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**UNITED NATIONS EDUCATIONAL,
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**CONVENTION CONCERNING THE PROTECTION
OF THE WORLD CULTURAL AND NATURAL HERITAGE**

BUREAU OF THE WORLD HERITAGE COMMITTEE

Eighteenth session

UNESCO Headquarters, Paris, Room X (Fontenoy)

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**Item 5.3 of the Provisional Agenda: State of Conservation of
Properties inscribed on the World Heritage List: Reports on the
State of Conservation of Specific Properties**

A. Introduction

It is recalled that the Committee at its seventeenth session distinguished three types of monitoring: systematic, administrative and ad-hoc or reactive monitoring. The proposed methodology for systematic monitoring and an overview of regional and/or national systematic monitoring initiatives have been presented in the previous working document (WHC-94/CONF.001/3a).

The present working document deals with **ad-hoc or reactive monitoring** as it was defined by the Committee at its seventeenth session: "The reporting by the Centre, other sectors of UNESCO and the advisory bodies to the Bureau and the Committee on the state of conservation of specific World Heritage sites that are under threat. Ad hoc reports and impact studies are necessary each time exceptional circumstances occur or work is undertaken which may have an effect on the state of conservation of the site."

This document, therefore, includes reports on several of the sites that are inscribed on the List of World Heritage in Danger, as well as reports prepared in response either to requests of the World Heritage Committee or to information received by the Secretariat or the advisory bodies that specific World Heritage sites are under threat.

B. Natural Heritage

B.1. Natural Properties on the List of World Heritage in Danger

At the seventeenth session of the World Heritage Committee held in Cartagena, Colombia, from 6 to 12 December 1993, the Secretariat and IUCN reported on the seven natural sites which are now inscribed on the List of World Heritage in Danger. These were: the Air et Ténéré Reserve, Niger (inscription 1981, List of World Heritage in Danger 1992); Manas Wildlife Sanctuary, India (inscription 1985, List of World Heritage in Danger 1992); Mount Nimba Strict Nature Reserve, Guinea/Côte d'Ivoire (inscription 1991, List of World Heritage in Danger 1992); Plitvice Lakes National Park, Croatia (inscription 1979, List of World Heritage in Danger 1992); Sangay National Park, Ecuador (inscription 1983, List of World Heritage in Danger 1992); Srebarna Nature Reserve, Bulgaria (inscription 1983, List of World Heritage in Danger 1992) and the Everglades National Park, United States of America (inscription 1979, inscribed on the List of World Heritage in Danger during the seventeenth session in 1993).

The Secretariat informed the States Parties concerned of the observations made by the World Heritage Committee and requested to be informed of any follow-up taken. In those cases where relevant information has been received from the State Party or other sources, the Secretariat has transmitted this information to IUCN for evaluation.

With regard to the **Manas Wildlife Sanctuary (India)** the Secretariat advises as follows: The Committee at its last session recalled that the site was inscribed on the List of World Heritage in Danger in 1992 and that because of the unstable political situation, the Indian authorities have been unable to present a report. The Committee asked, therefore, that all diplomatic channels be used to transmit the its concerns. As a result of these efforts, the World Heritage Centre has received a status report dated 26 January 1994 from the Government of India which informs that the Government of Assam has pressed into service members of the armed police and the newly created Assam Protection Forces to protect this area. Further strengthening of the Protection Force is under active consideration by the Government of Assam. However, in spite of these assurances, the press continues to report serious instability and continued poaching in the area. The Bureau may wish to consider retaining the World Heritage in Danger status of this site.

Since the last session of the World Heritage Committee, technical assistance has been initiated for **Mount Nimba, (Guinea); Sangay National Park (Ecuador) and Srebarna Nature Reserve (Bulgaria)**. No new action has been taken by the Centre with respect to the Everglades National Park (USA) or Plitvice Lakes National Park (Croatia).

IUCN will present to the Bureau reports on the state of conservation on the following properties inscribed on the List of World Heritage in Danger (see Working Document WHC-94/CONF.001/3bAdd.1):

- Sangay National Park (Ecuador)
- Srebarna Nature Reserve (Bulgaria)

B.2. Natural Properties on the World Heritage List

Other sites which were subject to state of conservation reports at the seventeenth session of the Committee were Niokolo-Koba National Park (Senegal), Ngorongoro Conservation Area (Tanzania), Royal Chitwan National Park (Nepal), Sinharaja Forest Reserve (Sri Lanka), Tikal National Park (Guatemala), Victoria Falls National Park (Zimbabwe/Zambia) and Virunga National Park (Zaire). Since the last session of the World Heritage Committee promotional funds have been provided for Niokolo-Koba National Park and emergency funds have been provided for Virunga National Park.

As appropriate, the Secretariat informed the States Parties concerned of the observations made by the World Heritage Committee and requested that it be informed of any follow-up action taken. In those cases where relevant information has been received from the State Party or other sources, the Secretariat or IUCN will inform the Bureau accordingly.

With respect to the following sites, the Centre has taken action and has received additional information:

Banc d'Arguin (Mauritania): On the 6 January 1994 the Centre received notice from the President of the Fondation Internationale du Banc d'Arguin (FIBA) that the Paris-Dakar Rally had traversed the World Heritage site for a distance of 90 to 100 km. There was considerable concern that this may have been ecologically disruptive and the Centre and other partners brought this to the attention of the Government of Mauritania. Subsequently, the Centre's staff met with the Director of the Park on 7 March 1994 and reviewed the situation. The net result with which partners concurred, was that the damage was not significant. However, the concern for environmental protection was stressed with the Park Director and it was emphasized that it would be useful to have the boundaries of the Park more visibly delineated. Further discussions were held on possible international assistance from sources other than the World Heritage Fund.

Tasmanian Wilderness World Heritage site (Australia): On 21 March 1994 the Centre was advised of significant potential logging activities adjacent to the site. This has been brought to the attention of Australian officials and a response is awaited.

Ngorongoro Conservation Area (Tanzania): At its last session the World Heritage Committee recalled that the site was removed from

the List of World Heritage in Danger in 1990 as a result of technical assistance and improvements in its management. Subsequently, IUCN informed the Committee of serious problems relating to agricultural encroachment on the site. In addition, it was brought to the attention of the Committee that cultural resources relating to the early footprints of man in the Olduvai Gorge were also being threatened. However, the Getty Conservation Institute is undertaking work with regard to the cultural aspects of the site, in particular planning for the conservation of the Laetoli Hominid footprint site. IUCN will undertake a further monitoring mission with respect to the natural features. The Centre informed the relevant authorities about the Committee's concerns and is awaiting an answer.

In a separate document IUCN will be reporting on the following sites (see Working Document WHC-94/CONF.001/3bAdd.1):

- Ngorongoro Conservation Area (Tanzania)
- Hawaii Volcanoes National Park (United States of America)
- Mosi-oa-Tunya/Victoria Falls (Zambia/Zimbabwe)
- Banc d'Arguin National Park (Mauritania)
- Shark Bay, Western Australia (Australia)
- Willandra Lakes Region (Australia)
- Iguaçu (Brazil)

C. Cultural Heritage

C.1. Cultural Properties on the List of World Heritage in Danger

At the seventeenth session of the World Heritage Committee, the Secretariat and ICOMOS reported on the state of conservation of four of the nine cultural sites on the List of World Heritage in Danger: Chan Chan Archaeological Zone, Peru (inscription 1986, List of World Heritage in Danger 1986); Bahla Fort, Oman (inscription 1987, List of World Heritage in Danger 1988); Angkor, Cambodia (inscription 1992, List of World Heritage in Danger 1992) and the Old City of Dubrovnik, Croatia (inscription 1987, List of World Heritage in Danger 1988).

The Secretariat informed the States Parties concerned of the observations made by the World Heritage Committee and requested to be informed of any follow-up taken.

The Secretariat provides the following information as to sites on the List of World Heritage in Danger.

Bahla Fort (Oman)

The World Heritage Centre informed the Committee during its seventeenth session at Cartagena, on the progress of the restoration work at this site inscribed on the List of World Heritage in Danger.

The Delegate of Oman had informed the Committee that the national authorities were studying the situation and would present a report to the Centre as soon as possible.

During a mission to Oman at the invitation of the Government, from 19 to 24 March 1994, the Director of the World Heritage Centre was able to examine the progress of restoration work underway, mainly being carried out by foreign specialists recruited for this task in the framework of a project of several million US dollars that the national Government has initiated for the restoration of the Fort, for the 1993-1996 period. As the Committee was informed during its December 1993 session, it appears probable that the nature of the material used by this team for the restoration work, the rapidity with which the work is being carried out and the methods used could raise a certain number of questions with regard to conserving the authenticity of the monument.

Therefore, the Director of the Centre proposed to the Omani authorities that an expert mission be sent to the site to evaluate the working methods being used, the use of the US\$50,000 approved by the Committee in 1989 and new alternatives to be considered.

This mission, financed by the Centre, could comprise an ICOMOS expert who had already evaluated the site in 1988 at the time of its inscription on the List, and, if necessary, a specialist in this specific architecture. This proposal was reiterated by the Director of the Centre in a letter addressed to the Minister of Culture and National Heritage of Oman, dated 31 March 1994.

Wieliczka Salt Mines (Poland)

In 1991 a study was undertaken to perform measurements and analyses within the historic part of the mine, to determine the sources of moisture, and to make recommendations for the mitigation of the threat. In the framework of this joint Polish-American initiative, a seminar was held in September 1993 in the United States of America with the participation of two Polish specialists to analyse the data collected during the study and to make recommendations for the long-term conservation of the site. A conservation strategy is now available as well as the profile of a Mine Ventilation and Dehumidification Project. The cost of the necessary equipment has been estimated at US\$ 156,000.

C.2. Cultural Properties on the World Heritage List

The Committee, at its seventeenth session, reviewed the state of conservation of 17 sites: Delphi and Samos (Greece); Historic Centre of Puebla (Mexico); Avila, Burgos Cathedral and Santiago de Compostela (Spain); Hadrian's Wall (United Kingdom); Lübeck (Germany); Santa Maria Maggiore/San Giovanni Latrano (Holy See); Pueblo de Taos (United States of America); Kasbah of Algiers (Algeria); Auschwitz Concentration Camp (Poland); Saint Sophia (Turkey); St. Petersburg and Kizhi Pogost (Russian

Federation); Shibam (Yemen) and Kathmandu Valley (Nepal). The Secretariat informed the States Parties concerned of the observations made by the World Heritage Committee, and requested reports on follow-up action taken. In those cases where relevant information has been received from the State Party or other sources, the Secretariat or ICOMOS will inform the Bureau.

Arab States and the Mediterranean Region

Ancient City of Damascus (Syrian Arab Republic)

In December 1993, two UNESCO consultants visited Syria, particularly the Damascus site, to examine the state of conservation of the national cultural heritage with the Syrian authorities and to help define possible ways and means for requesting UNESCO assistance.

- a) **Omeyyades Mosque.** The objective of the UNESCO mission was not to take sides regarding discussions held in Syria and abroad on restoration work already underway. However, it did draw the Syrian authorities attention to four essential points: the need to respect the historical and original characteristics of the monument in the restoration methods to be undertaken; the adoption, after a physico-chemical and mechanical study of the stone, of a less harsh solution than positioning covering slabs held by clamps; and the improvement of the aesthetic aspect of the restoration work through the use of replacement stones manually rather than mechanically cut; finally, the importance of in-depth studies and reflection concerning solutions to reinforce the stability of the minaret situated in the south-east part of the Mosque, without risk of seriously modifying its appearance.
- b) **Citadel.** Following the decision of the World Heritage Committee at its sixteenth session held in Santa Fe (December 1992), and taking into account their own findings and the report of the consultant sent to the site in June 1993 by the World Heritage Centre, the UNESCO experts proposed a number of urgent actions to be taken by the Syrian authorities (more particularly, the evacuation of water from the walls, terraces and foundations of the building) and a number of studies and prior examinations to be integrated into the Plan of Action for the safeguarding of the Citadel, such as a hydro-geological and waterproof study, studies on the degradation of stones and masonry, recording of buckling, cracks and collapse.

By letter of 9 February 1994, UNESCO drew the attention of the Syrian Minister of Culture to several recommendations made by the experts, notably concerning the Ancient City of Damascus and Palmyre. The Bureau could support this action by recommending that the Syrian authorities take into consideration

the experts' recommendations in the framework of the US\$60,000 allocated by the Director-General of UNESCO from the Regular Programme for the Ancient City of Damascus and the sum of US\$19,500 approved in 1992 by the Chairperson of the World Heritage Committee for technical assistance and which still remains unused.

Palmyre World Heritage site (Syrian Arab Republic)

UNESCO experts noted very serious weathering of many stone blocks particularly at the base of the columns due to capillary rising and variations in humidity and temperature. However, other disturbing points should be mentioned and in particular the urban growth of the neighbouring agglomeration and an economic and technical development project prejudicial to the conservation of the site: an international tarmac road which crosses the site is subject to heavy automobile and truck traffic (vibrations, pollution, risk of accidents...), a monumental entrance to the site built within its perimeter, a pipeline crossing the southern necropolis, a brightly-coloured antenna on hill, the construction of an hotel close to the thermal springs...).

The Bureau could recommend that the Syrian authorities take into account the recommendations of the UNESCO experts, especially with regard to long-term urban planning for the rapidly expanding agglomeration, the implementation of the long-deferred road by-pass project which would skirt the site, and the extension of the protective limits of the archaeological site.

Goreme National Park and Rock Sites of Cappadocia (Turkey)

The international seminar on the Safeguarding of the Rock-Hewn Churches of Goreme which was held in situ from 5 to 11 September 1993, with assistance from the World Heritage Fund, was instrumental in identifying the progress made in research and treatment methods for the conservation management of the site, the materials used, the structural conservation, the conservation of the mural paintings and a Plan of Action adapted for the future, proposed by the specialists attending the Seminar. These proposals will contribute towards the improved conservation of the site. The most urgent proposals are:

1. The safeguarding and development proposal of Cappadocia, which is not yet ratified by the Turkish Parliament, should be formalized as soon as possible.
2. To evaluate and direct the work, an interdisciplinary committee with national and international experts should meet regularly.
3. A local team should be formed comprising a conservator of mural paintings, an architect-restorer, a specialist in materials and an art historian for the documentation and the charting of the region.

4. It is essential to establish a Centre for scientific and technical operations, instrumentation methods, documentation and conservation records, the establishment of a scientific data bank to monitor the rate of deterioration, and to evaluate the graphs which show with regular precision the evolution and the results obtained from photographic and photogrammetric data.

An already constructed building was proposed for the establishment of the Centre.

5. A workshop and a laboratory with instruments and tools necessary for the needs of the region should be used by a regional team.
6. At the same time, a programme should be implemented throughout the region comprising the following elements:
recordings, immediate safeguarding, a permanent maintenance system, development of ancient treatments, background information for each cultural era, recordings and documentary information with photogrammetric data, photography, etc., petrographic analyses and micro and macro geological research, sociological and economic research for the development of tourism and regional projects.
7. No structural consolidation has been carried out on the churches, monasteries or rock buildings of the region to date, except for El Nazar. Projects should be prepared for the conservation of buildings threatened by collapse. The first to be safeguarded are the Churches of Elmali-Ste Barbara, Ste. Vierge (Meryem Ana), Sakli and El Nazar.
8. An emergency team for the structural consolidation (mechanical rock engineer, architect-restorer, structural engineer, geologist), should be formed. Proposals should be prepared following the advice of the conservator of mural paintings together with the regional preservation specialist.
9. When both deterioration of the rock and the mural paintings are concerned, the decisions and implementation should be undertaken within a multi-dimensional programme.

Petra (Jordan)

A UNESCO mission was undertaken to Petra in April 1994. The mission was briefed by the MTA (Ministry of Tourism and Antiquities) on the creation of the Higher Committee for Petra under the authority of the Prime Minister and chaired by the

Minister of Tourism and Antiquities. Its purpose was to develop plans for 'the continuous development of tourism in the area of Petra, including Wadi Musa'. The Committee has created a Technical Committee comprising a group of experts whose task will be to establish the framework for a future Petra Authority on the lines of the Aqaba and the Jordan Valley Development Authorities. This Technical Committee has already proposed a series of resolutions aiming to develop tourism infrastructure within the site. Its recommendations include the widening of the service road to the centre of the site, the creation of a bus service from the restaurant, and the expulsion of the Bdul from Um Sayhun. The Minister informed the mission that no decisions would be taken until the final draft of the Management Plan has been discussed and agreed upon with UNESCO.

Impact of new hotel projects in the vicinity of Petra

Ten new hotels are planned or under construction in the vicinity of Petra which will raise the present capacity to 2,000 beds. This will place a severe strain on the water resources of the area and on the limited capacity of the site itself to receive visitors. It should be emphasized that no prior environmental impact study has been made.

The new Movenpick Hotel, near the entrance to the site, will be over 18 metres high, corresponding to a six-storey building, while the current height limit in the densest zone of Wadi Musa is four storeys, and will be completely out of scale with the present village. A Nabataean pottery kiln discovered during the excavations was destroyed. Although not inside the present limits of the park or visible from the site, the waiving of height restrictions sets a very dangerous precedent. In addition, a vast spoil heap composed of excavated soil from the two basement floors has been dumped on rented land at the entrance to the site, in the path of the wadi. The Ministry should insist on its removal.

Five new hotels are under construction along the Tayibe Road, and two others are planned. This is an extremely sensitive area, not only because of its visibility from the site, but also for the prevention of soil erosion and the risk of pollution of the springs. It was in order to protect the hills overlooking Petra that the 1992 mission recommended that the land to the east be protected and included in the buffer zone. The site of Khirbet Brak, for which soil tests and feasibility studies for a vast hotel are underway, contains a spring and Nabataean and Roman remains, including the ruins of an imposing temple. Also, it will be possible to enter the archaeological and natural sites of Petra National Park directly from the gardens of the hotel.

The hotel projects discussed above are outside the Park boundary defined by the Ministry and therefore outside its direct jurisdiction, but are inside the proposed buffer zone. The mission strongly suggests that a moratorium be called on any new hotels in the area between Wadi Musa and Tayibe.

Sewage disposal project

A 5.5 million JD (Jordanian dinar) project for a sewage treatment system for Wadi Musa and its new hotels is under preparation. A pumping station would be built on the east side of Wadi Musa near the entrance to the site. The proposed sewage treatment plant, which will cover 20-25 dunums of land (2 to 2.5 ha), is adjacent to a major itinerary for tourists. Located less than 1 km from Siq al-Barid and the Neolithic village of Beidha, and not more than 2.5 km from the village of Um Sayhun it would, furthermore, be in the direction of the wind. Apart from the smell which could reach the centre of Petra, it will be visible from the Beidha Road. Serious thought should be given to alternative locations for the treatment plant. The mission hydrologist will meet the Jordanian engineers responsible for the project and discuss possible solutions.

Village development

The Master Plan of Wadi Musa displayed in the Town Hall shows the proposed development of a residential area at the entrance to the site on 86 dunums (6.6 ha) of privately owned agricultural land and olive groves above Brooke Hospital towards Wadi Musa and parallel with the wadi. It appears that pressure from the owners led to the agreement of the local and regional committees and the Higher Planning Council to the land being re-zoned for residential use, and thus greatly increasing its value. It is probable that, after obtaining residential building permits, many of the owners would transform their buildings into hotels and restaurants. The Ministry of Tourism and Antiquities should be requested to confirm that no construction permits be issued for this land.

