une solution. Une autre question est celle du retrait des débris, qui prendra du temps, ceux-ci contenant également des informations archéologiques et techniques. Sur le long terme, les facteurs environnementaux tels que les différences de température, l'humidité et la pluie à la saison froide contribuent à l'érosion et à la dégradation des structures de terre crue.

Dans la nouvelle ville, une grande partie des dommages structurels ont été causés par le manque de respect des normes de construction, des changements inconsidérés réalisés sur les structures existantes et le manque d'entretien. À l'avenir, il faudra prêter attention à la vérification et à la mise en oeuvre appropriée de ces normes, en tenant compte des valeurs du patrimoine, ce qui n'exclut pas l'utilisation correcte des structures de terre.

Les pressions inhérentes au développement urbain et à l'agriculture ne sont pas absentes. Pour l'instant, elles sont contrôlées et l'intégrité du site autour de l'Arg a été respectée. La question peut poser un nouveau problème, du fait de l'actuelle situation d'urgence, au vu du nouveau plan directeur. Un grand nombre de visiteurs a souhaité voir l'état de préservation d'Arg-e Bam, ce qui pose un problème potentiel du fait du manque de sécurité dans les zones endommagées. Pour cette raison, un chemin de bois a été construit, afin de permettre un accès limité aux visiteurs.

Authenticité et intégrité

La *déclaration de Bam* énonce : « Le patrimoine de Bam et ses alentours sont un paysage culturel composé d'un environnement désertique, d'une utilisation ingénieuse de l'eau, d'un système de gestion et de distribution (*qanāt*), d'une occupation agricole des sols, de jardins, et d'un environnement bâti ». Les dégâts provoqués par le tremblement de terre de 2003 ont incontestablement causé une importante destruction de la ville de Bam et d'Arg-e Bam. Le système de canaux souterrains, vital pour les cultures de Bam, a lui aussi été touché. Néanmoins, dans l'ensemble, ce paysage culturel a préservé son intégrité historique et culturelle.

À Arg-e Bam, les structures en terre crue et l'histoire du lieu ont, de par leur nature même, entraîné un processus incessant de construction au fil des siècles. Néanmoins, la forme urbaine et le type de construction sont restés identiques. Si le tremblement de terre a détruit une partie des structures, dont des restaurations et des reconstructions récentes, il a également révélé des couches historiques sous-jacentes, augmentant le potentiel de recherche du site. Le site a donc conservé son intégrité générale.

L'économie de la ville de Bam repose sur l'agriculture (production de dattes) et le commerce. Il est vrai que, dans la seconde moitié du XXe siècle, la ville a vu sa population tripler, étendant les zones d'habitation, particulièrement au sud de l'Arg. Néanmoins, le paysage autour de l'Arg est resté ouvert, maintenant ainsi la relation traditionnelle de l'ensemble fortifié à son contexte.

Évaluation comparative

La ville historique de Bam s'est développée au carrefour d'importantes routes marchandes traversant le désert, à la limite sud du plateau central iranien. On trouve des traces d'habitations datant au moins de la période achéménide (VIe au IVe siècle avant J.-C.). En Oman, des systèmes d'irrigation souterrains, les *qanāts*, ont été documentés depuis au moins la fin du second millénaire avant J.-C. Les systèmes qui y font appel tirent parti de la nappe phréatique, garantissant une alimentation en eau permanente des zones désertiques, depuis les versants montagneux lointains. L'Iran possède de vastes régions où la vie même dépend de ces systèmes. En fait, les *qanāts* étaient une composante importante de la stratégie de développement des Achéménides, qui les introduisirent aussi en Égypte à cette époque.

Il n'est pas facile de trouver des preuves archéologiques pour dater les *qanāts*, le système faisant en permanence l'objet de réparations et de maintenance. En Iran, la plupart des *qanāts* en usage aujourd'hui sont de construction relativement récente. Bam est une remarquable exception à cette règle, les *qanāts* datant au moins de la période parthe (IIe siècle avant J.-C.), voire avant. Le système d'irrigation de Bam représente également un exemple rare de l'utilisation de la faille sismique, qui forme une sorte de barrage, permettant à l'eau de s'accumuler du côté montagneux, à l'ouest de la faille, nécessitant des canalisations plus courtes et fournissant de l'eau en quantité.

