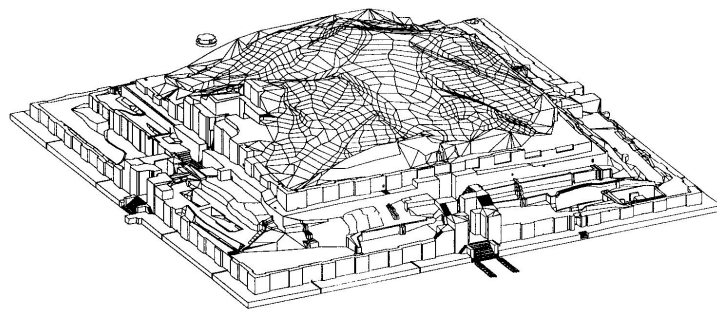


Conservation of Chogha Zanbil

Mission Report by J. Jokilehto

18 January 2000



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Mission report by J. Jokilehto, 11 January 2000.

On the invitation of the Research Centre for the Conservation of Cultural Relics, RCCCR, of the Iranian Cultural Heritage Organisation, ICHO, Dr Jukka Jokilehto was consulted on the conservation management of the archaeological site of Chogha Zanbil. The mission visited the site from **11 to 13 December 1999**, including discussions with the team working on the site, attendance to coordination meeting, and giving a seminar on international principles of conservation.

The site of Chogha Zanbil

The site of Chogha Zanbil (also spelled Tchogha Zanbil) was inscribed on the World Heritage List in 1979 on the basis of criteria (iii) and (iv). The site is known from the antiquity as the sacred city of Dur-Untash, built by the Elamite king Untash-Gal in the mid thirteenth century B.C. The Assyrians destroyed the city in 640 B.C. Today, a huge mud-brick ziggurat dominates the site. Three circular walls and the remains of temples, palaces, houses, tombs, and other structures surround the ziggurat. The site was excavated by the French Archaeological Mission under the direction of R. de Mecquenem in 1936-39, and again by Roman Ghirshman in 1950-62.

The site was in the war zone during the 1980s, and suffered from bombardments. It was subsequently liberated from the military occupation, and the ziggurat was restored. A UNESCO WH mission (Sir Bernard Feilden, J. Jokilehto, M.A. Soheil, A. Jabalâmeli) visited the site in September 1995. After some heavy rainfall, another UNESCO WH emergency mission (E. Galdieri) visited the site in 1998.

Previous recommendations

The 1995 report recommended the following actions:

1. An area master plan should be prepared for the site and the area, taking into account the presentation of the site, visitor management, necessary services and infrastructures. Attention should be given to planning control of the nearby settlements.
2. A management plan is required for regular yearly maintenance and repair works, as well as to provide for a system of reporting, documentation and monitoring.
3. The process of legal protection should be completed, and the perimeters of the site and its zone of respect (buffer zone) should be defined.
4. Land ownership should be regulated on the site.
5. Visitor services could be improved with a minimum of infrastructures, controlling any constructions so as not to undermine the significance of the monumental area.

6. Utilities, technical equipment and infrastructures (water, electricity) should be improved to facilitate maintenance and repair work, as well as to allow for site presentation.

The 1998 report gave specific recommendations regarding the consolidation and drainage of the mud brick structure.