In Um Sayhun, a new four-storey housing construction has a strong negative impact from several parts of the site. Strict planning regulations, building guidelines and height restrictions are urgently needed. Further development should be halted to the west, east and south of the site, with very limited expansion permitted to the north.

Shops

Vendors of souvenirs are driving heavy trucks over the Roman paving of the Cardo, contrary to strict regulations. No further licences should be delivered to vendors inside Petra and souvenir shops should be forbidden in front of the Khazne.

Conservation of antiquities

The remains of the Winged Lion Temple have been exposed to the elements since they were excavated. Never having been consolidated, they are rapidly being eroded. No further excavation of the surrounding area should be permitted until the existing remains have been protected and conserved. Present projects for the restoration of the Temple should be carefully reconsidered and a donor identified.

In many parts of the site, important carved stone blocks lying on the ground are exposed to salt attack. The recording and marking of these stones and the creation of a lapidarium in which to store them in proper conditions should be considered a priority. The most important pieces should be exhibited in the future lapidary museum, together with remains from the Urn Tomb.

Immediate follow-up of the mission

By letter of 10 May 1994, UNESCO wrote to the Jordanian Ministry of Tourism and Antiquities informing them of its grave concerns regarding these different points and requesting in particular their support in order that the Movenpick Hotel at Wadi Musa remains within the authorized construction limits and uniform with the construction plans previously approved by the Municipality. Furthermore, in the area of Tayibe and Petra a moratorium should be enforced on the construction of all new hotels or facilities until such times as a Master Plan for Petra and its region is finalized and approved by the Jordanian Government. This Master Plan will be available before the summer and should serve to determine the characteristics of future constructions in order to ensure the integrity of the site.

The Bureau could consider the approval of a contribution to organize a small expert meeting to accelerate the implementation of the Master Plan.

Quseir Amra (Jordan)

Some cracks in the rough-rendered surface of the vaults are allowing water to penetrate, damaging the paintings; and the high-level windows, blown open by the wind, have allowed birds and bats to fly in, resulting in some streaks of droppings on the mural paintings.

The mural paintings are disfigured in many places by graffiti, and the signs which have been erected to deter visitors from touching the paintings are, themselves, fixed to the walls and disfigure the interior. A tourist was seen lifting a child over the protective metal barrier, erected to keep visitors away from the walls, to allow him to reach the mosaic-floored side rooms.

Although two attendants are employed in rotation to guard the site, neither one of them was on duty at the entrance gate nor inside the monument at the time of the visit of the UNESCO mission. It would be advisable that the Jordanian authorities ensure that the site be guarded at all times.

Europe Region

Bulgaria

The National authorities have presented in December 1993 an appraisal of all the cultural sites inscribed on the World

Heritage List. These sites require conservation measures which have been identified, and technical assistance shall be made available in due course for:

Boyana Church is being consolidated and its mural paintings are being cleaned. Several options for the conservation of mural paintings are still under discussion. It is also foreseen to enhance, by lighting its presentation.

Rock-hewn Churches of Ivanovo: Mural paintings have been restored; photographic documentation is now completed and the rock is being consolidated.

Rila Monastery: Hydrological and seismic studies have been conducted, and a fire protection scheme prepared. However, a photogrametric study still needs to be completed and the programme includes the implementation of the fire protection and consolidation schemes.

Bryggen and Roros (Norway). In 1993, in collaboration with ICOMOS-Norway and ICCROM, the national authorities monitored the sites of Bryggen and Roros, both situated in an urban context where the risk of uncontrolled property development is high.

ICOMOS evaluated: the development of the sites to see if their qualities are still preserved; present local and national plans which might affect the future evolution of the sites, to see if they strengthen or weaken the qualities of the site; the need for and possibility of enlarging the World Heritage sites; in **Bryggen** to create a buffer zone around the existing site and enclose parts of the harbour and cityscape significant for the understanding of the historical context of Bryggen; in **Roros** to create a site which also may include the surrounding landscape, referring to the World Heritage Committee's emphasis on the cultural landscape aspect.

The resulting reports emphasized the need: i) to integrate the cultural heritage dimension in the planning process and local decision-making; ii) to strengthen the division of responsibilities between central and local governments and private owners; iii) for systematic monitoring as a part of the day-to-day management of the sites, with regular inspections and a coherent maintenance strategy. All treatments and changes to the monuments should be carefully documented and systematically stored.

As a result, the recommendations of the ICOMOS-Norway review will form a basis for the future management of the two sites. Measures have already been taken to allocate larger financial resources to ensure improved management of the sites.

Old Town of Avila with its extra-muros Churches (Spain)

In response to the concerns expressed by the Committee at its seventeenth session regarding a bridge construction project just outside the walls of the town, the Permanent Delegation of Spain

informed the World Heritage Centre on 28 April 1994 that the project has been withdrawn. No further information on this project has been provided so far.

The Mosque of Cordoba (Spain)

The Spanish authorities have presented an information note on the Mosque which can be summarized as follows:

"Whilst carrying out work on the roofs of the Mosque-Cathedral of Cordoba, the conservation architects discovered damage caused by termites in certain places. However, no activity of termites was apparent. Therefore, as a preventive action all wooden elements are being systematically treated with appropriate chemical products, and adequate conservation measures are being taken.

The Board of Culture and Environment of Andalusia which is responsible for this problem, is carrying out a follow-up of the state of conservation of the building, and over the past few years has carried out studies and diagnostics of the Mosque within the "Sectorial Plan of the Cathedrals of Andalusia" which, in turn, has carried out conservation and restoration work of the building and all the moveable properties.

At present, the afore-mentioned Board of Culture and Environment is preparing a new conservation project with a budget of approximately 30 million pesetas for 1994 and 1995, for the restoration of the galleries of the patio for ablutions, as well as for wood treatment, according to the procedure that has been followed until now. In the event that the diagnostics being carried out reveal the presence of termites in this part of the building, it is possible that the works will include the construction of a barrier in the subsoil of the exterior perimeter of the basement of the building to prevent the entry of these insects".

Asia Region

Great Wall of China

The Government of China requested the World Heritage Centre to undertake a mission to evaluate the state of conservation of five cultural World Heritage sites.

The Great Wall, which is over 50,000 km. long, forms a network of defences with varying dates across northern China. Aerial reconnaissance has recently identified another 300 km. of Wall in the Ning Xia area.

The mission monitored the Ming-dynasty Wall (of mediaeval and sub-mediaeval era) at Badaling and Mutianyu, both to the north of Beijing. At Mutianyu, 300m. of Wall (including three towers) was restored in 1990-92 with US\$146,000 provided by the World

Heritage Fund. These funds were donated, in 1988, to WHF by "The International Committee for the Safeguard of Venice and the Great Wall". At Badaling, 3,720m. of the restored Wall are open to the public and at Mutianyu, 5,700m. Visitors number in millions, so tourist pressure on the monument is considerable. At Badaling tourist facilities have been allowed to encroach on the Wall and a cable car has been installed against the advice of the joint 1988 UNESCO/ICOMOS/ICCROM mission and of the State Bureau of Cultural Relics.

The present mission was pleased to note that recent conservation work was of a higher standard than earlier restorations, but nevertheless recommended that a training workshop be organized to teach masonry repair techniques specific to ruined stone monuments. It also made recommendations about the control of tourist facilities, particularly at Badaling.

The mission also monitored the Han-dynasty Great Wall at a number of locations in Gansu Province, in the Gobi Desert, including mud-built forts at Yu Men and He Cang. Although this section of the Great Wall, built of mud with layers of reeds, is some 2,000 years old, the arid desert conditions have resulted in the astonishing survival of these fragile materials. Fortunately, the number of tourists is very low at present; any increase in visitation numbers would put serious pressure on the preservation of the monument.

Imperial Palace of the Ming and Qing Dynasties

The Imperial Palace, or Purple Forbidden City, is the largest Palace in the world. It receives 7-8 million visitors per year, which necessitates an extensive maintenance of its brick pavements. The mission discussed the increasing erosion of the carved marble balustrades, which is thought to be the result of air pollution, and fire-control measures, which are being installed. It was disappointing to note that the recommendation of the 1988 mission, viz. that only traditional paints be used in restoration work, has not yet been adopted.

The mission visited some very interesting restoration work at two ranges of eunuchs's quarters at the north of the Palace, which demonstrated a variety of timber repairs and traditional roofing techniques. Following a discussion of this work and proposed conservation schemes for a number of monuments on the tentative list, it was agreed that it would be desirable to hold a National Training Workshop in timber conservation, to investigate the calculation of the structural strength of timber buildings, biological deterioration and new jointing techniques for timber member in tension.

Both at the Imperial Palace and at the Great Wall there is an obvious need for the introduction of computer-assisted recording systems.

The Mausoleum of the First Qin Emperor

The mission visited the Emperor's burial tumulus itself, where it commented on the rundown condition of the tourist stalls.

It was also able to spend some time visiting the terra-cotta army, the laboratories and to discuss conservation problems with the museum staff, including problems concerning the earthen structure of the burial trenches and the conservation of pigment on the figures themselves.

When viewing trench 3, which is in the course of excavation, it was noted that box trenches were being used; the mission recommended that the adoption of modern open-plan excavation techniques would probably be more fruitful. At present, boring is the only non-destructive archaeological survey technique used in the monument and its vicinity. Modern archaeological survey methods by geophysical prospection should be used in addition, and the mission advised that modern archaeological techniques should form one of the topics to be covered at the forthcoming symposium.

Mogao Caves

The mission spent two days at the Mogao Caves and discussed their conservation with the staff of the Institute there, as well as the proposed symposium on this subject which is to be held with World Heritage Fund assistance. A small reforestation project was also visited, following the felling of some trees which required replacing.

Concern has been expressed about deterioration of the mural paintings in the caves, for which salt migration is partially responsible. The mission felt that the large amount of cement used in the concrete access galleries, erected before the site's inscription, might be a contributory cause.

The three monasteries at the foot of the cliff are derelict. They should be repaired rather than rebuilt. The residential caves, at the northern end of the site, are not at present open to the public. If displayed in the future, access should be provided by a more discrete means than the heavy concrete galleries which have been built in front of the painted caves. The three security lamp posts in front of the residential caves should be replaced by less obtrusive lights at ground level.

The modern blockhouse on top of the cliff, into which the caves are cut, spoils a skyline otherwise only broken by two mud stupas. It was recommended that this should be demolished and rebuilt in a less prominent position, back from the face of the cliff.

The mission also visited the new Exhibition Centre, which is on the point of completion. Although the main body of this is skilfully concealed within the slope of the hillside, the entrance consists of a large and sterile area of brick paving,

dominated on one side by a concrete-and-brick tower in Han-dynasty style. This tower is linked to the Exhibition Centre by a high wall of grey bricks. These features have no connection with the site and detract from the mud chorten which are a feature of the eastern banks of the river. It is recommended that the tower should be demolished, the wall lowered to the height required for it to act as a retaining wall only and the stark area of paving reduced in size or landscaped with trees.

Peking Man Site at Zhoukoudian

The site at Zhoukoudian, in the western hills to the south-west of Beijing, is a fossil-rich site which has produced hominid and other fossils of quite exceptional importance. The 0.24 sq. km. core area of the World Heritage site contains ten localities of archaeological interest and is under the direct control of the Chinese Academy of Sciences. The buffer zone of 1.7 sq. km. is under the control of the local authority and contains a further sixteen localities. Major archaeological research on the site took place between 1921 and 1937, although further work was carried out in the 1960s.

The principal site of concern has been Locality 1 in the core area. This has produced fossils of *Homo erectus pekinensis* dating back some 500,000 years. *Homo erectus* used the former cave on the site for a period of about 200,000 years; the Upper Cave on the site for a period of about 200,000 years. The Upper Cave has produced skeletal remains of palaeolithic *Homo sapiens sapiens*. As well as human artefacts associated with these remains, the site has been the source of some spectacular remains of animals who also used the cave, such as complete skeletons of cave bear, cave hyaena and (of palaeolithic date) a tiger skeleton.

Although originally a cave, Locality 1 is now a deep trench, with archaeological stratification 46 metres deep. The archaeological strata are unstable, as is the cave roof (consisting of breccia), wherever this still exists. The mission suggested that the trench should be roofed over to prevent further erosion of the sides, with public access being provided via the Upper Cave. The museum display dates from 1972 and does not do justice to the finds. The mission recommended that the master plan of the site should be prepared giving priority to the remodelling of the museum facilities and Locality 1-Upper Cave. To do so, it was recommended that a specialist in museum design be commissioned and it was agreed, in principle, by the Chinese authorities concerned that all the necessary maps, information on the existing buildings will be compiled of the site and a geophysical survey of Locality 1-Upper Cave be completed within a period of six months. If a proper remodelling and upgrading is undertaken, this very important archaeological site could become a living World Heritage site, and attract visitors.

Kathmandu Valley, Nepal

As requested by the World Heritage Committee at its last meeting held in Cartagena, Colombia, December 1993, the joint

UNESCO/ICOMOS mission has prepared and finalized the report of the review mission on the state of conservation of the Kathmandu Valley World Heritage Site.

The mission was undertaken in November 1993 and was requested to:

1. evaluate the current and past conservation activities;
2. examine the state of conservation of the seven monument zones belonging to the World Heritage Site;
3. verify the boundaries of the site as nominated in 1979;
4. assess the support capacities of the national and municipal authorities; and
5. evaluate the proposed amendments to the Ancient Monuments Preservation Act 1956 (4th amendment).

The review mission defined sixteen areas in which significant improvements should be made in order to maintain the integrity of the original inscription. The mission also suggested increased international support and a permanent UNESCO presence at the site. It is also suggested that the Government of Nepal consider recommending to the Bureau/Committee to place the Kathmandu Valley on the List of World Heritage in Danger, in order to increase international support.

Since November 1993 the following actions have been taken.

1. Meetings were held, at the beginning of March 1994, at UNESCO during the visit of the Secretary General of the Nepalese National Commission for UNESCO.
2. UNESCO, at the request of the Nepalese Authorities, fielded a mission in early May to assist the Nepalese Authorities in drafting and suggesting modifications to the Fourth Amendment of the Ancient Monuments Preservation Act 1956. This follows the recommendation of the review mission in order to bring the legislation in compliance with international standards on the subject.
3. UNESCO, in close collaboration with the Nepalese Authorities, is organizing a workshop in Kathmandu with the aim of strengthening the local capacity in the field of building technology and the use of appropriate construction materials in the restoration work. An exhibition on the World Heritage site of Kathmandu Valley will also be organized.
4. Two emergency assistance requests amounting to US\$44,910.00 have been put forward by the Nepalese Authorities and eventually approved by the Chairman of the World Heritage Committee. The requests aimed to undertake urgent restoration work in the **Degu Taleju Mandir** and **Patuko Agamchhen** located in Patan Darbar Square and along the boundary of the protected Monumental Zone of Patan Darbar, respectively, were well motivated and supported by the review mission.

Copy of the report has been distributed to the concerned parties as well as to Bureau members.

ICOMOS will present state of conservation reports on a number of sites (see Working Document WHC-94/CONF.001/3bAdd.2).

D. Proposed actions 1994-1995:

The Bureau is requested to endorse the following proposals for the remainder of 1994 and for 1995, that:

- The highest priority will be given to the monitoring of and reporting on sites on the List of World Heritage in Danger.
- The Secretariat will report to the Bureau at its nineteenth session in June/July 1995 on the state of conservation of all sites on the List of World Heritage in Danger with an assessment of the appropriateness of their continued inclusion in this List.
- The Secretariat, in collaboration with the advisory bodies, will continue to undertake reactive monitoring whenever deemed necessary.

List of Addendums to Working Document WHC-94/CONF.001/3b:**WHC-94/CONF.001/3b.Add.1**

IUCN's reports on the state of conservation of natural properties:

- Sangay National Park (Ecuador)
- Srebarna Nature Reserve (Bulgaria)
- Ngorongoro Conservation Area (Tanzania)
- Hawaii Volcanoes National Parks (United States of America)
- Mosi-oa-Tunya/Victoria Falls (Zambia/Zimbabwe)
- Banc d'Arguin National Park (Mauritania)
- Shark Bay, Western Australia (Australia)
- Willandra Lakes Region (Australia)
- Iguaçu (Brazil).

WHC-94/CONF.001/3b.Add.2

ICOMOS' reports on the state of conservation of cultural properties.

**Convention Concerning the Protection of the
World Cultural and Natural Heritage**

WORLD HERITAGE BUREAU

**18th Session
4 - 9 July 1994
Paris, France**

Agenda Item 5

**MONITORING THE STATE OF CONSERVATION OF
NATURAL WORLD HERITAGE PROPERTIES**

REPORT PREPARED BY IUCN

30 June 1994

A. MONITORING PROCEDURES

The monitoring of the condition of natural World Heritage properties has emerged to be as important a procedure as nominating new sites to the list. IUCN began regular monitoring in 1984 using its facility at the World Conservation Monitoring Centre (WCMC) and through its worldwide membership network. IUCN's role in monitoring is specifically requested in paragraph 57 of the Operational Guidelines. The monitoring procedure is as follows:

1. IUCN/WCMC receive information on the conservation status of a property through its reporting network and other sources (journals, project reports, news stories).
2. Relevant government authorities are notified and asked for further clarification.
3. WCMC reviews new information and updates data sheet on the site in question.
4. IUCN reports on threats and issues at selected sites to World Heritage Bureau in June.
5. Relevant State Party contacted by World Heritage Center and further clarification requested.
6. IUCN and World Heritage Center prepare annual monitoring report for World Heritage Committee.
7. Committee takes action as appropriate including decision on follow-up action and possible inclusion on the List of World Heritage in Danger.

CONSERVATION STATUS REPORT

1. **PROPERTY: SANGAY NATIONAL PARK (Ecuador)**
2. **DATE INSCRIBED AND CRITERIA: 1983. *ii, iii, iv* 1992 - World Heritage in Danger**
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: \$28,500 in December 1993. US\$925,000 from GEF.**

4. **CONDITION OF PROPERTY:**

A short up-date on the status of the park has been provided by the IUCN office in Ecuador. There has been a major restructuring of the park administration with a change in Superintendent and a reduction in personnel. There is now concern that with the significant resources being provided through the GEF, there is limited capacity to carry out the work.

The Macas-Guamote road construction continues at a slow pace with no attention to fulfilment of the conditions in the inter-institutional letter of Agreement (see December 1993 monitoring report).

Hunting activity inside the park has increased in the Alao area of the park.

5. **EVALUATION:**

It is clear that Sangay National Park still deserves to be on the List of World Heritage in Danger and that very little progress is being made to rectify the situation. The continuing reductions in the size of the work force has further limited management capacity. There has been no response from the Ecuadorian authorities to letters sent from the Centre.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

It is time for higher level interventions to express concern over lack of action to safeguard this site. The Bureau will need to determine the best options for making high level contact with the Government of Ecuador.

CONSERVATION STATUS REPORT

1. **PROPERTY: MANAS NATIONAL PARK (India)**
2. **DATE INSCRIBED AND CRITERIA: 1985. *ii, iii, iv*; 1992 - World Heritage in Danger**
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

Since the last Committee meeting three news reports and one report from the Assam Forest Department (all cited below) confirm that the situation continues to deteriorate. Almost one third (22) of the parks remaining rhinos, were poached in 1993. The Bodo rebellion is still hampering management efforts and only a part of the area is considered safe. The Assam Forest Department is providing a group of elite commandos who will be trained and provided with modern weapons. This will not solve the problem with the local communities around the park but is one necessary step. WWF-India as well as the Forest Department are planning various activities but the security situation still does not allow resolution of the problem.