On trouve un grand nombre de villes fortifiées en Asie centrale, notamment Meybod, Zuzan, Rey et Nishapur, en Iran, ou Herat en Afghanistan. La technique de construction usitée à Arg-e Bam, mélange de couches de terre (*Chineh*) et de briques de terre (*Khesht*), se retrouve dans une région qui va de l'Asie centrale à l'Afrique de l'Est. Ainsi, le fort de Bahla en Oman a été bâti à l'aide d'une technique similaire. Dans ce contexte, Arg-e Bam se distingue par son âge, sa taille et la complexité de ses fortifications. Malgré les dégâts infligés à Bam par le récent tremblement de terre, le paysage culturel et les structures restantes représentent toujours un exemple exceptionnel de ce type de peuplement.

Valeur universelle exceptionnelle

Déclaration générale :

La citadelle de Bam (Arg-e Bam) et les sites qui lui sont associés forment un paysage culturel dans le désert du sud-est de l'Iran. Bam était un important carrefour marchand et culturel, reliant l'Iran au rivage nord de la mer d'Oman et, via Bampur, à l'actuel Pakistan et à la vallée de l'Indus. Bam entretenait également des contacts avec l'Égypte et le Proche-Orient. On a retrouvé des preuves de l'introduction de la production de la soie au début de la période sassanide (III^e siècle), dans la région du Kerman. En fait, Bam s'est développée jusqu'à devenir un important pôle marchand, particulièrement pour la soie et les vêtements de coton, atteignant son apogée entre le VII^e et le XI^e siècle.

Les zones géographiques autour du désert central d'Iran, comme les villes de Yazd, Kerman, Kashan, Birjand et Bam, utilisent la technologie des *qanāts* et ont par là développé un système culturel particulier, baptisé *civilisation des qanāts*, partageant des caractéristiques culturelles, socio-économiques et politiques distinctes. En fait, l'existence même de Bam repose essentiellement sur le développement des *qanāts* qui apportent l'eau des montagnes de l'ouest. Bam a préservé les plus anciennes traces archéologiques de ces systèmes encore en usage en Iran, remontant sur quelques deux millénaires et demi. Le site se caractérise par l'utilisation ingénieuse de la faille sismique pour faciliter la gestion de l'eau et l'irrigation.

L'histoire des peuplements fortifiés de Bam a été documentée jusqu'à la période achéménide et même au-delà. De plus, le tremblement de terre a révélé des strates historiques du site inconnues jusqu'alors. Dans l'Arg lui-même, on a trouvé des traces de différentes phases de construction. Arg-e Bam est un patrimoine vernaculaire – bien qu'étant un site archéologique, c'est le plus représentatif de son type.

Évaluation des critères :

Critère iii : Arg-e Bam et les sites associés représentent un paysage culturel et un témoignage exceptionnel du développement d'un peuplement marchand dans un environnement désertique d'Asie centrale. Son histoire remonte à l'époque achéménide, et elle a préservé les plus anciennes traces archéologiques connues de développement des *qanāts*, encore en usage dans le haut plateau iranien.

Critère iv : Arg-e Bam représente un exemple exceptionnel de peuplement et de citadelle fortifiée, tels que ceux-ci se sont développés en Asie centrale. Bam est considérée comme l'exemple le plus significatif de structure fortifiée complexe faisant appel à une combinaison de couches de terre (*Chineh*) et de briques de terre (*Khesht*), également conçue pour résister aux secousses sismiques. Quoique endommagée lors du récent tremblement de terre, Arg-e Bam peut encore être considérée comme ayant conservé sa représentativité sur un plan historique et culturel.

Critère v : Le paysage culturel de Bam est une représentation exceptionnelle de l'interaction de l'homme et d'un environnement désertique, qui n'a été rendue possible que par un système complexe de gestion de l'eau

formé par des *qanāts*, dont Bam a préservé les plus anciens connus en Iran. Pour bien fonctionner, le système des *qanāts* doit reposer sur un système social strict, avec des tâches et des responsabilités précisément définies. Dans le cas de Bam, ce système a survécu jusqu'à ce jour. On ne manquera pas d'ailleurs de noter que la réparation des *qanāts* endommagés a été la première priorité après le tremblement de terre. Dans la situation d'urgence actuelle, ce système est toutefois devenu vulnérable au changement, et nécessite une attention toute particulière par rapport au développement du nouveau plan directeur urbain et aux stratégies d'intervention dans tout le paysage culturel.

Critère ii : Bam s'est développée au carrefour d'importantes routes marchandes reliant l'Iran à l'Inde et à la mer d'Oman, ainsi qu'à l'Égypte et au Proche-Orient. De par ces contacts, elle est devenue une société pluriculturelle, impliquant différentes religions : zoroastrisme, judaïsme, Islam, christianisme, etc. Arg-e Bam est un exemple ancien et impressionnant de peuplement médiéval fortifié, encore considéré à ce jour comme le plus représentatif de son genre dans cette région culturelle.