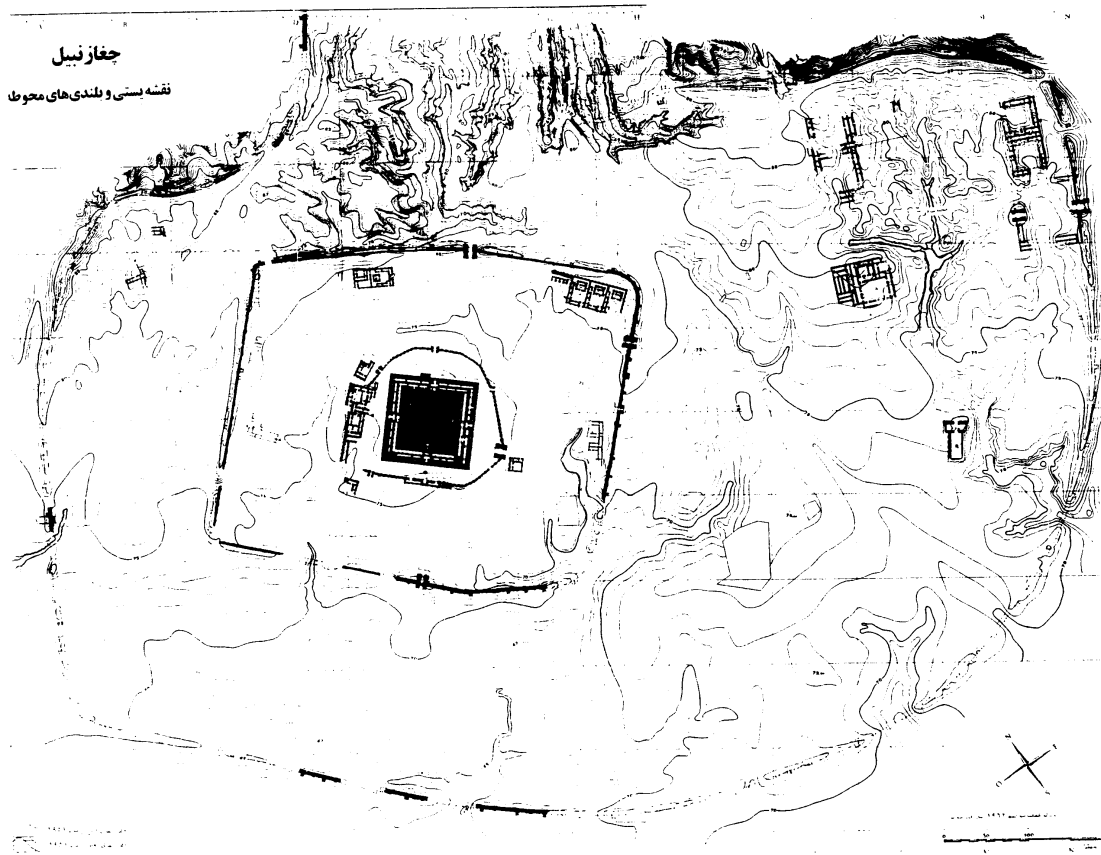


Figure 1. The map of the archaeological site of Chogha Zanbil shows the ziggurat with three surrounding walls. The access road and the proposed visitor centre are situated to the north behind the hills.

Current management situation

The current situation on the site has been drastically changed since the 1995 report was made. This is mainly due to the agreement of technical collaboration, signed by the Iranian authorities with Japan and UNESCO. As a result, a joint project has been initiated eight months ago (i.e., in April 1999) with the participation of several Iranian and foreign partner organisations. The results obtained in the project so far are quite remarkable, and make the site a most important case study for conservation management in the region. This is all the more important considering that Chogha Zanbil is a pilot project, which necessarily will present additional situations to clarify and problems to solve.

The project is carried out under the general direction of Dr. A. Vatandoust with the help of a scientific advisory group, and specialist consultants. On the site, there is a team of some 15 persons representing different professional and technical qualifications. In addition, the laboratories of RCCCR, in Tehran, support the project.

The specialists and technicians who participate in the project are divided into the following five project teams:

1. Management: general coordination and specific tasks regarding administration, permissions, and documentation, including guardianship, equipment and furnishing of premises, installation of facilities (electricity, water), etc.
2. Archaeologists: identification of the site and its components (delimitation, ancient drainage systems, streets, characterisation of materials and their production in the antiquity).
3. Architecture: preparation of graphic documentation (using computer), structural analyses, designing visitor services and itineraries.
4. Conservation: identification and documentation of original and restored parts, testing and characterisation of materials and decay processes, localisation of damages; verification of visitor impact on the site.
5. Geology: mapping and documentation of the situation in geo-hydrology, geology, soil, climate and environment on the site; determination of the degree of pollution and the geomorphic cycle.

The teams meet at established intervals to report on progress and to agree about further action. These meetings are essential for the smooth execution of the work.

Results of the first phase of the project:

Even though the project has only been in place since about eight months, important action has already been taken, consisting of research, documentation, and works on the site. These include:

- The team of archaeologists and architects have contributed to the **recording and documentation** of the site. The first phase is well advanced, including a computerised documentation of the entire site; this documentation will also include the identification of original parts and modern restorations.

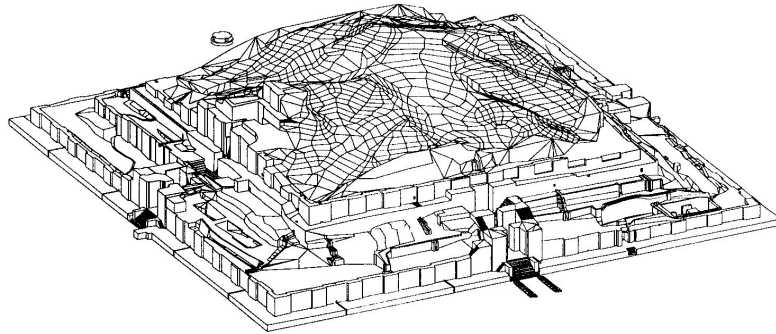


Figure 2 *The computer-generated image of the ziggurat has been prepared by the Chogha Zanbil architectural team. Detailed documentation on the different issues at stake is done on this base.*