5. **EVALUATION:**

The Government of India has acknowledged the letter of concern sent by the World Heritage Centre but has not proposed any corrective measures or any cooperative action with the State Government. The conservation status of the park thus has not improved but it is likely not yet beyond hope. Both WWF-India and the Swaminathan Foundation are hoping to assist in monitoring the situation.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

The Bureau has few options but it could:

- endorse in principle a sum of \$25,000 to assist Manas if requested by the Government of India;
- offer to involve WWF-India and the Swaminathan Foundation in their efforts to help;
- consider sending a high level mission to Delhi and to Assam to impress the urgency of the situation on the authorities.

7. **REFERENCES:**

- Tigers on the Brink. **TIME**. 28 March 1994
- Subhani, S.Z. Militants Decimate Manas' Wildlife. **WWF Features** 34/93
- Manas Rhinos Routed by Bodos. 3 February 1994. **Delhi Pioneer**
- Manas Wildlife Sanctuary. Report to Workshop on Indian Rhino by Forest Department of Assam. December 1993

Note: Further background on problems in the site are contained in ten IUCN monitoring reports beginning in June, 1989.

CONSERVATION STATUS REPORT

1. **PROPERTY: SREBARNA BIOSPHERE RESERVE (Bulgaria)**
2. **DATE INSCRIBED AND CRITERIA: 1983. iv; 1992 - World Heritage in Danger**
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

IUCN reports on the status of conservation in this site have been made to the Bureau and Committee since December 1991. The June 1993 Bureau has recommended that the Committee defer a decision on whether or not to delete the property from the list until 1995. In the meantime, there have been assessments of the conditions in the site by various experts from the Ramsar Bureau, the USNPS and Bulgarian authorities. All of the subsequent reports have confirmed that serious degradation has occurred - even worse than was indicated in the 1991 IUCN monitoring report. Restoration was thought, however, to be possible and some efforts to attempt this are underway.

A current status report has been prepared by the Bulgarian authorities but a copy has not yet been made available to IUCN.

5. **EVALUATION:**

The report of the wetland experts from the USNPS has clearly outlined the events which have led to the "collapse of this once thriving lake" as well as the enormous effort that will be required to restore it. In light of the loss of the integrity of Srebarna and the periodic review clause called for in paragraph 29 of the Convention's Strategic Plan, it is unlikely that IUCN would recommend the inscription of the site today.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

Without having seen and studied the current status report on Srebarna by the Bulgarian authorities, IUCN cannot suggest what actions should be taken by the Bureau.

7. **REFERENCES:**

Government of Bulgaria. 1993. Environment Impact Assessment Report of Restoration of the Srebarna Biosphere Reserve Project. 29 p. plus annexes.

Van Lent T. and M. Soukup. 1993. Restoration of Srebarna World Heritage site. USNPS. 8 p.

CONSERVATION STATUS REPORT

1. **PROPERTY: NGORONGORO CONSERVATION AREA (Tanzania)**
2. **DATE INSCRIBED AND CRITERIA: 1979;** criteria not recorded
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND:** \$79,000 to date plus \$275,000 IUCN support in 1994 (funded by Germany)
4. **CONDITION OF PROPERTY:**

IUCN has previously reported on the impact that the illegal and random cultivation has had on this site. No official replies from the Tanzanian authorities have been received but independent information on farming activity shows it has not diminished. An NGO called the "Friends of Serengeti" have protested strongly to the Government and suggested alternative areas where cultivation could be encouraged. The Ngorongoro Board has not taken a strong stand on the issue.

5. **EVALUATION:**

With no improvement in the situation and no response from Government, IUCN is considering recommending that the site be considered for the List of World Heritage in Danger at the December meeting of the Committee. This recommendation will be considered during a field mission to the site proposed for October by IUCN HQ and regional office staff. As an IUCN management planner is due to begin work in the NCA in the near future, the progress on this project will also be reviewed. It has been suggested that the management planning process may be futile if the policy on cultivation is not sorted out first. A subsequent follow-up implementation project to be funded by KFW (Germany) is also expected but it has been recommended that this should be withheld until cultivation is phased out.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

The Bureau should again express its concern over cultivation in the site and lack of any response to its inquiries. At the same time it should welcome the preparation of the management plan and encourage the authorities to cooperate in the October mission to the site.

CONSERVATION STATUS REPORT

1. **PROPERTY: MOUNT ATHOS (Greece)**
2. **DATE INSCRIBED AND CRITERIA: 1989, Cultural *iii, iv, v, vi*, Natural *iii***
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

At the July 1992 meeting of the Bureau, IUCN noted concern over an increase in forestry activities and road construction and suggested a mission to review conditions in this mixed site. The Greek authorities at the time did not feel this was needed and the issue was dropped.

A new report, however, issued in September 1993 by WWF and the Ecumenical Patriarchate of Constantinople (EPC) on the ecological status of the area, suggests that this concern be raised once again. In fact, many new roads have been built and many trees cut. There were also reports of overgrazing, chemical pollution from increasing use of fertilisers and pesticides, proposed hydrodam construction, inadequate sewage disposal, open refuse dumps and planting of inappropriate tree species. Some of the monasteries surveyed were sympathetic to conservation but many others were carrying out activities that are inconsistent with its World Heritage Status.

5. **EVALUATION:**

There appears to be a need for impact studies, forest management plans and a system of reserve on Mount Athos. IUCN supports the recommendations made in the WWF/EPC report and would urge action before further damage is done.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

The Bureau should take note of the WWF/EPC report and request the authorities in Greece to contact the WWF office in Athens and report back to the next Committee on the status of the natural heritage of the site.

7. **REFERENCES:**

Oikononou, Dimitrios et.al. 1993. Final Report of the Ecumenical Patriarchate, WWF International and WWF Greece Team on the Ecological Status of the Monasteries of Mount Athos. 25 p. plus appendix. 66 p.

CONSERVATION STATUS REPORT

1. **PROPERTY: SHARK BAY (Australia)**
2. **DATE INSCRIBED AND CRITERIA: 1992. *i, ii, iii, iv***
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: n/a**
4. **CONDITION OF PROPERTY:**

In response to the concerns expressed in IUCN's original technical evaluation, the Committee requested IUCN to report back on the progress with (1) implementation of the Commonwealth/State management agreement and (2) efforts to achieve more effective conservation of the site.

On the first issue, the agreement has not yet been implemented as the new government in Western Australia has stated that it wishes to revise it. This means that complementary legislation to provide for joint management structures including a Ministerial Council, Community Consultative and Scientific Advisory Committees have not been established. In the interim, the 1988 Shark Bay Region Plan is still the guiding document for management of the site.

On the second issue, substantial progress at the field level to strengthen management has occurred. This includes expansion of education and information services, removal of feral animals, construction of barrier fences and boardwalks, provision of improved visitor services, and reintroduction of burrowing bettong. A series of management plans for the marine reserves and Monkey Mia are underway as is a Fisheries plan and a Terrestrial Reserves plan. There is also evidence of much greater public support for the nomination but the number of CALM and Fisheries Department staff available to manage such a large area are still seen as insufficient. IUCN has indicated some other minor concerns (shell harvesting, dolphin feeding) to reserve managers during a site visit in April 1994.

5. **EVALUATION:**

In the 2½ years since listing there has been reasonable progress by CALM staff at the field level in improving the conservation status of Shark Bay. The completion of the various management plans, however, has been delayed and there is concern in the local Shire Councils that not enough action has been evident. Certainly Shark Bay is well behind other World Heritage sites in Australia in terms of becoming a model of effective management. A main constraint on progress is the lack of implementation of the October 1990 Commonwealth/State agreement which the State Government now wishes to re-negotiate.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

IUCN suggests to the Bureau that internal issues between the Commonwealth and the State are not a matter for intervention by the Committee. However, as assurances were given that the October 1990 agreement was to provide the management framework, the Committee will be concerned that most of this has not been operationalised. A letter from the Bureau to the Australian authorities requesting positive and concrete action by the date of the next Committee is suggested.

CONSERVATION STATUS REPORT

1. **PROPERTY: WILLANDRA LAKES REGION (Australia)**
2. **DATE INSCRIBED AND CRITERIA: 1981. Cultural *iii*, Natural *i, ii***
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: n/a**
4. **CONDITION OF PROPERTY:**

As no one from IUCN, ICOMOS or UNESCO had ever paid a visit to this "mixed" site, IUCN took the initiative and requested the Australian authorities to arrange a field visit in April. It has long been known that there have been some problems with landowners resident in the site, that aboriginal concerns were being raised and that no management plan was available 13 years after it was requested by the Committee. The conclusion of the two day visit which involved meetings with State and Commonwealth officials as well as representatives of the aboriginal groups, the Willandra Landholders Protection Group and the Wentworth Shire Council, was that Willandra has been the most neglected of all Australia's World Heritage sites and urgently needs attention.

Fortunately, this attention is now being given as the Commonwealth, through DEST, has recently increased its involvement in matters relating to the site and is cooperating with the State of New South Wales to resolve the many issues that are outstanding. A full briefing document has been provided to IUCN on the activities now underway which include the establishment of a Community Management Council, a Technical and Scientific Advisory Committee and the release of a Strategic Issues Document. A socio-economic impact study is now underway and the Commonwealth is making funds available to assist the State in management.

5. **EVALUATION:**

IUCN was convinced that the goodwill now exists as well as the financial means to address the long overdue issues that relate to this "forgotten" site. All indications are that much progress will be made over the next 6 - 8 months.

One action that can be anticipated is a review of the appropriate boundaries of the site which were hastily and arbitrarily drawn up in 1980 without sufficient regard to location of the World Heritage values. A study of the region concluded that the whole southern third of the property contains little material of archaeological or scientific value. Also from the natural heritage point of view, the entire Prungle, Banoon and Turlee areas could be omitted from the site. Similarly the existing heritage boundary does not include the whole of Zanci station which is now a part of Mungo National Park. There is some valuable mallee vegetation occurring here which should be part of the site.

A second major issue relates back to the inscription of the site in 1981 on both natural and cultural criteria. IUCN's technical evaluation at the time was not convinced of the site's universal value and recommended deferral. Based on the brief visit made in April, IUCN would suggest that the site is predominantly a cultural one and a re-nomination should be considered on these grounds alone.

Finally, the Willandra Lakes experience illustrates several important lessons:

CONSERVATION STATUS REPORT

1. **PROPERTY: BANC D'ARGUIN NATIONAL PARK (Mauritania)**
2. **DATE INSCRIBED AND CRITERIA: 1989. *iii, iv***
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

The situation regarding the passage through the park by the Paris - Dakar motor rally has been dealt with in the monitoring report by the World Heritage Centre.

A much greater issue of concern to IUCN is the plan to capture six monk seals from the park (total population is between 100-130) and move them to Antibes in the south of France. The purpose for this is captive breeding and the project is being funded by the European Union and the French Environment Ministry. There are a number of logistical problems with this and critics say that the money spent on capture and re-location would be better used to protect the seals in situ. IUCN's marine programme has expressed some concerns over the captive breeding plan and the Species Survival Commission is also maintaining an interest in the project.

5. **EVALUATION:**

Half of the remaining world's population of Mediterranean monk seals are found in the Banc d'Arguin World Heritage site. The capture operation, scheduled for this October, will take a significant proportion. It would be a serious blow to the viability of the herd if it does not go proceeding to plan.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

The Bureau should write the implementors of the captive breeding project to remind them that Banc d'Arguin is a World Heritage site and urging them to keep IUCN and the World Heritage Centre informed of the planned removal of seals from the site.

7. **REFERENCES:**

Patel, Tara. 1994. Monk Seals to be Captured for Breeding Study. New Scientist. 11 June.

CONSERVATION STATUS REPORT

1. **PROPERTY: TE WAHIPOUNAMU (South-west New Zealand)**
2. **DATE INSCRIBED AND CRITERIA: 1986. Extension 1990. *i, ii, iii, iv.***
3. **TECHNICAL ASSISTANCE FROM THE WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

There are three issues relating to this site which merit action by the Bureau:

1. On 27 June, the New Zealand Minister of Justice was reported as saying that "small parcels of conservation of land may be returned to Ngai Tahu and other iwi (Maori tribes) to protect wahi tapu or sacred sites". While the Ngai Tahu iwi was associated in support of the New Zealand nomination, it has also pursued claims to land to the Waitangi Tribunal. This was set up by the New Zealand Government to consider Maori land grievances under the Treaty of Waitangi (1840) by which certain Maori leaders recognised British sovereignty and received various guarantees in relation to their interests. It is understood that the Ngai Tahu claims may include some land in the World Heritage site.

While it will be noted that Ngai Tahu supported the nomination and while the statement by the Minister refers to only small parcels of land sacred to Ngai Tahu, IUCN considers it would be helpful for the Bureau to invite the New Zealand Government to report on the any implication of the Ngai Tahu Treaty claims for the World Heritage site and to seek an assurance that the integrity of the site will not be jeopardised by any settlement of claims which might affect land within the World Heritage site.

2. It has come to IUCN's attention that continued cattle grazing is prejudicing natural values in parts of Mount Aspiring National Park including the Siberia area, the Wilkin Valley, Cattle Flat and Dredge Flat within the World Heritage site. New Zealand National Parks Policy is that cattle grazing in parks should be phased out and concern has been expressed that grazing continues and is causing damage to natural vegetation and preventing regeneration of forest edges. It is understood that the Department of Conservation as the management agency is aiming to implement the National Parks Policy. IUCN believes it would be helpful to strengthen the Department's resolve to do this as soon as possible if the Bureau drew to the State Party's attention concern at continued cattle grazing and invited them to report on proposals to end the grazing in the interests of maintaining the integrity of the site.
3. When Fiordland National Park was listed as a World Heritage site in 1986, IUCN's evaluation suggested that consideration be given to the inclusion in the site of the Waitutu forest along the park's southern boundary. When Fiordland National Park was incorporated into the larger Te Wahipounamu site in 1990, part of the Waitutu forest in Government ownership was included. However, the coastal section of Waitutu forest which is in Maori ownership remained outside the site. It is a cause of concern among conservation interests in New Zealand that the owners of the coastal forest recently entered into a contract for logging to take place. This was seen as threatening the significant natural values on the Maori land and prejudicing the integrity of the adjoining Waitutu forest land within the World Heritage site.

CONSERVATION STATUS REPORT

1. **PROPERTY: MANA POOLS, SAPI AND CHEWORE RESERVES (Zimbabwe)**
2. **DATE INSCRIBED AND CRITERIA: 1984. *ii, iii, iv***
3. **TECHNICAL ASSISTANCE FROM WORLD HERITAGE FUND: None**
4. **CONDITION OF PROPERTY:**

When this property was listed it was one of the three most important refuges in Africa for the black rhino with a population then of 500. By the end of this year there will be none as the last ten remaining in the wild are being captured and translocated to an intensive protection zone in another part of Zimbabwe. The Mana Pools site is not alone in suffering this drastic decline as Zimbabwe as a whole has lost 95% of its black rhino population over the past decade. Elephant poaching has increased in the site as well and although numbers are relatively low, animals with larger tasks are selected.

The gangs that have conducted the poaching are almost all based across the border in Zambia. From 1985 to 1993, 166 poachers, mostly all Zambians have been killed by the authorities and another 88 captured. Four Zimbabwean government personnel have been killed in this "war of the rhinos". The middle men who then take the rhino horn, supply it to an international network, primarily in North Korea, Taiwan and South Africa.

5. **EVALUATION:**

The Mana Pools site has lost a "flagship" species and much of its integrity. Many national and international conservation organisations were and are still involved in efforts to save the species but to no avail. The World Heritage Committee never received a request for assistance from the Zimbabwe authorities and Zambia has never acted on the Committee's invitation to nominate the adjoining Zambezi park. In any case, there was little likelihood that the Fund or the Committee could have made a large difference as the traffic in rhino horn throughout the world is underground. Pressure on the Zambian Government from other organisations was not effective and two of the three main sources of demand are countries that are not eligible to join the Convention. As the site was also inscribed for other values its inscription on the World Heritage list remains valid.

6. **SUGGESTED ACTION BY THE WORLD HERITAGE BUREAU:**

Other than recognise the loss and the lack of any effective means to prevent it there is little that the Bureau can now do as the species been extirpated from the site. The World Heritage Centre, however, could be asked to expand its linkages with the Secretariat of the Convention on International Trade on Endangered Species (CITES) in order to help the Committee play a more active role in other sites that are suffering similar pressures.

7. **REFERENCES:**

Bradley-Martin, E. 1994. The Slaughter of Zimbabwe's Rhinos. Swara. January/February.

**UNITED NATIONS EDUCATIONAL
SCIENTIFIC AND CULTURAL ORGANIZATION**

**CONVENTION CONCERNING THE PROTECTION OF THE
WORLD CULTURAL AND NATURAL HERITAGE**

BUREAU OF THE WORLD HERITAGE COMMITTEE

Eighteenth Session

Paris, 4-9 July 1994

**Item 5: Examination of the Reports on the States of Conservation of World Heritage Cultural Properties:
Action by ICOMOS**

A Monitoring Reports

Lübeck, Germany (C 272rev)

An ICOMOS mission (an urban planner and an urban archaeologist) visited Lübeck in late May 1994, at the request of the municipal authorities, to discuss problems arising from development plans for the city centre. Three main areas of concern were identified, for which possible solutions were proposed.

- Investigation of archaeological remains

Lübeck has a rich hidden archaeological heritage, both underground and within standing buildings. Since the end of World War II there has been a series of outstanding urban excavations and the rehabilitation of old buildings has revealed many important features such as wall paintings. These investigations have been possible owing to the relatively slow pace of urban redevelopment in the historic centre. In recent years, however, the pace of this development has increased markedly, with the result that insufficient financial and human resources were available to deal with the flow of planning applications being received.

The mission proposed a revision of the present heritage protection legislation, on the lines of the Areas of Archaeological Importance in Part II of the UK Ancient Monuments and Archaeological Areas Act 1979. This would provide a statutory period before the start of development work during which scientific investigations could be carried out. It was also proposed that the statutory protection of historic buildings should be amended so as to permit the designation of all the buildings within a prescribed conservation area, moving away from the existing piecemeal designation system and the resulting administrative overload.

- Presentation of heritage

The mission made proposals for the better display and presentation to the general public of archaeological finds that survive *in situ* within cellars and elsewhere within the city but which are at present inaccessible. This will heighten the awareness on the part of the inhabitants of Lübeck of the city's rich heritage and assist in improving their attitude towards it.

- **Development strategy**

A conflict was perceived in Lübeck between heritage conservation and tourist potential on the one hand and a policy for economic growth on the other. The mission stressed the need for the development of an integrated strategy that would permit both objectives to be achieved.

- **Recommendation**

ICOMOS recommends that the authorities in Lübeck be encouraged to revise its heritage protection legislation so as to allow sufficient time for the proper investigation of the city's rich archaeological heritage and to implement measures to make the important archaeological and artistic discoveries accessible to the general public. It also recommends that the authorities should seek the assistance of an experienced international planning consultancy in the preparation of an integrated development strategy which reconciles the competing objectives of heritage conservation, tourism, and economic growth.

Puebla, Mexico (C 416)

Puebla is a new colonial town established in 1531 on a regular street pattern, the rigidity of which was expanded in the 18th and 19th centuries with, on the one hand, an extension of commercial and industrial activities and, on the other, a growth in the population. It preserves a very wide range of monuments from the 16th to 19th centuries. It was inscribed on the World Heritage List in December 1987 on the basis of criteria ii and iv.