Critère i : L'État partie a proposé ce critère en référence au développement du système des *qanāt*. Cependant, l'ICOMOS estime que cet aspect est déjà couvert par les autres critères.

Critère vi : L'État partie propose ce critère par rapport au récent tremblement de terre. Tout en reconnaissant les pertes de vies innombrables, l'ICOMOS ne juge pas ce critère pertinent.

4. RECOMMANDATIONS DE L'ICOMOS

Recommandations pour le futur

Considérant la situation d'urgence de Bam après le récent tremblement de terre, et les efforts faits pour faire renaître et reconstruire l'habitat urbain et pour préserver les ressources du patrimoine, l'ICOMOS recommande que le Comité envisage son inscription sur la Liste du patrimoine mondial en péril.

L'ICOMOS soutient la déclaration de Bam (avril 2004) et les recommandations qui y sont faites concernant l'action à court et à long terme en matière de gestion de la conservation et de développement durable du site dans son ensemble, et enjoint instamment l'État partie à les mettre en œuvre en priorité.

Recommandation concernant l'inscription

Que le bien soit inscrit sur la Liste du patrimoine mondial et sur la Liste du patrimoine mondial en péril en tant que *paysage culturel* sur la base des *critères ii, iii, iv et v* :

Critère ii : Arg-e Bam s'est développée au carrefour d'importantes routes marchandes à la limite sud du haut plateau iranien, jusqu'à devenir un exemple exceptionnel de l'interaction des diverses influences.

Critère iii : Arg-e Bam et les sites associés représentent un paysage culturel et un témoignage exceptionnel du développement d'un peuplement marchand dans un environnement désertique d'Asie centrale.





Critère iv : Arg-e Bam représente un exemple exceptionnel de peuplement fortifié et de citadelle d'Asie Centrale, reposant sur la technique de couches de terre (*Chineh*) combinées à des briques de terre (*Khesht*).

















































































Critère v : Le paysage culturel de Bam est une représentation exceptionnelle de l'interaction de l'homme et de la nature dans un environnement désertique, utilisant les *qanāts*, qui reposent sur un système social strict, aux tâches et aux responsabilités précisément définies, et qui sont demeurés en usage jusqu'à nos jours, mais qui sont désormais devenus vulnérables à un changement irréversible.

ICOMOS, juin 2004

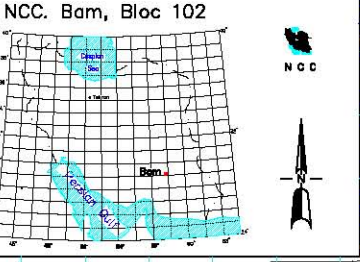
Map of Bam and its protection zones
(last edited 14 June 2004, V 2.1)

Legend

-  Limits of site's suggested core zone
-  Limits of site's buffer zone 1
-  Limits of site's buffer zone 2
-  Suggested tentative limits of the Landscape protection buffer zone

	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field
	Field		Field

UTM PROJECTION SYSTEM. ELLIPSOID : WGS84, Zone 40
 PROJECTIONS ARE REFERENCED TO ILL. AT FORM 400
 GRID SCALE : 1:50000 DATE : 1988
 AERIAL PHOTOGRAPHY/TOPOGRAPHICAL INFORMATION BY
 FEDERAL GOVERNMENT OFFICE OF DATA, U.S. GEOLOGICAL SURVEY
 COMPILED BY SANDTON CO. & D. ASLE
 JOINTOLOGICAL DATE: C. ASLE



Bam and its Cultural Landscape (Iran)

No 1208

1. BASIC DATA

State Party: Islamic Republic of Iran
Name of property: Bam and its Cultural Landscape
Location: Kerman Province, Bam District
Inscription: 2004 ; World Heritage List in Danger (2004)

Brief Description

Bam is situated in a desert environment on the southern edge of the Iranian high plateau. The origins of Bam can be traced back to the Achaemenid period (6th to 4th cent. BC). Its heyday was from the 7th to 11th 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. The Citadel of Bam (Arg-e Bam) is the most representative example of a fortified medieval town built in vernacular technique using mud layers (*chineh*).

2. ISSUES RAISED

Background

At its 30th Session, the World Heritage Committee urged the State Party to accelerate efforts to clearly redefine the World Heritage protective zones which fully reflect the Outstanding Universal Value of Bam and its Cultural Landscape (30COM 7A.25)

Modification

The State Party has submitted slightly modified boundaries for the core zone together with an extension to the buffer zone. The revised boundaries have been redefined to reflect not only the criteria for which the property was inscribed, but also new information obtained through research in the past three years.