- The team of geologists have collected maps and documentation regarding the **geo-hydrological** situation on the site, analysing the soils, identifying water flow to and from the site. Work is also done to document and analyse water flows and drainage systems on the ziggurat itself. These studies will be essential in view of preventive action.
- The team of conservators has worked on the identification and characterisation of **building materials**. A joint task by the geologists and conservators is to study all the soils that have been used in the construction of the ziggurat and other structures on the site, as well as developing new compatible materials to be used in repairs and restoration.
- The archaeological team has carried out small-scale **excavations** to verify specific points on the site; they have also excavated parts of the remains of the second surrounding wall, earlier remaining under a parking lot (now removed). Some interesting results seem to assist in better understanding the function and history of the site.
- Two essential **facilities** are being provided to the site. One is the provision of electricity now already functioning. The site is being provided with a system of lampposts for a general illumination in order to facilitate inspection during night, and to reduce theft of archaeological finds. The other provision is digging of a well (60 m deep) for drinking water outside the borders of the site.
- The **reception of visitors** is planned behind the small hills to the north of the archaeological site; this area is foreseen as a visitor service area including the main entrance, ticket office, souvenir shops, and parking. The local authority is studying the feasibility to acquire a former military structure and convert it into a restaurant. From here visitors would continue by foot to the actual site. Here they may enter the ziggurat closure through an original gateway, which is currently being excavated and restored.

- A small ruined building of recent date on the site of Chogha Zanbil has been reconstructed and rehabilitated to serve as a **site studio**. The building now includes spaces for studio work, the analysis of materials, and storage of equipment, as well as spaces for seminars and meetings.
- A former museum building in Haft Tappeh (an archaeological site some ten minutes by car from Chogha Zanbil) has been converted into the actual **Chogha Zanbil Research Centre** with a small laboratory, space for documentation, studios, computers, storage, kitchen and dining room. There are facilities to accommodate a limited number of consultants or team members in a separate building. In addition, the project can benefit of the facilities in Susa, where a larger group can be accommodated, for example in the case of a training programme.

Tasks for the future

It is gratifying to see that practically all of the recommendations proposed in the 1995 report are being realised as part of the present conservation project. A **master plan** is being prepared for the presentation of the site. Once the first phase of the project is concluded there should be the necessary elements for the establishment of an update management plan for yearly maintenance, repair, and monitoring. The project will assist in defining the entire area that is interesting for the management process from geological, archaeological, and architectural points of view. It will influence the issues related to land ownership and legal protection. Utilities such as water and electricity are already being installed, and plans are made for improved visitor services.

Particularly important are the observations and studies of **water flows** over the ziggurat as well as in and around the site. The technical issues to resolve in the future include the **preservation and protection of the mud brick walls** not only in the ziggurat itself but also in the other structures of the site. About 3 years ago, some mud brick walls have been built cased inside modern cement brick walls. Unfortunately, parts of the original mud brick walls were damaged in the construction process. At present, the modern structures cause problems due to accumulation of water, and also their aesthetic appearance is not suitable for site presentation. A decision is required about removing or modifying the cement brick walls.

Training is seen as an important component of the Chogha Zanbil project. In itself, the project is training of professionals, being the first undertaking of this type in Iran. The results of this project may well be important in the future development of management structures in the country. In addition, a series of training activities are foreseen; the first of these is a national workshop focusing on conservation science and the conservation of mud brick structures in particular. It will take place in February-March 1999. An international training course is foreseen towards winter 2000-2001. This is planned to concentrate the conservation management of archaeological sites, taking Chogha Zanbil as a case study. Obviously, the organisation of international training in such a relatively remote location is not necessarily easy, but the experience of the previous training event in Persepolis, in 1998, may well be useful reference.

The current phase of the Chogha Zanbil project is planned to take three years. We hope that the results of this first phase will lead to the continuation of the project. The main outcome of the project would certainly include an improved knowledge of the site, and the development of coherent policy and strategy for its conservation, protection and maintenance.



Figure 3 *The ziggurat seen from the southeast.*



Figure 4 *The outer wall of the ziggurat.*



Figure 5 *One of the entrances to climb the ziggurat.*



Figure 6 *A detail showing the mud brick mount of the ziggurat.*



Figure 7 *The corner of the mud brick mount, showing outlets for drainage.*



Figure 8 *The ziggurat seen from ground, showing drainage systems.*



Figure 10 *Detail of drainage outlet*



Figure 9 *Bricks with inscriptions in the ziggurat wall*



Figure 11 *Detail of lower walls of the ziggurat, showing areas that need constant maintenance and repair, particularly after heavy rains.*



Figure 12 *Entrance in the inner wall, showing the cement brick walls rebuilt some three years ago to contain the original mud brick structures.*



Figure 13 *A view from the ziggurat over the inner surrounding wall, showing the modern brick constructions.*



Figure 14 *The original, inner surrounding wall in mud brick of the ziggurat, showing a water outlet for drainage.*



Figure 15 *Detail of the original paving around the ziggurat. This particular area is slightly raised thus forming a low platform.*



Figure 16 *A small excavation showing a circular well near the inner surrounding wall.*



Figure 17 *A small modern construction that has been repaired and partly rebuilt as a service centre for site work. It includes, e.g., studio facilities, a meeting room and storage.*



Figure 18 *Studio space in the service building. The space is furnished with drafting tables, and a computer.*