In December 1993 the Secretariat informed the World Heritage Committee at its 17th Meeting in Cartagena (Colombia) that it had received several letters drawing its attention to an urban development plan prepared by the Municipality of Puebla which might adversely affect the protected zone (the Los Remedios, La Luz, La Cruz, and San Francisco quarters).

The Committee for the Defence of the Historic Centre of Puebla, which had been created by tenants and property owners threatened with expropriation, appealed to ICOMOS, which referred the subject to its Mexican National Committee for study and comment. A mission visited Puebla in May 1994. The Director General of UNESCO in the meantime sent an expert, Giorgio Lombardi, on a mission to evaluate the true impact of the project.

Despite the approaches made to various bodies, the somewhat fragmentary information obtained by ICOMOS has made it impossible to evaluate this urban renewal plan.

It would be desirable to know to what extent this project, even though it is not yet complete, affects the World Heritage Monument. Is it capable of being properly integrated with the ancient urban fabric? Should it become a new landmark for the whole townscape and redefine it in formal, rhetorical, and visual terms? Does the insertion of tourist and commercial architectural programmes, whose centres of gravity are open spaces, not clash with the historic urban fabric, where the accent is placed on the network of streets? Finally, will the likely high elevations of the new constructions not visually overwhelm the colonial architecture and destroy the outstanding views?

- **Recommendation**

It is recommended that the Lombardi Report, the entire Angelopolis Project, and the implementation programme for this project should be made available to ICOMOS so that it may carry out a viable evaluation.

Kathmandu Valley, Nepal (C 121)

- Background

The Kathmandu Valley was inscribed on the World Heritage List in 1979. The inscription is a multiple one and includes seven distinct monument zones: the Durbar Squares of Kathmandu, Patan and Bhaktapur; the two Buddhist sanctuaries of Swayambhu and Baudhdhanath; and the two Hindu sites of Pashupati and Changu Narayan. During the December 1992 meeting of the World Heritage Committee in Santa Fe, ICOMOS brought to the attention of the Committee the rapidly deteriorating state of the World Heritage site and the very real difficulties faced by His Majesty's Government of Nepal in countering these difficulties. ICOMOS's observations followed from a meeting of the ICOMOS International Wood Committee held in the Kathmandu Valley in November 1992. The June 1993 meeting of the Bureau of the World Heritage Committee received reports from ICOMOS and UNESCO staff of continuing pressure on historic buildings in the Kathmandu Valley, including the demolition of historic buildings within the inscribed zone. The Bureau supported the suggestion of a joint ICOMOS/UNESCO review mission to examine these apparent difficulties at first hand during the latter half of 1993.

The ten-member ICOMOS/UNESCO mission met during the period 14-30 November 1993; the members were mission leader Alfeo Tonello (UNESCO World Heritage Centre), ICOMOS consultants David Michelmor (UK) and Surya Sangache (Nepal), Romi Khosla (India), Hideo Noguchi (UNESCO Division of Physical Heritage), Dr E Sekler (Austria: Chairman, UNESCO Campaign for the Kathmandu Valley), and three consultants with many years' experience of restoration in Nepal - N Gutschow (Germany), G Hagmüller (Germany), and E Theophile (USA).

A summary of their report was received during the Cartagena meeting of the World Heritage Committee in December 1993. On the basis of the urgent concerns outlined within the report, ICOMOS proposed that the Committee encourage the Government of Nepal to consider recommending inclusion of the Kathmandu Valley on the List of World Heritage in Danger. Unfortunately, the report's supporting documentation was not available for consultation during the meeting and both the Government of Nepal and the Committee were reluctant to accept the recommendation without this material. The final report of the review mission, including all pertinent documentation, was completed in May 1994 and circulated within ICOMOS and UNESCO for comment. It has also been sent to the Nepalese authorities for their comment.

- Summary of Review Mission Conclusions

The review mission report details many of the conservation difficulties facing the Kathmandu Valley:

- inadequate demolition and development control at national and municipal levels:
 - erection of unauthorized reinforced concrete high-rise structures in the monument zones;
 - unauthorized demolition of monuments or historic residences within the inscribed zone (the report provides specific examples of such demolitions in five of the seven monument zones);
- lack of technical and financial resources to address conservation needs adequately:
 - loss of traditional skills and materials, frequently resulting in technically unsound repair work;
 - inadequate funds to carry out needed capital repair and restoration projects on major monuments;
- the renewal of elements of religious complexes (itself a continuing tradition) in materials and styles unsympathetic to traditional building practices.

The review mission report makes two primary recommendations:

- 1 Adjustment of the boundaries of all seven monument zones, in some cases involving reduction of the zones to correspond with areas of loss of significant integrity within the zones and in others their extension or redelineation to include more accurately structures of value equivalent to those already included in the inscribed monument zones. It should be noted that a recommendation to reduce the boundaries of some of the monument zones in recognition of the extent to which the values for which they were inscribed have been eroded is more than mere adjustment: it is rather a tacit delisting of areas previously accepted for inclusion on the World Heritage List;
- 2 That the Kathmandu Valley be placed on the List of World Heritage in Danger; a series of sixteen concerns to be addressed in order to secure removal of the site from the List of World Heritage in Danger is identified. These include a wide variety of specific actions intended to address the general problems identified earlier, including improvements in the areas of legislation, site delineation, development of master plans, strengthening of the Department of Archaeology, documentation, demolition control, and conservation practice. A complete list of these concerns is given on pp 26-28 of the review mission report.

Conclusions

The Bureau may wish to consider the following points in examining possible actions:

- 1 In regard to placing the site on the List of World Heritage in Danger, the site is clearly in danger, in the opinion of ICOMOS, under the impact of out-of-control development pressures and given the limited resources and authority of the Department of Archaeology. The values for which the site was inscribed have diminished since inscription.

Although the Nepalese authorities have taken significant steps in the past eighteen months (including improvements to the legislation and strengthening of municipal involvement in protection), losses are continuing. A recent report by review mission member David Michelmores documenting losses in May 1994 at the Baudddhanath site demonstrates the continuing fragility of the inscribed site's heritage values.

- 2 So far as the response of the Nepalese authorities to the recommendations of the review mission is concerned, it is clear from previous discussions that there are at least three points of contention which might be obstacles to their agreement to the inscription of the Kathmandu Valley on the List of World Heritage in Danger:

- the boundaries of the monument zones inscribed by the Committee in 1979 do not in most cases correspond with the boundaries designated by the Nepalese Government and used in day-to-day practice.
- the Nepalese Government's interpretation of the inscription is that only inventoried monuments within the monument zones figure in the inscription, not the many historical residences or other buildings which surround the listed monuments. ICOMOS, however, conceives the inscribed monument zone to include all standing structures and spaces, and believes it to be important to respect the contributions of all elements to the whole.
- the possible negative impact in Nepal of inscription on the List of World Heritage in Danger.

- 3 In conjunction with any examination of inscription on the List of World Heritage in Danger, it is important that the Committee and its partners examine ways to strengthen the Department of Archaeology within the Government of Nepal.

Strong efforts must be focused here in order to begin to alter the pessimistic climate which currently surrounds conservation discussions in the Kathmandu Valley.

- 4 Whilst the review mission report provides numerous specific instances of demolition, abandoned buildings, unauthorized intrusive development, and technically unsound conservation work, it does not present a complete inventory of the locations of all such examples. The Bureau might wish to encourage a study to provide a complete picture of site conditions.

In summary, ICOMOS believes that the Bureau's thinking on this site is best guided by asking what combinations of actions would best aid improvement of the conditions for conservation.

ICOMOS has been discussing with the Nepalese authorities the possibility of organizing a seminar for conservation professionals working in Nepal to raise consciousness of conservation practices and technologies appropriate for the country. This is seen as a small step towards improving the climate for conservation in Nepal.

It is hoped that a seminar can be organized in relation to the planned meeting of the UNESCO Campaign Committee for the Kathmandu Valley, and these meetings can provide opportunities for constructive discussions with the Nepalese authorities in the Department of Archaeology concerning the issues raised in this note and in the report of the review mission.

Kizhi Pogost, Russian Federation (C 544)

- Background

ICOMOS has been involved in collaboration with the authorities responsible for this site since the autumn of 1988, two years prior to its inscription on the World Heritage List. At that time, the USSR conservation official Jonas Glemza (then a Vice-President of ICOMOS) organized an international symposium at the site for 108 conservation professionals, including ICOMOS's International Wood and Vernacular Architecture Committees, in order to examine conservation problems at the site. The Wood Committee's recommendations were adopted at the time and have served informally to guide activity at the site ever since.

Following inscription on the World Heritage List in December 1990, the site entered a period of further difficulties, at least in the short term, during the transfer of authority to the Russian Federation from the former Soviet Union. Many of the site's current problems relate to uncertainties over budget, priorities, and responsibility within the new government as it continues to organize itself.

ICOMOS was invited to undertake an exploratory mission in October 1992 to examine the degree of urgency and the nature of the problems at the site. This mission (in summer 1993) resulted in an extended period of field visits and exchanges between an invited group of eight ICOMOS conservation specialists from Canada, Finland, Germany, and Norway, and more than twenty-five of their Russian counterparts.

Given Russia's difficulties in paying its World Heritage contribution, no financial or technical assistance has been possible from the World Heritage Fund for this site. Using extra-budgetary contributions made by the Canadian Government to UNESCO for ICOMOS projects, ICOMOS has taken the initiative to bridge the gap in the short term, given the severity of the problems at the site. This group's recommendations were presented to the World Heritage Committee at its meeting in Cartagena in December 1993 and accepted as a basis for further involvement by ICOMOS during 1994.

ICOMOS Canada conservation architect Andrew Powter has continued to lead coordination of technical efforts for conservation planning at the site. However, in spite of the Committee's ongoing encouragement for the project and a further extra-budgetary contribution by Canada (through UNESCO to ICOMOS) in 1994 to support travel expenses, project momentum has been difficult to maintain. Political circumstances in Russia remain difficult, and few significant financial resources for project support appear to be available.

- Current situation

In early May 1994 Andrew Powter met the Vice-Minister of Culture of the Russian Federation, Mr Mikhail Shvidkoy, accompanied by Ministry staff and Russian professionals (including two members of the Russian ICOMOS National Committee, Makovetskii and Semenova) in Moscow. His status report (available from ICOMOS) presents a fairly positive view, despite the continuing problems. It is clear that the Russian authorities have made considerable improvements for site conservation and management in the two years since the initial mission. Improvements to legislation covering the site and the assignment by the Russian authorities of an individual responsible on site for ongoing liaison and coordination with the Russian authorities (architect Tatyana Vachromeyeva) have been key factors in this improvement.

The meeting's primary conclusions were the following:

- 1 ICOMOS would continue in 1994 to attempt to assist the Russian authorities in clarifying conclusions in four defined problem areas (structural engineering, mycology, fire protection, and documentation management and computerization). This would require visits by several ICOMOS experts during the summer and autumn of 1994.
- 2 The planned concept review meeting has been postponed until January/February 1995. Its focus will be on the feasibility of various engineering solutions for the Church of the Transfiguration now developed. (The current Canadian extra-budgetary funding of \$18,750 may be used until 31 March 1995.) ICOMOS believes very firmly that the significance of this extraordinary wooden building, its current extreme fragility, and the unusual nature of the structural problems warrant examination of various alternatives by a qualified international expert panel.
- 3 ICOMOS did not respond positively to requests to use the limited funds available to buy equipment, in particular advanced computers. It has, however, begun to pursue available funding sources for equipment purchase on behalf of the authorities, with a reasonable chance of success. The purpose of the ICOMOS funding has always been conceived as supporting, in association with Russian professionals, the development of a well thought out and integrated conservation plan for the site, not to substitute for missing national funding support, no matter how worthwhile or needed. The request points out the obstacles to long-term conservation success, which will remain until the Russian Government is able to overcome its current financial difficulties.

- Conclusion

This report to the Bureau is for information only, and no action is requested. ICOMOS will provide a detailed report to the Committee in December, including a long-term assessment of conservation problems at the site for the decade to come.

Burgos Cathedral, Spain (C 316)

- Background

The construction of the cathedral of Santa-Maria de Burgos began in 1221 and was completed in 1567. It embodies the diverse trends of four centuries of European Gothic style. It was included in the World Heritage List in November 1984 on the basis of criteria ii, iv, and vi. At that time it was recognized that Santa-Maria de Burgos decisively influenced architecture and the visual arts both in Spain and Western Europe, that it was an outstanding example of an episcopal ensemble while bearing witness to the creative genius of architects and craftsmen who worked on it, and that it is inseparably linked with the history of the Reconquest and the achievement of Spanish unity.

- The current position

In December 1993, on the occasion of the 17th Meeting of the World Heritage Committee in Cartagena (Colombia), it was reported that information from local and national authorities in Spain confirmed the setting up of a multidisciplinary advisory council (building committee) which had drafted a Master Plan setting out the priorities for restoration and all other work on Burgos Cathedral.

Between 1989 and 1993 the press in the region of Castille paid much attention to the future of Burgos Cathedral, protected as it is by Spanish legislation governing historic monuments since 8 April 1885 and by the World Heritage Convention since 2 November 1984. The combination of increased degradation of the exterior of the Cathedral and haphazard restoration campaigns initiated by the Burgos Chapter that were lacking any technical or scientific control by the Spanish Government gave rise to very heated debate on the issue. This debate was fed by the regional media, who also acted as a forum for public opinion. ICOMOS accordingly requested its Spanish National Committee to prepare a report on the situation for submission to the World Heritage Committee.

This controversy unfolded in a very tense political atmosphere owing to the coming into force of decentralization legislation, as a result of which responsibility for heritage matters was transferred from the Ministry of Culture to the regional authorities. The central government still has a role to play in the technical and scientific aspects of these matters. In order more efficiently to protect its threatened heritage, the Ministry of Culture implemented a National Plan for the Protection of Hispanic Cathedrals in 1990 with a budget of 140 million pesetas. This plan was presented to the international community during a symposium on "The conservation of European cathedrals" in Madrid. This places Spain well within current trends in European heritage. The plan sets forth the prerequisites for the implementation of priority restoration programmes for each Spanish cathedral and for the creation of an inventory of all works of art within them. It also requires all chapters, within the framework of the law, to set up a multidisciplinary advisory council (building committee) which will compile the Master Plan defining the scope of future restoration campaigns. No exceptions to this rule will be tolerated and non-compliance will be sanctioned by freezing of State subsidies. The Ministry of Culture wished to have Burgos Cathedral spearhead this new policy in the field of heritage.

Two conflicts arose almost immediately. First, the Chapter of Burgos Cathedral was very reluctant to set up an advisory council until 1992. Secondly, the Regional Government of Castille and Leon refused to sign an agreement with the central government providing for the latter to finance and perform all preliminary studies preceding the actual restoration work, the financial burden of the works themselves being borne by the regional government. The disputes which arose among the various parties (Ministry of Culture, Regional Government of Castille and Leon, and the Chapter) resulted in the cancelling of subsidies and therefore the maintenance of the *status quo* of a building the condition of which required action in the very near term.

The Burgos Cathedral restoration issue, as it has been termed, made the front pages again in February 1992 when Antonio Mas-Guindal, Assistant General Manager for Heritage at the Culture Ministry, stated that the Cathedral of Santa Maria would be removed from the World Heritage List if the "uncontrolled restoration measures of recent years applied to this monument were to continue". At the same time, the Ministry of Culture decided to dismiss Marcos Rico Santamaria, the man who had been the architect of the cathedral for 17 years.

After several years of indecision, the Chapter finally decided in April 1993 to set up a multidisciplinary advisory council, made up of representatives of the Ministry of Culture, the Castille and Leon Regional Government, the museums of Burgos, and the Humanities Department of the University of Burgos. Lena Saladina Iglesias, Professor of Art History at the University, was made responsible for the preliminary technical studies for the restoration work. At the same time, an inquiry into the "stone disease" at the Cathedral was financed by the Interministerial Committee for Science and Technology in 1992. The multidisciplinary team of scientists included geologists and biologists from the Institute for the Restoration of Cultural Properties, the Regional Government of Castille and Leon, and the Universities of Salamanca and Oviedo. Rosa Maria Isbert, Professor of Geology at the

University of Oviedo, was put in charge of the pilot project intended to establish standards for the study of other Spanish cathedrals. The major thrust of this programme was the search for a proper balance between the townscape of Burgos and the conservation of the cathedral. According to Rosa Maria Isbert, there are a number of vectors responsible for the damage to the Hontaria de la Cantera calcareous stone, the principal material used in the construction of the cathedral: air pollution, excessive humidity causing efflorescence, lichen, and fungi, and the most serious cause, a colony of bacteria.

The issues of coordinating actions and respective roles with regard to the cathedral have now been solved, paving the way for a comprehensive evaluation of the future of the cathedral and several concrete actions plans. The Ministry of Culture, the Regional Government of Castille and Leon, and the Chapter have signed an agreement for the implementation of technical specifications for emergency restoration measures. It provides for the restoration of the towers, spires, ridges, part of the altars, and the stained glass windows as well as the solving of problems caused by humidity. Roughly 14 million pesetas have been earmarked for this programme. Scaffolding is already in place. The two architects managing the site are Dionisio Hernandez Gil and Pio Garcia Escudero.

The inquiry into stone disease is being pursued at the Petrology Department of Oviedo University. A number of Hispano-Flemish paintings of the 15th and 16th centuries are also undergoing restoration. The Ministry of Culture has stated that at the present time Burgos Cathedral is the most carefully studied cathedral in all Spain.

All the other restoration measures will be implemented within the framework of the Advisory Council's Master Plan, which is currently being drafted. A preliminary study has already been carried out. The Burgos Chapter has launched an appeal to patrons of the arts in order that part of the works may be carried out more quickly (through, for example, concerts). The Banesto Foundation has made a pledge to the Chapter to fund the restoration of the interior of the Condestable's Chapel, and the Burgos Savings Bank is to back another restoration campaign. The Municipality of Burgos is further protecting the immediate environment of the cathedral by closing virtually the entire quarter to car traffic. First the Plaza Santa-Maria and the Calle de la Paloma, and now the Calle Fernand Gonzales, are open only to pedestrians.

Recommendation

ICOMOS recommends that the Bureau should congratulate the various Spanish organizations involved on resolving the impasse regarding Burgos Cathedral. At the same time, however, it should express a desire to see those components of the total project which are still under negotiation put into effect with the minimum delay.

For its part, ICOMOS will continue, through its National Committee, to monitor the progress of the project and will report further to later meetings of the World Heritage Committee and Bureau.

Durham Cathedral and Castle, United Kingdom (C 370)

Ironbridge Gorge, United Kingdom (C 371)

Studley Royal Park and Fountains Abbey, United Kingdom (C 372)

Stonehenge, Avebury and associated sites (C 373)

Blenheim Palace, United Kingdom (C 425)

The City of Bath, United Kingdom (C 428)

Hadrian's Wall, United Kingdom (C 430)

Palace of Westminster, Westminster Abbey, and St Margaret's Church, United Kingdom (C 426)

The Tower of London, United Kingdom (C 488)

Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church, United Kingdom (C496)

At the request of the Department of National Heritage, and with 50% financial support, the UK National Committee of ICOMOS has been carrying out monitoring of the ten UK cultural inscriptions on the World Heritage List situated in England. The detailed reports are currently (June 1994) still in draft form. The full final reports and recommendations will be presented to the 18th meeting of the World Heritage Committee in December 1994.