A minor extension is proposed to the core zone in the northern boundary near Qalaeh Dokhtar. This should provide extra protection for Qalaeh Dokhtar in the light of increasing informal settlement in the vicinity.

The buffer zone has been extended to the south and west. This revision means that the buffer zone now surrounds the core zone and encloses the whole of Bagh Chemak, (the garden of Chemak, an integral part of the cultural landscape) rather than as before cutting through it.

The protection afforded by the enlarged buffer zone is equivalent to that in place for the former smaller buffer zone.

The new delineations have been put in place following the involvement of ICHHTO (Cultural Heritage, Handicrafts and Tourism Organization) and UNESCO experts in January 2007, as part of the development of the comprehensive management plan.

ICOMOS considers that the modification to the core zone is very minor and a logical and beneficial extension to provide extra protection. It does not alter the justification for inscription. ICOMOS further considers that the enlarged buffer zone provides much greater protection for the integrity of the property.

3. ICOMOS RECOMMENDATIONS

ICOMOS recommends that the revised boundaries of the core and buffer zones of Bam and its Cultural Landscape, Islamic Republic of Iran, be approved.

Bam et son paysage culturel (Iran)

No 1208

1. IDENTIFICATION

<i>État partie :</i>	République islamique d'Iran
<i>Nom du bien :</i>	Bam et son paysage culturel
<i>Lieu :</i>	Province du Kerman, district de Bam
<i>Inscription :</i>	2004 ; inscrit sur la Liste du patrimoine mondial en danger en 2004

Brève description :

Bam et son paysage culturel s'inscrivent dans un environnement désertique, à la lisière sud du haut plateau iranien. On peut retracer les origines de Bam jusqu'à la période achéménide (VIe au IVe siècle av. J.-C.). Située au carrefour d'importantes routes marchandes, et réputée pour la production de soie et de vêtements de coton, elle connut son apogée du VIIe au XIe siècle. La vie dans l'oasis reposait sur les canaux d'irrigation souterrains, les *qanāts*, dont Bam a préservé quelques-uns des plus anciens en Iran. La citadelle de Bam, Arg-e Bam, est l'exemple le plus représentatif d'une ville médiévale fortifiée, construite selon une technique vernaculaire, à l'aide de couches de terre (*chineh*).

2. PROBLÈMES POSÉS

Antécédents

Lors de sa 30^e session, le Comité a vivement conseillé à l'État partie de renforcer ses efforts pour redéfinir clairement les zones de protection du patrimoine mondial qui mettent véritablement en évidence la valeur universelle exceptionnelle de Bam et de son paysage culturel (30COM 7A.25).

Modification

L'État partie a proposé des délimitations légèrement modifiées pour la zone principale ainsi qu'une extension de la zone tampon. Les délimitations révisées ont été redéfinies pour refléter non seulement les critères sur base desquels le bien a été inscrit, mais aussi des nouvelles données issues des recherches menées au cours des trois dernières années.

Une légère extension est proposée à la limite nord de la zone principale, près de Qalaeh Dokhtar. Cela devrait fournir une protection accrue à Qalaeh Dokhtar contre l'occupation informelle qui se développe à proximité.

La zone tampon a été étendue au sud et à l'ouest. Cette révision signifie que la zone tampon entoure maintenant la zone principale et englobe la totalité de Bagh Chemak, (le jardin de Chemak, qui fait intégralement partie du paysage culturel) au lieu de le traverser, comme c'était le cas précédemment.

La protection offerte par la zone tampon agrandie est équivalente à celle qui était en place dans la zone tampon précédente, plus petite.

Les nouvelles délimitations mises en place découlent du processus d'établissement du plan de gestion, auquel participèrent l'ICHHTO (Organisation iranienne pour le tourisme, l'artisanat et le patrimoine) et des experts de l'UNESCO en janvier 2007.

L'ICOMOS considère que la modification apportée à la zone principale est très minime et apporte une extension logique et bénéfique permettant une protection accrue. Elle ne modifie pas la justification de l'inscription. L'ICOMOS considère d'autre part que la zone tampon agrandie offre une meilleure protection de l'intégrité du bien.

3. RECOMMANDATIONS DE L'ICOMOS

L'ICOMOS recommande que les délimitations révisées de la zone tampon et de la zone principale de Bam et son paysage culturel (République islamique d'Iran) soient approuvées.