B Site Reports

Kakadu National Park, Australia (N/C 147)

At the request of the Australian Nature Conservation Agency, an ICOMOS mission paid a three-day visit to Kakadu National Park in April 1994. The mission had discussions with the Traditional Owner (Aboriginal) representatives on the managing council and visited a number of the rock-art sites within the property. It also the opportunity to observe the mosaic burning land-management practices of the Park management, which follow the pattern in use by the Traditional Owners over at least 25,000 years.

The mission was impressed by the high level of management skills within the Park and their extensive use of traditional practices. It also felt that the entire area represents a cultural landscape of great importance, since it preserves intact a form of land management that has survived nowhere else in the world outside Australia.

Stonehenge, Avebury and associated sites, United Kingdom (C 373)

ICOMOS and the World Heritage Centre of UNESCO have been monitoring the progress of the proposed developments in the Stonehenge area. The current position is that progress is held up awaiting a decision by the UK Department of Transport on the upgrading of the A303 trunk road which runs to the south of the monument. Two options are being studied: a long bored tunnel on the present alignment (the alternative advocated by English Heritage and the National Trust) and a new route to the north of the World Heritage site, proposed by the Department of Transport. A conference on the subject is being held on 8 July 1994, after which it is hoped that the necessary statutory procedures (including a Public Inquiry) will be completed without further delay so that the project may proceed to implementation.

C Future projects

Asian Monitoring Initiative

- Context

Given the very successful regional monitoring efforts undertaken by the UNDP in Latin America, the growing emphasis in the ICOMOS programme on initiatives to strengthen conservation activity in Asia, and the current efforts of the World Heritage Committee to develop and articulate an approach to systematic monitoring for World Heritage sites, ICOMOS has launched a monitoring initiative in Asia in the last year for the benefit of World Heritage sites.

- Purpose

This monitoring initiative, unlike the UNDP approach in Latin America, is not intended to provide comprehensive reports for all sites in the region. Unlike UNDP, ICOMOS is not an institution and lacks the infrastructure to attempt to implement a similar approach. Rather, the ICOMOS monitoring initiative has as its purpose the testing of monitoring models and tools which may be adaptable and useful for World Heritage sites in other Asian contexts. The initiative is designed in 1994 to produce results in several areas:

- 1 a broad survey of conservation trends in the region (strength, needs, concerns) to provide a context for designing site-specific monitoring models;
- 2 to test some of the ideas currently in the draft report of the World Heritage Centre's monitoring consultant, Francis Golding (ICOMOS UK), particularly the possibility of revision of the nomination form and links between the nomination form and systematic monitoring;

- 3 to test a number of the recording and documentation tools useful in helping sites more accurately to determine "baseline data" for monitoring (including the draft "Recording, Documentation and Information Management Guidelines for World Heritage Sites," prepared by ICOMOS member Robin Letellier, and various GIS-based information management software packages (combining data and visuals/mapping), including those developed by the World Conservation Monitoring Centre for IUCN and World Heritage natural sites (WCMC has generously offered their cooperation in this area) and leading ICOMOS experts in the field;
- 4 a model monitoring method to be tested during the ICOMOS monitoring mission to three Sri Lankan World Heritage sites in 1994 (and possibly three further sites in 1995). On the basis of these experiences, the Sri Lankan mission methodology would presumably be available for adaptation to other similar sites in Asia.

Survey Report

A Canadian Government extra-budgetary World Heritage contribution in 1993 directed to ICOMOS through UNESCO permitted the initiation of a survey report on monitoring needs in Asian World Heritage sites. A Canadian archaeologist and ICOMOS member, Michelle Guitard, began the project by visiting eight sites in China and Indonesia in the summer of 1993.

In addition, a series of essays was commissioned to provide a comprehensive overview of patterns of strength and need in Asian conservation. These essays have been prepared by individuals (Europeans, North Americans, and Asians) with long years of experience in Asian conservation, including recent work on sites of current interest to the Committee such as the Kathmandu Valley. These essays have been submitted to ICOMOS and are currently being edited; a synthesis is also being prepared. The full report will be available to the World Heritage Committee at its meeting in December 1994.

Sri Lanka Monitoring Mission

In 1993 the Sri Lankan Government asked ICOMOS to monitor three of the country's World Heritage sites: Anuradhapura (C 200), Polonnaruwa (C 201), and Sigiriya (C 202). This project was intended primarily to develop and test *model* approaches to monitoring, which could be useful in other Asian countries. It was also intended to derive lessons from these missions which could be brought to efforts within UNESCO to examine appropriate systematic monitoring methodologies.

The mission involves a team of three outside professionals (architect/site manager, tourism expert, archaeologist), working closely with two Sri Lankan professionals. The mission will take place in the first two weeks of August 1994.

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**CONVENTION CONCERNING THE PROTECTION OF THE
WORLD CULTURAL AND NATURAL HERITAGE**

1972

BUREAU OF THE WORLD HERITAGE COMMITTEE

EIGHTEENTH SESSION

4-9 JULY 1994, PARIS - FRANCE

UNESCO HEADQUARTERS

**FOLLOW UP OF THE CONSERVATION OF WORLD HERITAGE
CULTURAL
PROPERTIES IN THE MEDITERRANEAN REGION**

**DOCUMENT PREPARED BY M. DANIEL DROCOURT
COORDINATOR OF THE PAM/PNUE
"100 HISTORIC SITES" PROGRAMME**

ALBANIA

BUTRINTI

C 570 - December 1992

I - Precise location

- a) Country: Republic of Albania
- b) State, province or region: Saranda region
- c) Name of property: Butrinti

2 - Legal data

- a) Owner: State owned
- b) Legal status: The property is protected under the following orders:
 - 1.- Statutory order n° 7874 of 23/9/1971 on the protection of cultural and historical monuments and particular natural possessions
 - 2 - Regulation for the protection of Cultural and Historical Monuments. 1/6/1972 by the Ministry of Education and Culture
- c) Administration: The Popular Council Executive Committee of the Saranda region

3 - Identification

a) Description and inventory

Butrinti, on the Ksamil peninsula, is located south of the town of Saranda and bordered on the west by the Ionian Sea, on the east by the Lake of Butrinti and on the south by the Vivar canal linking the Lake of Butrinti to the Ionian Sea. The ruins of the town are on a low hill at the southern end of the peninsula. Most of the Butrinti hill is composed of limestone rock formation. It is 400 m long, 200 m wide and is at its maximum height of 45 m at the eastern end. Nearly three quarters of the outskirts of the town are washed by the above mentioned waters and only a narrow strip of land links it to the hinterland.

Butrinti, which has kept its strategic worth for a long time, began to lose its importance as an inhabited centre around the end of the 14th century because of its transformation into marshland. The inhabitants were forced to leave the plain and settle in the hills.

Among its numerous monuments of different types and periods in a good state of conservation, Butrinti illustrates its century-old history and also serves as a model example for following the uninterrupted stages of evolution of a small town from prehistoric times to the late Middle Ages. Towards the 7th-6th century B.C., the top of the Butrinti hill was encircled by walls. Several fragments of large, rough stones have been found from which phases of later reconstructions can be distinguished, going back the 5th century B.C. and which are represented by a polygonal wall. At the end of the 3rd century B.C., the fortification was extended, occupying a surface area of 4 hectares. The walls of a width of 2.6 to 3.8 metres, which are built of hewn stone, have different types of dressings and stretch over a total length of 870 metres. They are in a good state of conservation.

In the early Middle Ages, 9th - 10th century, the outer wall of the town of Butrinti surrounded the flat land south of the ancient acropolis right up to the Vivar canal. Entire fragments of these

walls equipped with triangular towers have been conserved until today. At the time of the despot of Epirus, the ancient acropolis and outer wall was rebuilt. A fortress with a keep was built at the top of the hill.

During ancient times, the cultural centre of Butrinti developed on the southern face of the Acropolis hill. Initially, the stoa and the temple dedicated to Asclepius were there. Later, in the 3rd century B.C., a theatre and another temple was built there. The monuments making up the centre are worthy of attention because of the asymmetrical composition which, because of its well-studied distribution of volume, is in perfect harmony with nature. During the first centuries A.D., the centre did not suffer any radical change. At that time, the theatre stage and the temple further down were rebuilt according to the new requirements. The main public baths of the town were built here.

The theatre is the best conserved monument of the town. 23 tiers of its cavea remain. The tiers stand on rubble crossed by a series of walls laid out diagonally together with the supporting lateral walls, giving it a quadrangular planimetric form, unusual for theatres at the time.

The 31 engraved inscriptions on the theatre stones are seen as an important historical document and are particularly valuable. They date from the end of the 3rd century B.C. to the 2nd century B.C. and refer to the freeing of slaves.

The archaeological excavations carried out only in one part of the town have revealed several constructions from the Roman period. It is important to emphasize here, three monumental fountains (Nymphaeum), three public baths (thermal baths), the gymnasium, a large peristyle residence built in the 2nd century, the remains of a 7 km long aqueduct built in the period of Emperor Augustus etc... Among these monuments, one of the thermal baths and the gymnasium are decorated with mosaics.

Butrinti is particularly rich in Christian monuments from the paleo-christian period. The most important are two basilicas and a baptistry. One of the basilicas is located on the Acropolis, the other in the lower town. The latter, called "The great Basilica", was built in the 5th-6th century and represents one of the rare monuments of this type which has come down to us today with almost all of its walls conserved. The baptistry, located in the lower town, represents one of the most beautifully built monuments of paleo-christian architecture in the Mediterranean region.

The ruins of several churches remain from the late Byzantine period. A triangular fortress located on the south bank of the Vivar canal is of particular interest as one can see five periods of construction from the 14th to the 18th century.

4 - State of preservation / conservation

a) Diagnosis

The ancient structures as well as those from later periods up to the 14th century in the ancient centre of Butrinti are, on the whole, stable. The structural elements such as, foundations, walls, columns, arches, stone structures, lime mortar bricks, damaged by earthquakes have been reinforced or completed in parts, in order to protect the whole construction from possible collapse. the restoration reinforcement work carried out after a study of the structural elements, the construction periods and the dressing characteristics, etc. have ensured a stable state of the ruins.

Taking into account the current scientific successes in work on the protection, study and restoration of the Butrinti monuments, two factors constituting possible dangers should be mentioned:

- 1 - The presence of a high level of underground water covering, to a considerable extent, the ruins of the administrative centre of the town.
- 2 - The overgrown vegetation in the area.

These two harmful factors, which can not be dealt with immediately, have considerably hindered archaeological excavation and restoration operations in this centre.

b) Agent responsible for the preservation or conservation

Institut for Cultural Monuments

Vlora Monuments Workshop

c) Historical background of the preservation or conservation

The restoration work has always included the reinforcement of the ruins discovered recently. The restoration work on the renovation of the ancient arches of the entrances to the town ("the lion's gate") was begun in 1961. Anastylosis work was carried out on the towers gate (1975), on the ancient wall near the "Skea" gate near the Agora of the town.

In 1976, restoration work was undertaken in the centre of the town and on the stage of the the Roman theatre. Restoration and reinforcement work is pursued on objects, from the centre to the Asclepius temple, to the temple located higher than the theatre. The remains belonging to the different periods of the town illustrate several error in their ancient architectonic treatment and add to our knowledge of all the monuments of ancient and medieval architecture excavated until now.

d) Means of preservation or conservation

Butrinti is conserved as an archaeological centre on the basis of legislation on the protection of monuments, including all the monuments partially or totally discovered or which have not yet been excavated.

Any intervention to alter the archaeological context, which is being increasingly enriched by the archaeological excavations underway, is prohibited in the archaeological centre of Butrinti. Work to drain the water harming the monuments, especially in the lower area of the centre near the Vivar canal, will considerably improve the state of the monument.

e) Management plans

The restoration work in the archaeological centre of Butrinti is carried out according to annual or five-year plans, always taking into account the present state and value of the monuments.

5 - Evaluation of the ICOMOS / May 91 - April 1992

In May 1991, the ICOMOS recommended that registration of this cultural property on the World Heritage list be postponed in order to check various definitions and different plans for its protection, namely the "large field of vision" in the buffer zone and the problem of water infiltration on the site.

This information was supplied by the Albanian govenment. The ICOMOS bureau studied it thoroughly and estimated that all the protection requirements have been met.

6 - UNESCO Follow up / 100 Historic Sites - PAM-PNUE -

a - State of progress - October 1993

Maintenance work on the Butrinti site is regularly pursued on the initiative of the Institute of Archaeology - Albanian antiquities department, despite the lack of financial means and the departure of part of the personnel.

Archaeological excavations continue in collaboration with Greece in the Acropolis area and a programme for the publication of the old excavations is underway.

However, the means are largely insufficient; collaboration with the British School of Rome is envisaged.

Conservation and restoration of the monuments had to be limited temporarily to minimum maintenance and to receive visitors who are particularly numerous due to the proximity of the Island of Corfu.

The natural site is just as exceptional as the cultural site.

It is located at the far south east end of the peninsula of Ksamil, bordered by the Ksamil lake to the east and the Vivar canal to the south: at high tide, sea water pours towards the lake and vice versa at low tide. The canal also served in part in ancient times as a harbour: the surrounding flat land was thus fertile; even today it is still a very agricultural area (citrus fruits).

This geographical location which makes Butrinti an ideal place for a harbour and agriculture, but it is also its handicap. The water level is a permanent problem. In the lower parts of the site, water constantly covers a certain number of remains (25 cms of water) all winter and sometimes the level only slightly goes down in summer (this is the case for the theatre, the thermal baths, the Esculape temple and all the christian buildings (particularly the baptistry).

This situation is a result of the collapse of the bank and the lack of drainage of the lagoon and canal. The general level of the coast has risen from 1.50 to 2 metres.

A study carried out by the Institute of Hydrology at the University of Tirana proposed the complete drainage of the site. But this would consequently lead to the destruction of the natural site, the aquatic vegetation, the fauna, the micro-system etc., indeed a very costly solution).

Furthermore, the cultural site can not be removed from its natural context from which it derived. Many remains still have to be discovered, particularly the main harbour of Butrinti; a choice of drainage zones can still not be made.

The pure drainage of the marshland is also not without major consequences: for example, the baptistry and its ornamental mosaic tiling covered by more than 25 cms of water would require conservation and protection measures beforehand in order to avoid their simple destruction when the water is drained (professional and financial human means to be evaluated: removal, coating, shelter, museum?).

b - Action plan proposed within the framework of the programme for coastal development of the Albanian coast / PAM - PNUE.

It is important, bearing in mind that all the historical coastal sites of Albania have been protected until now, and before setting up a programme for the touristic development of the coast etc..., to have a good knowledge of this heritage in order to manage it better. With regards to this knowledge of the site and its problems, archaeologists and researchers at the Archaeological Centre of Tirana are competent and are in permanent contact with the University and Academy of Sciences.

The immediate objective is to bring together experts who have had to study similar situations in order to define the management conditions of this area, UNESCO being closely associated with all activity.

The final goal sought is the creation of a natural and cultural archaeological park to emphasize protection faced with a possible, and desired, development of touristic infrastructures.

The work schedule accepted consists in organising an international team of experts, writing a technical and scientific report, proposing a conservation/restoration programme of the site, drawing up a project for the protection and management of the site.

This programme is planned for 1994/1995.

Recommendations

It is essential:

- to prepare a programme for the protection and management of Butrinti
- to set up a Committee of experts (archaeological and environmental)
- to draw up specific legislation for the site
- to have a report written by the Institute of Hydrology of Tirana.

OCTOBER 1993

FRANCE

ROMAN AND ROMANESQUE MONUMENTS OF ARLES C 164 - October 1981

I - Precise location

- a) Country: France
- b) State, province or region: Provence-Côte d'Azur Bouches-du-Rhône
- c) Name of property: Roman and Romanesque monuments of Arles

2 - Legal data

- a) Owner: State, collectivity, private
- b) Legal status: The amphitheatre, the columns in the Place du Forum, the remains of the Palace of Constantine, the Roman theatre, the Church of St. Trophime, the medieval buildings of the Abbey of Montmajour, the Church of St. Honorat and the Alyscamps cemetery have been listed as Historical Monuments since 1840. Furthermore, the old part of Arles is a safeguarded zone (Order of August 9, 1966 - statutory order of March 3, 1993).
- c) Administration responsible: Ministry of Culture and Communication
Direction du Patrimoine
3, rue de Valois
75042 PARIS CEDEX 01

3 - Identification

- a) Description and inventory

The arena, the Roman theatre, the cryptoporticos, the Thermal baths of Constantine, various remains, the Alyscamps, the Church of St. Trophime, Abbey of Montmajour.

4 - State of preservation / conservation

- a) Diagnosis

The monuments of the town of Arles are in a satisfactory state of conservation and are the object of great care taken by the Regional Conservation of the Historical Monuments and the Municipality.

- b) Agent responsible for the preservation or conservation

Direction Régionale des Affaires Culturelles
21/23, Bd du Roi René
13617 AIX EN PROVENCE

- c) Historical background of the preservation or conservation

The main monuments of Arles were restored from the 19th century on.

The Church of St. Trophime has been under restoration since 1968.

d) Means of preservation or conservation

The monuments of Arles benefit from conservation means defined by the provisions of the law of December 31, 1913. Furthermore, the old part is protected under the law on safeguarded areas.

e) Management plans

- Safeguard and valorisation plan for the safeguarded area (order of August 9, 1966 - statutory order of March 3, 1993).

5 - Evaluation by ICOMOS - May 1981

No specific requirement.

6 - UNESCO Follow up / 100 Historic Sites - PAM-PNUE -

a - State of progress - October 1991

The protection and valorisation plan for the safeguarded sector of Arles is in its final phase, applicable since 1985 (published) and opposable by third parties since July 1987.

With regards to safeguard measures, the Municipality now contributes directly to the work. A patronage campaign was initiated by the World Monuments Fund for the restoration of the primatial church and the St. Trophime cloister.

b - State of progress of conservation, restoration and valorisation work. October 1993.

Safeguard and valorisation plan for the protected sector of Arles

It was approved by statutory order of March 3, 1993. It consists of a presentation report, a polychrome map to a scale of 1/500, a regulation and annexes (reserved location, state-approved constraints, diagrams of existing water and water purification networks). Any work likely to modify the state of the buildings is subject to either a permit under the conditions and terms provided in the building permit, or a special permit relevant to the general legislation on urban planning, or a special permit for safeguarded sectors.

The Monuments:

The Alyscamps

- Great effort has been made on this edifice since 1982 by the State and the town. The work aimed to restore the roofing, façades, the crypt and the Chapel of Saint Genest.

- The edifice is still closed to the public; renovation of the interior has begun but has only concerned the crypt, the nave and the aisles. The chapels are next. Electric ducts have been installed. A project for electrical equipment has been submitted but not yet programmed.

A preliminary study was carried out by the Head Architect of the Historical Monuments for the global valorisation of the interior.

It mainly concerns the restoration of the chapels and their decoration, affected by the humidity and deterioration of the materials. Research and probes have been carried out to reveal the remains of the painted decoration.

The Cryptoporticos:

- No work. Preliminary study submitted in July 1991.
 - As a result of persistent infiltration of these galleries and the disorder it creates, a system of drainage of the edifice has been proposed entailing protection of the vaults with lateral recuperation of the water into a drain and evacuation to the sewer.
- At the same time, improvements for receiving and the circulation of visitors could be made. An initial part should be achieved in 1994 linked to the renovation of the entrance to the Museon Arlaten with a view to creating a west access to the cryptoporticos.

Saint-Trophime

- A large restoration campaign of the Cathedral was undertaken in 1987. It concerns, essentially, the west facade and the restoration of the portal which is the most famous and most threatened part. The work has been programmed over six years. The last part is planned for 1994-1995.

The belfry of the church was restored in 1991. Probes have been carried out in the cloister.

- The extraordinary quality of the cloister, its state of presentation and deterioration urgently requires rapid intervention to avoid this heritage from disappearing. No programme is planned yet for its reinforcement and valorisation nor for the continuation of work on the facades, roofing and inside the church. It is planned from 1996 on once the west facade has been finished. A team of researcher from the World Monuments Fund are presently working alone on the cloister and are carrying out surveys and analyses, in collaboration with the research laboratory of the Historical Monuments.

There will be a continuous follow-up of the St. Trophime portal within the framework of a maintenance programme linked to protection against pollution. This pilot scheme has mobilised a team of European and American researchers and specialists since 1987 and has already provided the scientific community interested in these problems with a great deal of information linked to the air analysis centre which worked from 1990 to 1993 and the soot and dust analysis centre, for the current 1993/1994 programme.

The Thermal Baths

- In 1987, the east zone of the Caldarium was awarded protection in order to drain the water from the vestiges of a swimming bath.
 - A preliminary study was submitted in December 1989 for the reinforcement of the only existing medieval wall, presently protected by spurs.
- The work proposed consists in going over the foundations with micropiles and reinforcing the higher parts.
- The programme of this work has not yet been established. The wall remains without any props.

Abbey of Montmajour

- Some intervention in the last fifteen years has enabled problems of reinforcement, enclosure of equipment and reception of visitors to be solved. The last part of the work was completed in 1991 (restoration of the roofing of the Church of St. Benoit). At the same time, the Monastery of St. Maur, whose structures were hidden under tens of square metres of ruin and rubble, was cleared.

- The State is continuing its policy of valorizing, reinforcing and reusing the whole Abbey. One part of the work on the Monastery of St. Maur to drain the water from the higher parts and to improve the visitors' entrance on the ground floor, is planned for 1994.

A preliminary study, submitted in 1986, was necessary to meet the requirements of maintenance and exploitation of the edifice. No programme has been planned for the Chapel of Ste. Croix and the Monastery of St. Pierre.

The work on the visitors' reception area in the Monastery of St. Maur will concern the two lower levels.

Amphitheatre

- One part of the work has been undertaken for the restoration of row 45 as a prototype. It was completed in 1992 after a series of hazards which caused a delay, but the planned programme still has to be achieved, only the facade has been completed.
- There is a programme for the study of the amphitheatre to ensure the reinforcement, drainage, valorisation of this edifice.

The Church of Saint-Blaise

A Romanesque construction in a state of abandon. Work is to be planned for the removal of the fig trees and vegetation which have turned the roofing into a garden.

The Ramparts

The ancient rampart poses serious problems of stability in the area adjoining the Church of the Major where collapse is feared as a result of the overgrown trees which have pushed in that stonework itself at the edge of the garden. A preliminary study has been made for reinforcing these remains.

Church of the Frères Prêcheurs - (Notre Dame de Confort)

This Gothic building which is not mentioned in the registration proposal as a world heritage, is better known since the archaeological surveys carried out in 1990-1991 enabled the Greek and Roman remains of major interest to be cleared. The setting up of an archaeological crypt is planned but not yet programmed. A preliminary study for the reinforcement and conservation of the crypt was made in 1992.

Commanderie de Malte (Former Hôtel Sainte-Luce)

This 16th century building is very near the Thermal baths and stands on ancient remains revealed during excavations between 1980/1990. Very rare remains from the early Middle Ages were cleared. This is not visible today as the underground part has to be opened up, access, lighting etc.. A preliminary study has been made. The programme still has to be defined.

The Roman Theatre

No study. No programme, but a definite need with regards the flooring.

Recommendations:

A special mention for the considerable effort made by the State and the Municipality for work undertaken with very convincing results for the protection and conservation of monuments.

GREECE

OLD TOWN AND THE HERAION OF SAMOS

C 595 - December 1992

I - Precise location

- a) Country : Greece
- b) State, province or region : Province of Samos. The Island of Samos is located in the E. Aegean
- c) Name of the property: Pythagoreion : the old town was called Samos the modern village was known by the name of Tigani, and since 1955, Pythagoreion.
Heraion : the inhabitants called the sanctuary and the surrounding area "Kolona".

2 - Legal data

- a) Owner : Greek Republic
Ministry of Culture, 14 Aristeidou - 10186 Athens
- b) Legal status : Pythagoreion and the surrounding area was declared an archaeological site (with a protection zone of 500 m around the fortified walls of the old town) protected by the following laws :
1- law 5351/32 concerning antiquities
2- law 408/18.9-63 Government Gazette
3- la loi 598/30.8.84 Government Gazette

Heraion was declared an archeological site, with a 2 km protected zone around the sanctuary wall, according to the following laws:
1- law 5351/32 concerning antiquities
2- law 635/30.9.69 Government Gazette
- c) Administration responsible: Greek Republic - Ministry of Culture
Ephorie de Préhistoire et Antiquités classiques
10 Epameinonde - 10 555 Athens, Greece

3 - Identification

a) Description and inventory

The old town of Samos was founded close to the well-protected port of Samos which is located between the Kastro hill and the Ambalos mountain, on the northeast coast of the island, opposite the coast of Asia Minor. To the west, north and east there exists, still in a good state, a part of the fortification from the Archaic era to the Hellenistic era. The port of Samos was the most important of ancient times. The artificial warehouses, a large part of which still exist and may be seen under the modern jetty, represent one of the most successful constructions of the 6th century B.C. To the west, near the port, a part of the Byzantine fortification remains, with towers and a system of rainwater drainage. On the Kastro hill, there still remains a Roman villa, part of which was transformed very early into a Christian basilica, in the 5th century. The archaeological excavations have revealed a great part of the road network, the aqueducts, the

drains, public buildings, Aphrodite's sanctuary, the Artemision (6th century BC), the Demeter sanctuary, the Agora, the Roman baths, the Gymnasium, the Palaestra, the stadium, as well as a certain number of Hellenic houses with beautiful mosaics on the floor. To the southwest of the town, a part of two early Christian basilicas still exist.

The Eupalinos tunnel, 1040 m long, provided water for the town. It was built in the 6th century BC by the engineer Eupalinos from Megara and is one of the most important technical masterpieces.

The ancient cemeteries from the geometric periods up to the Christian era were discovered to the west and north of the town.

The town was linked to Heraion by the Holy Way, a part of which has been uncovered.

In the sanctuary area, it is possible to see the vestiges of a large temple of Hera, its altar, the temples of different divinities, stoas, bases statues of saints, as well as vestiges of basilicas from the 5th century B.C. located on the ancient temple of Hera.

4 - State of preservation / conservation

a) Diagnosis

The monuments on Samos have important static problems due to the landscape and the corrosion of the building materials. The other reasons for the deterioration of the monuments are the humidity and the sea.

b) Agent responsible for the preservation or conservation

Ministry of Culture
Administration of Restoration - Conservation
14 Aristeidou - 10 186 Athens

c) Historical background of the preservation or conservation

It may be said that no real work has been undertaken to preserve or restore the monuments, apart from simple interventions, that is to say, the covering of mosaics, but there is continual research for methods adapted to the conservation and the restoration of the monuments.

d) Means of preservation or conservation

The work of conservation/restoration is financed by the Minister of Culture and the related Programmes are submitted for approval to the central Archeological Council.

e) Management plans

The future projects are:

- 1- Creation of an archaeological museum at Pythagoreion
- 2- Conservation and covering of the mosaic floors of all the public buildings and villas.
- 3- Fixing and restoration the Lycurgne Logothetis Castle.
- 4- Conservation of the Monuments of Heraion
- 5- Conservation/restoration of the first Christian cemetery
- 6- Creation of the archaeological park of Pythagoreion, including the zone of the Eupalinos tunnel, the Roman aqueduct, the villas, the public buildings, the Artemision, the Thesmophoreion, the sanctuary of Kubelê, the Nymphaion, the theatre, the Agora and the cemeteries.
- 7- The excavation and development of the area of gymnastic installations (stadium, Palestra, gymnasium)
- 8- Support for the roof and the walls of the Eupalinos Tunnel.

5 - Evaluation ICOMOS

Mention:

As with all the sites along the coast, it is permanently threatened by the conditions of the natural environment and it is important that the archaeological museum project and the conservation activities associated with it, be organised rapidly. The Greek government should also supply guarantees concerning the introduction of measures for the protection of the natural environment of the site.

6 - UNESCO Follow-up / 100 Historic Sites - PAM-PNUE-

a - State of progress -

The modern town was built on the ancient town of Samos which was very rich and extensive in ancient times (much more than the present village). However, the present village is developing rapidly for reasons of tourism, and the suburbs of the village which were fields full of ancient ruins are becoming urbanised. In theory, there exists a protection zone of 500 metres around the monuments. In practice, it is not applied: example of the Asterias Hotel close to the Aqueduct which uses this argument to promote its establishment.

The small local team from the Ephoria has to contend with increasing demands for construction, carry out surveys to prove the existence of ruins without being able to carry out the excavations completely due to a lack of staff. Since 1982 there have been 70 sites to excavate.

In 1992 the team was reinforced. The Ministry of Culture tried systematically to buy the archaeological sites especially those in the area between the Eupalinos Tunnel and the sea.

It is necessary to create a museum at Pythagorion. The storerooms on the present premises are at saturation point and they contain some extraordinary pieces. A large site has been bought by the Ministry of Culture to build the Museum, but unfortunately it is extremely rich in archaeological vestiges and requires considerable programmed excavation.

The Eupalinos Tunnel has been under construction since 1986 with a cleaning programme of the infrastructures. Access along the whole length has been re-established after the scientific research work and the installation of safety bars placed over the hydraulic canalisation.

b - State of progress of conservation, restoration and valorisation -

The materials used in the Heraion are fine crystallised white marble, soft limestone (sometimes marly) travertine and peridotite. The Thermal baths also have brick and the Eupalinos Tunnel is built in sedimentary and metamorphic rock. Signs of deterioration from the sea on the Tunnel walls and the two other ruins have been noticed.

The ground around the Pythagorion and the Thermal baths has been considerably modified where wells have been dug, and near Heraion where the airport has been built on the edge of the site. The planes taking off has caused extremely disastrous vibrations to the equilibrium of the structures, particularly as the increase of charter flights is ever-growing.

Restoration work on the Thermal baths was carried out in 1979 by the German Archeological Institute of Athens (architect: W. Martini).

The Heraion has not yet had any important work done on it. The main monument of the site, the Great Temple of Hera has been included in the European Commission's programme for a structural (columns), geotechnical (foundations), stone conservation (local marble which splits into broken and scabby plaques) and environmental (extension of airport) study. This work is under the responsibility of the Regional Archaeological Department of the Cyclades and Samos (archaeologist: Ph. Zaphiropoulou) and the Stone Conservation Centre of the Ministry of Culture (chemical engineer: N. Beloyannis) with the assistance of the German Archaeological Institute of Athens (architect: H. Kienast).

The work on the Eupalinos Tunnel for the preservation of the monument and security of the visitors have been carried out by the Regional Archaeological Department of the Cyclades and Samos (architect: G. Lachanidis) and the German Archaeological Institute of Athens (architect: M. Jantzen). The project of a new ring road below the Tunnel seems to have been abandoned. The new proposal issued by the State departments, and after consultation with the

Archaeological Council, has been located behind the mountain, beyond the north exit of the Tunnel and linked to the road serving the main town.
A project of an archaeological park for Pythagorion is presently being studied.

Recommendations:

Because of the danger of increased air traffic at the airport on the island of Samos, it is necessary to find a more appropriate site for considerable tourist development.

The importance of archaeological evidence discovered requires the extension and improvement of places for the conservation of works of art and various materials taken from archaeological excavations.

The continuation of construction in the Pythagorion area should be halted (Hotel Asterias) in accordance with the law on antiquities and the protected zone around the monuments and the most recent extensions dismantled.

JULY 1992 - JUNE and DECEMBER 1993

GREECE

DELOS

C 530 - December 1990

I - Precise location

- a) Country: Greece
- b) State, province or region: Cyclades
- c) Name of the property: Island of Delos

2 - Legal data

- a) Owner: The Greek Republic
Ministry of Culture, 14 Aristeidou - 10186 Athens
- b) Legal status: The island has been declared an archaeological site under the protection of Law n° 5351/32 on Antiquities
- c) Responsible authority: The Greek Republic - Ministry of Culture
21ème Ephorie de Préhistoire et Antiquités classiques
10 Epameinonde - 10 555 Athens, Greece

3 - Identification

a) Description and inventory

Delos must always give rise to some astonishment through the contrast it invites between the greatness of its fame and the smallness of its area. The island is no more than a rocky ridge of gneiss and granite, about 5 km long from north to south and some 1300 m. wide. The only dominating feature is Mt. Cynthus, which rises about the middle of the island. The coasts are rocky and mainly steep. To the north-west is a deep indentation, the harbour of Skardana ; to the north-east is a creek, good anchorage in fine weather. But the only shelter against the fury of the north wind is found on the western side, where the Sacred harbour of ancient days was protected by a mole. Contiguous to this harbour southwards was the Commercial harbour and further south, the bay of Phourni. All these harbours were used by the ancients ; but the Commercial harbour became the most important focus of trade. Towards the end of the second century B.C. it was lined with shops and warehouses, a small part of which has been excavated. Behind these warehouses, on the slopes below Mt Cynthus lie the remains of town proper. A small part of the ancient city has been so far but even that cannot fail to impress and move the visitor who has the unique experience of an ancient town with its roads, shops and houses, many of which have two or more storeys and are decorated with statues, wallpainting and superb mosaic floors.

Besides the Sacred harbour, in a little plain, lies the sacred precinct of Apollo containing the three temples of Artemis, dating from Mycenaean to Hellenistic times, the three temples of Apollo dating from the sixth to the fourth cent. B.C., the Thesmophorion, dedicated to Demeter and Kore, many altars and public buildings, porticos, treasuries and virtually hundreds of dedicatory monuments which were offered to Apollo either by rich individuals or towns. North of the precinct are the archaic Lions dedication of the Naxians, the Agora of the Italians, the Sacred Lake and stretching towards the harbour of Skardana have been excavated some of the guild-houses of the richest merchants in the palmy days of the second and the first centuries B.C.

Abutting on a hill behind the town proper is the theater an impressive creation of the end of 4th cent. B.C. with unique features. Between this hill and the steeper slope of Cynthus runs a gorge, which is the only watercourse on the island and doubtless the ancient and famous Inopus. Ascending from this gorge up the mount of Cynthus, one passes the temples of the Syrian and Egyptian Gods aligned on their rocky terrasse, then ascends to the Grotto, which once seemed to be the most venerable and mysterious shrine upon the island. From the Grotto an ancient way ascends to the summit of Mt. Cynthus, where have been discovered remains of circular hut-dwellings of the third millennium B.C. as well as the temples of Zeus and Athene.

From the summit of Cynthus one contemplates all but the northern extremity of the island; precinct, harbour and town are revealed as in plan. Only a narrow channel separates the island westwards from ancient Rheneia, where part of the Delian nekropolis has been discovered. In the intervening channel are set two rocks, both known by the name of Rheumatiari, "the channel islands"; the bigger of the two rocks was called by the ancients the Isle of Hekate.

To the west, far behind Rheneia, rises the island of Syros. Northwards is Tenos. North-east lies Mykonos and to the south, appearing now near, lie the islands of Paros and Naxos.

To the north-east of the island, past the temple of the Archegetes and the imposing ruins of the Gymnasium lies the ancient Stadium and the Quarter of the Stadium which has some characteristics not found in the other residential areas. Close to the sea of the oldest known synagogues in Greece identified by inscriptions found there, which is evidence of the existence of a prosperous Jewish community in Delos from the mid-second century B.C.

4 - State of preservation / conservation

a) Diagnosis

There are 3 main factors for the deterioration of the monuments on Delos: the strong north wind, humidity and the sea. Other minor factors, such as plants and rabbits, should be added to these. The results of these actions combined are very visible. Several monuments have static problems, the frescos are dissolving into powder, salt is accumulating on the mosaics to the point of covering them, the surface of the marble is turning into lime. The dry walls, which are not protected by the initial lime layer, exposed to wind and rain, are gradually disintegrating.

b) Agent responsible for the preservation or conservation

Ministry of Culture, Department of Restoration and Conservation
14, Aristidou Street, 10186 Athens

c) Historical background of the preservation or conservation

The main reason why the Delos monuments are in rather a bad state is because very little was done for their preservation after their excavation. Important houses were covered to protect mainly the frescos and mosaics, but they have been damaged. The last few years, the Ephoria has tried to maintain continual, discrete, documented conservation, but its means are limited in comparison with the extent of the archaeological site and the reduction of personnel.

d) Means of preservation or conservation

Conservation is financed by the Ministry of Culture. It has tried reversible methods and materials for which research continues. Restoration plans have been submitted to the Central Archaeological Council for approval.

e) Management plans

The development programme for the site plans to build a large, new museum planned outside the archaeological area, the improvement of comfort on the island by installing electricity to encourage the personnel to settle on this desert island and to preserve the monuments better.

5 - Evaluation ICOMOS

Mention:

The ICOMOS, sensitive to the beauty of the Delian landscape, has recommended to the Greek authorities that they ensure a policy of control of tourism in such a fragile site, threatened by over-frequentation, and of the principle of guided tours thus excluding any overnight stays on the island which should be entirely protected, and to be thankful for the absence of a heavy hotel infrastructure.

The recommendation also concerns the global protection of the Rhenea, Little Rhevmatiari and Great Rhevmatiari sites, indissolubly linked to the history of Delos.

6 - UNESCO Follow up / 100 Historic Sites - PAM-PNUE-

a - State of progress -

The main factors of deterioration of the monuments on Delos are the strong north wind, the humidity and the sea. Even if there is no major problem of static, there is, on the other hand, a problem of the conservation of frescos and the salt on the mosaics and marble. Furthermore, the walls whose layer of mortar is disappearing, are exposed to the rain and wind and are also disappearing. The monuments of Delos are in a bad state of conservation because although excavations have been carried out for more than a century, little provision has been made for their conservation until recently.

Protection and conservation has been reinforced since 1984 by the action taken by the Regional Archaeological Department of the Cyclades (director/archaeologist: Ph. Zaphiropoulou, P. Hadjidakis, archaeologist). It ensures the conservation and restoration of the whole site with the assistance, for the conservation of the mosaics, of the restorer D. Chrysosopoulos, for the conservation of wall paintings, of the restorer I. Tsenghi, both at the Department of Conservation at the Ministry of Culture, for the study of stone, of the chemical engineer N. Beloyannis from the Stone Conservation Centre in Athens, and the restorer S. Dascalakis of the Regional Archaeological Department of the Cyclades.

Certain houses have, within the framework of these measures, been covered with a roofing destined to protect the mosaics and frescos (Hermes and Trident houses). Moulds of statues have been made to substitute the originals sheltered in the museum on the site.

This work is financed by the Ministry of Culture.

The Ecole Française d'Athènes stopped the excavation programme in 1989 in order to devote itself to studying the finds in view of publications and has taken on the restoration of an edifice in the Apollo sanctuary.

b - State of progress of conservation, restoration and valorisation -

The materials of the site are marble (mainly from Naxos), hard and soft limestone, granit/granodiorite, gneiss, calcareous tufa. Only granit and gneiss come from the island.

In the 1950s, reinforced concrete supports were built on the Hermes house. Following the corrosion of the reinforcement, work was carried out between 1984 and 1988 to repair the collapsing walls, the cracks and columns.

However, the corrosion of the reinforcements continues to progress.

Conservation of the mosaics and wall paintings was undertaken and the site was drained.

The stone conservation work began in Delos in 1988.

The restoration work of the site is underway on the House of the Lake where the reservoir has been excavated and enabled columns and lips of wells to be returned to their place, and on the

House of Actors with elements of architecture on the first floor being assembled and returned to their place by anastylosis (the painted panels which decorate it have been taken down to be exhibited in the museum).

Other buildings, whose restoration is now old, need renewed action, with the removal of the former, deteriorated or in the process of deteriorating, restoration (1925), such as the reinforced concrete in the Monument of the Posidoniasts. In this monument, a systematic operation of removal-relaying the floors "in situ" is underway. The principle is, after systematically taking out each stone of the floors, to remove them, coat them and put them back in their place.

- Important restoration work has been completed in 1990 on the Minoa Fountain, whose central column was removed thus enabling the architecture and the function of the monument to be understood.

- Regular maintenance, clearing and cleaning work is done, but the permanent Ephoria team there is still very limited. It has to simultaneously participate in restoration, maintenance work and even excavations as was the case in July 1991 when electricity was installed on the island. On this occasion, excavation of the trenches dug for the installation, led to inevitable discoveries (a way bordered by a tavern and dwelling), which needed management and supervision, thus temporarily abandoning the restoration in progress in the House of the Lake.

- Supervision of the site (5 hectares) and the Museum on the site is carried out by very few personnel. Now, in the season, May to October, there are approximately a thousand tourists a day who come from 10:00 a.m. to 1.00 p.m. (boat arrival and departure times). Scenes of lack of respect for the ruins are frequent (walking on the walls, unbalancing statues, pillaging the mosaics, frescos and marble) and unstoppable with so few personnel. A certain number of houses, located slightly at a distance from the Museum, are closed to the public, the caretakers being unavailable to come and open them up.

- A complete file on the restoration has been published by Ph. Zaphiropoulou, in 1991 (Archaeological Society Library, Athen, n° 114 with photographs).

- With regards to building plans, the World Heritage report mentioned a project of a large museum more to the east of the site. Requests for precise details by UNESCO have led to determining a more specific location and to excavations in the form of probes under the responsibility of Ph. Zaphiropoulou. The probes have revealed that this land is practically void of occupation and could be suitable for this large museum project with restoration workshops, studies, reserves, storage and satisfactory exhibition space, the present museum being quite insufficient.

However, financing is lacking and the project has been suspended.

Despite protection under the Law on Antiquities, the Municipality of Mykonos has to organise a competition for allocating pastures on the island of Delos.

Work will, from now on, be managed by the new Committee of Delos with such priority objectives as the transport of the lions to a sheltered location, the restoration of the theatre, the reinforcement of the House of Granite and Hercules grotto.

Recommendations:

Because of the importance of the site of Delos, it is essential to increase the personnel of the team responsible for the conservation, maintenance, protection and management of the whole island.

The permanent work carried out on the archaeological collections in the present museum constitutes a good prefiguration for the future great archaeological museum of Delos.

The anticipated allocation by the Mykonos Municipality of land on Delos for pasture is in contradiction with a good protection of the archaeological site. The UNESCO should express its indignation.

JULY - OCTOBER 1991 - MAY 1994

ITALY

PIAZZA DEL DUOMO AT PISA C 395 - December 1987

I - Precise location

- a) Country : Italy
- b) State, province or region : Italian Republic - Tuscany - Pisa
- c) Name of property : Piazza del Duomo (Piazza dei Miracoli, Place of Miracles)

2 - Legal data

- a) Owner: - Oeuvre de la Primaziale Pisana, Piazza del Duomo, Pisa
- Municipality of Pisa, Mungarno Gambacorti, 1 Pisa
- b) Legal status: Legal entity in public law governed by the law n° 1089 of 1/6/1939. Accessible to public.
- c) Administration responsible: Oeuvre de la Primaziale Pisana - Municipality of Pisa

3 - Identification

a) Description and inventory

The Piazza del Duomo comprises the cathedral church of Santa Maria Assunta, the Baptistry, the Belfry (or Leaning Tower) la Campo Santo Monumentale, the building of the former hospital (today the site of the Sinopea Museum).

The place also comprises the part of the precinct wall that surrounds the town to the north and west. The plan of the Cathedral is in the form of a latin cross ; there are five naves, but the apse only follows the principal ; a transept with three naves, a cupola of oval section; the facade is characterised by the set of four galleried loggias which open behind fine columns. On the lower floor, it is possible to see three bronze doors on the facade with one on the side.

Inside, there are paintings on panels and canvas, sculptures in stone, bronze and wood, religious ornaments in textiles and metals.

The Baptistry was designed on a circular plane with a décor which resembles that of the Cathedral. There are stone sculptures inside.

The Leaning Tower is cylindrical, lined with galleried loggias on the pattern of the cathedral; it has a marked inclination to the south east.

The Campo Santo is rectangular in shape with blind arcades to the exterior and quadriform bays to the interior; it contains detached frescoes and sculptures in stone.

The Sinopea Museum, quadrilateral in terra cotta and stone contains some "sinopea" of the frescoes of the Campo Santo.

Ramparts in stone from the medieval period, with two doors and a tower known as the Lamb's Tower.

4 - State of preservation / conservation

a) Diagnosis

Cathedral : corrosion of the stones and the marble of the exterior walls; corrosion and alteration of the bronze doors.

Baptistry : Corrosion of the stone and marble of the outer walls as well as the bronze sculpture situated at the apex of the cupola.

Leaning Tower : slow yet progressive increase in the inclination of the tower in relation to the vertical axis.

Campo Santo : corrosion and alteration of the exterior sculptures, of the marble on the walls and the architectural sculptures in the quadriform interior bays. The frescoes are also to be found in an advanced state of deterioration (they were removed after the fire in 1944 and placed on supports)

b) Agent responsible for the preservation or conservation

Ministero per i Beni Culturali e Ambientali, Soprintendenza

Beni A.A.A.S for the towns of Pisa, Livorno, Lucca et Massa carrara (Lungarno Pacinotti, 46 Pisa)

c) Historical background of the preservation or conservation

Cathedral : after the fire at the end of the 16th century, the wooden ceiling painted in gold leaf needed to be rebuilt, the walls were dressed with painted wallcoverings, the pulpit as well as other sepulchral monuments were also built.

During the 19th century several sculpted decorative elements were replaced.

Leaning Tower: reinforcement work of the foundations after the Second World War.

Campo Santo : after the bombing and the fire in 1944, the beamed roof was replaced, the frescoes and the sinopia were removed and replaced on supports. A part of the sinopia have been restored since 1970. A certain amount of restoration appears necessary on the already removed frescoes. An urgent revision of the architectural structure as well as the sculpted decorations is also called for, since these latter have been moved and altered on several occasions.

d) Means of preservation or conservation

As with all monuments and works of historic or artistic interest belonging to private or public institutions.

e) Management plans

No document submitted.

5 - Evaluation of the I'COMOS - December 1986

No specific request

6 - UNESCO Follow up / 100 Historic Sites - PAM-PNUE -

a - State of progress - October 1993

At the same time as the collapse of the Tower of Pavia in 1988, the Italian Government nominated a Technical and Scientific Committee to evaluate the degree of safety of the Tower of Pisa. The latter recommended that it be closed to visitors (February 1990). A legal provision took effect on 30th November 1990 (law n° 260) to enable all the necessary measures to be taken to enable the monument to be safeguarded. On this basis, in February 1991, an international committee was created by the Council of Ministers, and given a mandate to decide and act.

Activity of the Committee

The Committee firstly initiated a series of surveys, measurements and studies aimed at integrating the information already available.

As far as the subsoil was concerned, tests were carried out and are still underway to determine the physical and mechanical features of the soil, using highly refined techniques such as, for example, the characteristics of the electro-osmosis of the clays (*in situ* measurements of the permeability, study of the regulation of the water table, surveys investigating depths of up to 100 metres below the surface).

As regards the structure of the Tower, a programme of continuous monitoring was initiated.

The first theme for the research concerned archaeological type surveys of the zone in close proximity to the Tower. As a result of this approach, the importance of the archaeological layer on the site and up to 2.50 metres in depth was discovered.

The presence of superimposed structures from the Hellenistic and Roman periods, up to the Middle Ages was confirmed in an area of marshland where a church, an Archbishop's palace and a baptistry were built. After the creation of the present monumental complex and from the second half of the 14th century until modern times, the whole area has been redeveloped on several occasions.

Other than the archaeological surveys, studies of the archives were undertaken aimed at providing a comprehensive collection of historical information : the subject of the research concerned the personalities of the architects who designed the monument, the work techniques used by the stone masons, the construction procedures and types of scaffolding and gangways for the workers, as well as the systems for the transport and lifting of the materials as the height of the Tower gradually increased.

Research was also undertaken on the monument for evidence of attempts to reinforce it, or any substitution or restoration works and their exact period, especially as far as the framework of the loggias (capitals, columns) were concerned.

Simultaneously, an aerial photogrammetric survey of the site was carried out which recorded the relief of the terrain and that of the roofs of the buildings as well as infra red aerial photos for an inspection of the archaeological sub stratum.

Then a survey of the Tower was carried out using direct as well as photogrammetric methods to provide all the numeric and graphic data concerning the geometry and the configuration of the building.

This considerable effort of research has contributed to a large degree to the definition of the state of conservation of the various parts by highlighting the alterations to the structure (the context of deformation or cracking), the materials used (stones, mortar, etc.) and the finishing layers as well as their interrelation.

All this information enabled a simulation of the various hypotheses of the structural evolution to be made.

At the same time, after an initial study of the initial existing documentation, the Committee made an initial series of calculations and analyses of the state of tension and deformation existing in the sub stratum and in the Tower itself. It was at this moment that it appeared necessary to carry out a programme of stabilisation of the foundation area so as to ensure the overall safety of the construction, in order to reduce the risks of further degradation and ensure that more permanent solutions be studied in the best possible conditions.

Firstly, a verification was made to ensure that the restoration was not destructive and was reversible, and that the methods and techniques adopted were acceptable and tested according to article 10 of the Charter of Venice.

The Committee considered it indispensable to initiate safeguard measures with extreme urgency and carry out a study of the possibility of bracing the most dangerous sections using steel cables protected with plastic sheaths. This intervention was defined and approved by the Committee at the beginning of 1991 but not carried out until the Spring of 1992.

The study of this intervention necessitated the development of a sophisticated finite element numeric model of the Tower substratum, on which the analyses and simulations of the different interventions examined were carried out. This led to the definition and approval of an intervention which consisted in placing on the foundations to the north side, a weight of several hundred tons (as much as 700 tons) composed of lead bars.

For the permanent solution, the Committee chose the solution consisting in reducing by around one half of a degree ($1/2$) the angle of inclination of the Tower, with such a diminution reducing to acceptable values the maximum loads on the walls and thus likely to halt the deformations in the subsoil.

Also under evaluation is a system of regulation of the deep water tables which may protect all the monuments on the *Piazza del Duomo* from the effects of the pumping off of water from the deep wells used for irrigation, industry as well as for drinking water throughout the plain of Pisa.

The permanent restoration project will indicate the technical solutions likely to eliminate the causes of the physical degradation of the stone facing of the Tower and parts of the galleries (capitals, columns, small consoles etc.). The objective is also the conservation of the "natural patina", produced by the natural weathering process but eliminating signs of degradation caused by non natural or accidental events. The preventive measures as well as the technical standards for the permanent upkeep and protection according to article 4 of the Charter of Venice should be prescribed. Similarly, solutions to the problems of the conservation of the external marble elements and especially the rare original sculpted elements and those that have been replaced in recent centuries have yet to be decided upon.

b - State of progress of the work of conservation, restoration and valorisation - June 1994

The photogrammetric survey of the *Piazza Del Duomo* was undertaken on the basis of the technical specifications drawn up by the nominated expert in May 1991. The company I G N France International was chosen in September 1991. The work was carried out in May-June 1992 followed by the creation of the numeric model. However, the transmission for the development of a graphic programme for each floor would appear not to have been carried out. The operation of overloading the outer northern face of the Tower has been successfully completed.

The tie bars to the first two floors have been placed in position.

However, the Committee, which has been renewed twice, reaches the end of its mandate on 30th June 1994 and the financing planned by the Italian administration is much delayed in its attribution.

Recommendations :

The operation of the graphic programme for each floor of the Tower should be completed after the photographs, the restitution, radioscopy and geometric description and prior to the creation of the numeric model, since the final document planned is indispensable as a guide to the future decisions of the work to be carried out.

SENEGAL

ISLAND of GOREE

C 26 - September 1978

I - Precise location

- a) Country : Senegal
- b) State, province or region : Cap-Vert region
- c) Name of property : Island of Gorée

2 - Legal data

- a) Owner : State of Senegal
- b) Legal status: Property listed as a historical monument
Order n° 012 771 of 17 November 1975
Order n° 006876 of 18 August 1991
- c) Administration responsible: Town of Dakar under the authority of the Governor of the Cap-Vert Region

3 - Identification

a) Description and inventory

The island comprises 9 sectors (and 2 sub-sectors) with similar surface areas which form coherent units.

These sectors generally have differing features with regards to topography, the siting of the buildings and the scale of the open spaces.

1- The Palace sector : This is the central area of the island to which all paths lead.

2- North battery sector : The northern tip of the island. It is constituted by the Fort and its esplanade .

3 - Castel sector : Southern tip of the island. It constitutes a basalt plateau and has fortifications and reservoirs. This area is the counterpart of the former in relation to its central area and provides the highpoint of the island.

4 - Antilles sector : The area with the oldest buildings on the island (with 5), on the cadastral register it is the most dense. The heart of this area is off centre and contains the Church of Saint-Charles and its square.

5 - Jardin d'Orange sector : It comprises an enormous garden surrounded by houses which are often attached.

6 - Boufflers sector : Sparsely inhabited area, in a more advanced state of ruin, yet more recent. Characterised by the presence of the oldest mosque in Senegal

7 - Marine sector : It consists of former naval buildings (1864) which has led to somewhat uncontrolled development and the absence of a cadastral register for housing. Opening onto the sea, it remains isolated from the island traffic system.

8 - Compagnie sector : Built on the site of the Saint-François fort, this district has a dense cadastral register and provides access to the eastern and western shores of the island. A great deal of restoration work was carried out before registration.

9 - Les Fontaines sector : This district is situated on the northern flank of the Castel, whose topography is a very steep slope running north-east. The original cadastral register, which was very dense, has been drastically modified by military buildings. Overall, the buildings in this sector have been described as very rundown.

10 - 11 - Les Boucaniers and Rampants sub-sectors : These sub-sectors comprise quays built on the entrenchments (plan of 1723). The buildings lining these quays are attached to one another.

4 - State of preservation / conservation

a) Diagnosis

The operational listing of the buildings on the island enables them to be categorised into three groups:

a) -The buildings to be conserved with little or no intervention:

The restoration (or instructions to restore) by their owner should cover:

- the nature or the state of the painting on the walls and woodwork
- the nature or the state of the rendering on the facades exposed to the sea
- the elimination or the embellishment of certain roofing, in fibro-cement, galvanised steel or reinforced concrete slabs
- the restoration of balconies consisting only of their joists and consoles (absence of guard rails and floors).

b) - The buildings to be restored for their architectural interest :

Operationally, three phases have been determined.

- 1.- List of the buildings of historical monument type (drawn up by M. A. Grégoire - May 1974): North battery, Slave market, West battery , house of Mère Javouhey, the small mosque, Saint-Charles Borromée Church, former Faidherbe school, house on the corner of Boufflers/Malavois, dwelling Rue de la Compagnie, slave house, the IFAN museum, the Castel (to be refitted).
- 2.- List of public buildings of historical and architectural interest (drawn up by M. A. Grégoire - May 1974): The IFAN building (marine biology), police station. The public nature of these constructions should enable the government, on whom they depend, to take responsibility for the restoration.
- 3.- Five blocks of buildings of architectural interest should benefit from encouragement for their restoration as a result of tourist and residential interest.

c) - The buildings in ruins or infill to be demolished :

Those buildings whose state of deterioration requires reconstruction rather than restoration and are of little architectural interest, are recommended for demolition. This is also the case for recent elements of infill.

b) Agent responsible for the preservation or the conservation

- Ministry of Culture - Directorate of Historical and Ethnographic Heritage
- Ministry of Town Planning and Housing - Bureau for the Architecture of Historic Monuments (presently attached to the Directorate of Town Planning and Architecture).

c) Historical background of the preservation or the conservation

The Island of Gorée occupies a special place in Senegalese cultural heritage, both as a vestige of the confrontation of two different civilisations and as a witness of a human experience unprecedented in the history of peoples.

Furthermore, beyond this historical aspect, the Island of Gorée itself represents an architectural complex worthy of interest whose conservation is one of the priorities of the Senegalese Heritage protection programme. In fact, most of the buildings on Gorée dating from the 18th century, have been subjected to climatic contrasts, which in the tropics assume another dimension.

A UNESCO mission led by M. C. DESCAMPS carried out in December 1969/January 1970 for the preservation and valorisation of the national heritage of Senegal, recommended conservatory measures and development on the Island of Gorée. It enabled an inventory of the historic buildings on the island to be prepared and measures for their presentation and reutilization to be proposed. In consultation with the Senegalese authorities concerned, an overall evaluation of the cost of the works was proposed (UNESCO - M. A. GREGOIRE - 1974).

In the context of tourist development projects initiated by the World Bank, the Senegalese government asked UNESCO to undertake a study covering the preservation and the valorisation of the Island of Gorée as a cultural element of the Tourism Development Plan. (M. JP. FRAPOLLI - Master Plan director for the renovation of the Island of Gorée, M. CLER - legal and financial aspect of the renovation programme for the Island of Gorée - 1975).

The first results obtained were the recording on the inventory of all the historic monuments on the Island of Gorée in 1974 and 1975.

As a continuation of the foregoing works, a new UNESCO mission had as objective to participate in the feasibility study of the rehabilitation of the Island of Gorée, to contribute to the drawing up of the programme guidelines for the conservation and restoration of the traditional architecture, town planning and cultural activity, to monitor the application of standards likely to guarantee the historic and aesthetic authenticity of Gorée (M. M. PARENT - 1977)

In the Spring of 1978, a bureau of expert advisors was established for three months on Gorée (M. PA. LABLAUDE) in preparation for the two year mission of expert evaluation organised for the preparation of a plan to safeguard the Island of Gorée. This was to contain the graphic or written documents defining the guidelines and directives to be respected during the rehabilitation of the natural site of Gorée.

Very soon afterwards, the Island of Gorée was added to the World Heritage list.

d) Means of preservation or conservation

Listed as a historical monument by Order n° 012-771 of 17 November 1975 and Order n° 006876 of 18 August 1991.

e) Management plans

An order covering the reorganisation of the National Committee for the safeguard of Gorée. This Committee, chaired by the Minister of Culture and Communication is responsible, in collaboration with UNESCO, for initiating, planning and following up all the operations within the context of the safeguard and restoration of the Island of Gorée.

5 - Evaluation of the ICOMOS

No evaluation

6 - UNESCO Follow up / 100 Historic Sites - PAM-PNUE -

a - State of progress -

The Director General of UNESCO launched the campaign for the safeguard of the Island of Gorée on 22nd December 1980.

At the end of 1981, a UNESCO mission, intended to supervise the studies and work concerning the Island of Gorée, drew up a list of operations to be undertaken (M. PA. LABLAUDE). Two associated experts participated in the progress of the programme on site. End of the mission of the designated expert of the World Bank project (M. M. VAN DER MEERSCHEN). A request for technical cooperation was made to the Convention by the Senegalese government. It concerned mainly the availability of an architect for two years so as to accelerate the study of the renovation documents for each building in Gorée retained in the list of properties having priority of restoration.

In March 1983, the "Master Plan for the Safeguard of the Island of Gorée - Plan of action for the safeguard of the most representative architectural heritage" was presented in its final form at the initiative of the Bureau for the Architecture of Historic Monuments (B A M H) of the Ministry of Town Planning, Housing and the Environment. It was a plan of action with project data sheets for nine buildings to which was added the Maison Jules BASSE.

At the beginning of 1993, a UNESCO mission was given the responsibility for :

- making a revision of the Plan for the safeguard of the Island of Gorée, taking into account the gaps in and the perverse effects of the initial Plan so as to harmonise the different functions of the island (cultural, social and tourist).
- studying the implementation of an approach which would enable the population of the island to be involved effectively in the restoration effort and give them access to the support and assistance funds.

The report, once drawn up, (M. P. MAKAMBILA) centred on the social aspects and only mentions succinctly the state of progress of the Plan of Action covering the ten buildings to be restored under the aegis of international aid. It takes up the proposals made during the Regional Development Committee meeting of 1992.

b - State of progress of the work of conservation, restoration, valorisation -

On 13th December 1991, the National Committee for the Safeguard of Gorée took the decision to propose to the government of the Dakar Region, a session of the Regional Development Committee for the Safeguard of Gorée. The main points of the meeting were "State of Affairs and Perspectives of the Plan of Action". The meeting, which took place on 22nd February 1992, formulated recommendations adopted for the promotion of the island in the cultural, socio-economic and tourist domains. As regards the main buildings to be restored as part of the contractual list attached to the demand for inclusion on the World Heritage list, the situation is as follows :

1) Properties of the State. A certain number of buildings belonging to the State have already been subjected to certain work :

- The Maison du Soudan, restored, thanks to Senegalo-German financing, the headquarters of the Institute for the Development of Democracy in Africa (IDDA).
- The Université des Mutants restored by the French Navy
- The batteries on the beach : a public promenade has been built on the roof terrace of the restaurants, with a craft market. The Harbour Master's building has also been renovated.
- The Maison Cinquez or Diouga Dieng has been structurally restored with a plan to install a Son et Lumière.
- The house referred to as the Maison des Esclaves has been restored by Gorée-Fraternité, a subsidiary of the Fondation France-Libertés.
- The Maison Victoria Albis is used as the head offices of the Fondation pour le Mémorial Gorée-Almadies. The architect of the BAMH and the Museum of Woman have offices here.
- The Faïdherbe school or Maison de Cathy Louette, bought by the Order of Malta which set up its headquarters there, has been rehabilitated with the help of Italy and fitted out as a

dispensary-maternity home and handed over to the Congregation des Soeurs du Saint-Coeur de Marie (a Senegalese congregation founded on Gorée 1858).

- the Maison Lacombe, renovated by the French Navy which transformed it into a Maison du Marin.

- the mosque

- the fountains and sanitary facilities, renovated by the AGETIP,

A special mention should be made of the two museums managed by the Institut Fondamental d'Afrique Noire Sheik Anta Diop (IFAN CAD)

- the History Museum, formerly installed in the Maison Victoria Albis (since 1954), was attributed the Fort d'Estrée, which until 1972 was an annex of the civil prison of Dakar. Inaugurated on 3rd March 1989, its rooms have been in constant reorganisation so that it satisfies the current museographic conceptions better. This work has been carried out with the assistance of the British Embassy which is also financing the printing of a guide of Gorée and the Museum in English and French versions.

- The Museum of the Sea, in the building referred to as the Maison de la Compagnie des Indes, is undergoing total interior renovation thanks to financing from the EEC. The enrichment of the collections comprises contributions of documents and objects currently being made by the European countries who were present on Gorée at one moment or another of its history (Portugal, Netherlands, Great Britain and France). This operation, undertaken thanks to the support of the Embassies of these four countries, should enable the organisation of an exhibition in 1994 for the 550th anniversary of the discovery of Gorée.

With the same aim, a campaign of archeological excavations, never previously undertaken on Gorée, is being prepared. Three sites have been planned : place de l'Europe, in front of the Commissariat de Police and opposite the church. Two missions of the Groupe de Recherche d'Archéologie Navale (GRAN) carried out in 1988 enabled at least three shipwrecks to be identified in the depths immediately surrounding Gorée. One of them would seem to be that of a slave-carrying vessel from the end of the 17th century.

Other public buildings which are part of the plan have a less well-established occupancy status, more particularly :

- the former Ecole Normale William Ponty planned as a residence to be renovated for the 19 families living there.

- the Pavillon des Soeurs planned as an area for artists' studios

- the Ecole des Soeurs, planned as a cultural facility

- the Military Hospital

- the Palais Roume or Relais de l'Espadon which could be transformed into a hotel complex

- the open air theatre

- the building located in Rue Saint-Germain/corner of Boufflers which has been envisaged as a youth club

- the various vestiges situated on the Castel which should be developed without the construction of new buildings

Proposals have been made for the use of these buildings once they have been restored : accomodation, shops, crafts, artists' studios, etc. But no definite decision has yet been taken by the appropriate Ministry .

In tandem with the work carried out on the buildings, the streets have been repaved, the waste and surface water networks have been cleaned and a pumping station has been built by the AGETIP and the Communauté Urbaine de Dakar.

2) Private property : A number of houses have been restored by their owners. The priority remains for the houses de Mère Javouhey, Basse, in Rue des Batteries (threatened by the sea) to be restored. The two problems that this renovation presents is that the majority of the houses are jointly owned and the owners do not have the means necessary to carry out the work.

Recommendations :

The actions having priority are mainly those demanded by the Regional Development Committee. They concern :

- the development and the diversification of the activities of the Université des Mutants with the Ministry of Culture.
- the creation of a Museum of the Environment with the IFAN
- the opening of studios of Gorée for the benefit of artists with the Ministry of Culture/AIFESPAC
- the protection of the shoreline and resanding of the beaches .
- the repair of the drainage system .
- the cleaning and embellishment of the site.
- the reinforcement of the public lighting network.
- an increase in the open spaces
- the continuation of repaving the streets.
- the development of the hotel potential with respect to the specificity and integrity of the site with the Ministry of Tourism and Environment. For its part, the Ministry of Culture has reaffirmed its opposition to the implantation on the site of large hotel projects.
- technical assistance to the Goréens and the supervision of the training sites with the help of the Bureau of Architecture for Historic Monuments (BAMH)
- the training of guides with the Ministry of Tourism and Environment/Union des Goréens.
- the commissioning of the incinerator which is ready for operation .
- the accomodation for civil servants working on the Island with the Directorate for the Management of the State constructed Heritage
- the problems of State-owned property with the State Land Office .
- the reinforcement of the police force with the Ministry of the Interior.
- the organisation of the craft sector with the Ministry of Industry and Crafts.
- the revalorisation of public buildings with the Senegalese government and outside partners .
- the possibility of access to bank loans for Goréens.

It is also appropriate to proceed urgently with :

- the dismantling of the scaffolding erected in 1992 on the occasion of a "son et lumière" on the beach of Gorée and still in place today.

- better monitoring of the restoration undertaken by non-resident owners and particularly a halt in the painting carried out recently using oil-based/plastic/acrylic paints on buildings that bear witness to the history of Gorée. A re-examination of the Register of Prescriptions and Recommendations should be carried out in light of the results obtained up until now.

MAY 1994

M A L I

Cultural Heritage

**SAFEGUARDING OF THE THREE PRINCIPAL MOSQUES
OF TIMBUKTU**

DJINGAREIBER

SANKORE

SIDI YAHIA

Report on the state of conservation

Jean-Pierre WIECZOREK

UNESCO

June 1994

TABLE OF CONTENTS

	Paragraphs
I INTRODUCTION	1 - 7
II Visit of the three principal mosques Report on the state of degradation	8 - 22
III Safeguarding methods and means The problem of specialists	23 - 30
IV Conclusion	31 - 38

INTRODUCTION

- 1 - The terms of reference of the mission entrusted to the consultant were to:
"Establish a report on the state of conservation of the three mosques of the city of Timbuktu inscribed on the list of World Heritage in Danger.
- 2 - This mission follows upon the one carried out in 1990, based on the report entitled "The safeguard of the three great mosques, and the major cemeteries and mausoleums of Timbuktu" - UNESCO, September 1990.
The consultant mission was carried out from 9 to 17 May 1994, in the presence of Mrs. Galia SAOUMA FORERO, who is responsible within the World Heritage Centre, for overseeing optimum application of the Convention in Africa.
- 3 - This mission, which falls within the framework of the new cultural policy adopted by the Government of the Third Republic of Mali, also had as objective the relaunching of activities to safeguard the cultural properties inscribed on the List of World Heritage in Danger, in cooperation with the competent national authorities.
- 4 - To assist the Minister of Culture in his functions to preserve and enhance the cultural heritage of the national sites of Timbuktu, Djenné and Bandiagara inscribed on the World Heritage List, three cultural missions were created by decree No. 93-203P/RM of 11 June 1993,
Thus, in 1993, the Government of the Republic of Mali created a Cultural Mission and took short-term measures to safeguard and protect the heritage of Timbuktu.

The Cultural Mission will attempt to harmonize the actions between the national services and the provincial or municipal authorities.
Its main role will be to create and provide direction to a coordinating committee which will liaise with the different partners and actors engaged in action in the city of Timbuktu.
- 5 - The objectives of the Cultural Mission of Timbuktu, which were defined in accordance with the directives of the cultural policy of Mali, will give priority to the preservation of national cultural identity and the promotion of national cultural heritage. Following these directives, the Chief of Mission prepared an action plan which gives priority to the restoration and safeguard of the three mosques inscribed on the List of World Heritage in Danger, as well as the restoration of the former urban fabric of Timbuktu.
- 6 - Each cultural mission is composed of a team of civil servants and other State agents residing on national sites inscribed on the World Heritage List.

The Cultural Mission is headed by a Chief of Mission nominated by decree of the Prime Minister upon the proposal of the Minister for Culture.

Under the latter's authority, he is responsible for coordinating, directing and monitoring the activities of the Cultural Mission.

The Chief of Mission responsible for assisting the Minister in the safeguarding and dynamic management of the cultural heritage of Timbuktu, is Mr. Ali Ould Sidi.

- 7 - Generally, the lack of financial assistance and coordination to implement a coherent programme of maintenance and restoration have unfortunately continued to contribute to the degradation of the major buildings of Timbuktu.

VISIT OF THE THREE PRINCIPAL MOSQUES

Report on the state of degradation

Problems encountered

- 8 - Most of the problems encountered are common to the three mosques. The architectural structures of the buildings have suffered considerably from the bad weather and through the unskilful use of the material employed -- "banco" or mud. The main inconvenience of mud constructions is the rapid degradation of this material in rainy conditions.
The best and most effective strategy consists in diverting water from the vulnerable parts of the building. The most fragile points, and the most exposed to water damage, are the base and the top of the walls. Other weak points are the acroterium of the terraces, the gargoyles, skylights, and elements made of several different materials (lintels of wood and earth, for example). These are the areas which should be carefully supervised and maintained on a regular basis.
- 9 - At Sankoré and Djingareiber, the base of the walls is damaged by water spurting from the gargoyles and trickling along the base of the walls. Water seeps in through cracks caused by the lack of precautions taken during the annual renovation work.
- 10 - Unfortunately, it appears that good "building knowhow" is being eclipsed by the desire to reinforce the buildings by adding more layers to the material, thus increasing the thickness of the walls and terraces.
- 11 - Rain and wind causes decomposition of the material: the earth becomes waterlogged, its cohesion is weakened, and eroded materials form mounds of detritus at the base of the walls which are havens for soluble salts and various excrements favouring the development of parasitic flora and efflorescences.

- 12 - Localized degradations appear at the junction of the openings and the earthen walls: water flows and seeps between the wood frame and the earth.
- 13 - Faulty anchoring of the gargoyles, which can be obstructed by an accumulation of earth, encourage the penetration of water through the terrace to the inside the building, and the poorly drained terraces encourage the retention of water and humidity.
- 14 - The acroterium which are not protected by an overhanging roof, and are cracked or covered by a damaged coating, favour the trickling and infiltration of water. The cracked terraces and the hastily applied coverings, also encourage infiltration.
- 15 - Poorly lain flooring can considerably weaken or destabilise the structure of the mosque. At Sankore, for example, faulty anchoring and insufficient extension of the supporting beams have encouraged degradation and rupture of the materials. The major handicap is the weight of the earthen floors which transfer loads to the wood already rendered fragile by termites and the passing of years. The supporting beams of the minaret of the mosque of Djingareiber date from the construction of the building; it is henceforth impossible to replace them because of the superposition of the different layers of earth. These are nearly 0.70 metres thick.
- 16 - Poor distribution of the supporting beams and the smaller logs (golettes) in the repair work of the veranda located at the south entrance of the mosque of Sidi Yahia was noted. It is important to ensure that good quality wood is chosen and that the distances between the beams are reduced in order to obtain an even distribution of loads to the walls. A good structure for the terrace consists of wooden beams of large diameter (supporting beams) covered by small logs (golettes) evenly distributed and interlocking. Braided tresses are interposed between this support and the earth so that the earth will not become pulverulent. These floors weigh up to 300 kg/m².

Results of the observations

- 17 - Every year, following serious atmospheric disturbances caused by the rainy seasons, the Management Committee of each of the three mosques launches a vast campaign to renovate the mosques.
- 18 - The work is carried out just before winter, in August. The appeal is launched by the Imman for the collection of material (mud, baobab flour, shea butter...) or money, three months before the work begins.

- 19 - This vast annual building project mobilizes the entire community evolving around the mosque. Everyone is invited to participate, under the responsibility of a team of builders, in this big collective festival to restore the mosques.
- 20 - The implementation of this operation, undertaken voluntarily in contagious jubilation, poses certain problems of organization and training in the respect of traditional techniques of construction. In former times, the builders of Timbuktu were able to discover the necessary techniques to give maximum durability to their buildings with local means. Many of these skills have been forgotten. Either they were not understood by today's technicians and were eliminated by default; or they simply were not noted and thus were not retained. The result of this situation is that the technology of the mud constructions of Timbuktu is partially degraded. Moreover, what was a valid solution yesterday may not be applicable today because the social or climatic situations have changed (difficulty of obtaining a supply of mud and wood because of drought and increasing desertification).
- 21 - Nevertheless, there are many solutions to construction problems relating to the very nature of the earth. These solutions should enable us to take rapid, pertinent and economic decisions and to make the mud constructions more durable and sturdier.
- 22 - The characteristics of numerous types of earth can be improved thanks to the addition of additives or stabilizers. But for each type of earth there is a certain variety of stabilizer which is better suited. These stabilizers can be employed inside the walls as well as on the surface. The most well-known and practical methods of stabilization are: compacting the earth by compression, reinforcing it with fibres, or adding cement, lime or asphalt. Confronted with a stabilization problem, it is essential to choose with care a product or technique amongst the multitude of possibilities, many of which should not even be considered because they are ineffective or too costly.

SAFEGUARDING MEANS AND METHODS

The problem of specialists

- 23 - The restoration of the principal mosques of Timbuktu is subject to a certain number of rules which derive basically from a concern to maintain the harmony and atmosphere of the urban landscape of the Old City.
- 24 - The perpetuation and development of restoration techniques does not depend solely on a collective will and effort. The disorganization of the annual work sites for the renovation of the mosques raises concrete problems that effort alone, however sincere, cannot resolve.

- 25 - Training of one or several specialists should be envisaged by an architect and a technician responsible for supervising interdisciplinary teams.
- 26 - Moreover, the Cultural Mission of Timbuktu should consider a public information programme on basic problems such as upkeep and maintenance. It must also be noted that, without a specialized interdisciplinary team, all interventions are bound to fail.
- 27 - In the light of observations made, it is of the utmost urgency to achieve a better correlation between the capacities of the voluntary restoration teams and their means of intervention on the site.
- 28 - The lack of qualifications and poor organization of the workers can also be observed, resulting in approximations and all-purpose solutions, but no real comprehension of the problems.
- 29 - It is the task of the Cultural Mission to continue the information campaigns to increase public awareness. In this perspective, it was proposed that Mr Ali Ould Sidi undertake this UNESCO mission to launch a pedagogical operation aimed at promoting the annual work sites to renovate the mosques. He will be responsible, in 1994, for the preparation of a document illustrated with photographs and providing details on the types of tasks and how they are organized in the seasonal maintenance work of the three mosques inscribed on the World Heritage List. This document will be the indispensable reference for the preparation of a pilot work site which will be inaugurated during the 1995 seasonal work. Mr Ali Ould Sidi, accompanied by a researcher and a photographer, will be responsible for producing a documented report in collaboration with the masons and the persons in charge of the mosques. He will also produce an exhibition of photographs depicting all the preparatory and operational phases of the work. The complete package will be used for an itinerant exhibition with a sound recording produced from different oral traditions concerning the art of earthen constructions in Timbuktu.
- 30 - In this paper we attempt to highlight the degradation problems by emphasizing their causes and effects. But, above all, this operation will help to preserve the spirit of a great collective seasonal feast. This experience will bring to the notice of the general public the tools and means of conservation according to a methodology which takes account of the traditional structures, customs and their limitations, whilst making use of technological progress.

CONCLUSION

- 31 - As a first step, we will undertake a pilot experience in a limited area on all three mosques, to see what can be achieved with a restricted operation.
- 32 - To successfully implement the programme outlined above, and in order to follow-up and coordinate the work on the three mosques, we would recommend recruiting a freelance architect.
- 33 - At the time of our visits and discussions with the persons in charge of the mosques, the management committees of the mosques and the Artisans' Cooperative, the name of Mr Baba Alpha Ismaël CISSE was mentioned on many occasions. Mr Cissé is an urban architect, born in Timbuktu. He is very familiar with the city and its inhabitants and is able to respond to the needs of the seasonal freelance builders, masons, management committees of the mosques and the administrations concerned. He will be the direct interlocutor for the Cultural Mission of Timbuktu.
- 34 - Nevertheless, specialization of the architect should be envisaged or completed, especially with regard to the knowledge and application of new techniques for enriching, stabilizing and using the earth. Contracts could be given to ICCROM and the training centre C.R.A. Terre in Grenoble.
- 35 - A task which will quickly follow from the first one will require the architect to control the urban plan of the city of Timbuktu in collaboration with the Cultural Mission of Timbuktu.
- 36 - The architect will be requested to check whether the prescriptions of the urban plan are respected on the site, especially in the vicinity of the buildings inscribed on the World Heritage List.
- 37 - If the urban plan does not contain explicit regulations, the architect will carry out an analysis of the urban fabric (close to the mosques) which has a bearing on the state of conservation of the building; he will determine interesting elements, demolition to be foreseen, areas to be cleared, existing elements which can be reused.
- 38 - The analysis will culminate in the preparation of a technical handbook indicating the steps to be taken for restoration, reconstruction and demolition. Particular attention should be given to the link between the old centre and the contemporary part of the city, taking account of the following points: sanitation problems, traffic (attention to the planned "City Gates"), general health conditions, and the harmonious integration of new projects. Finally, the proportions, size and the nature of the materials should in no way be prejudicial to the horizontal urban profile, typical of Timbuktu.