



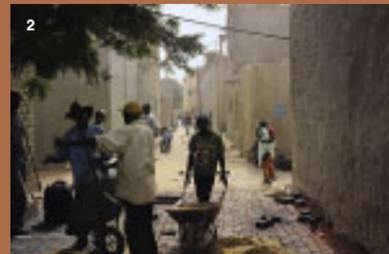
1 Mopti 2 Komoguel 3 Djenné 4 Timbuktu

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FEATURED CASE STUDIES



GREAT MOSQUE OF MOPTI



KOMOGUEL WATER AND SANITATION PROGRAMME, MOPTI



GREAT MOSQUE OF DJENNÉ



DJINGAREYBER MOSQUE, TIMBUKTU

Programme Scope/Objectives

In restoring three major earth monuments, part of Mali's cultural patrimony, AKTC aimed to improve local capacity to manage architectural heritage, and sought to train people in the skills of building with earth. The hope was to pass on knowledge of restoration methods and appropriate technologies and materials to future generations.

Preceding pages:

In 2009, heavy rains caused the collapse of a portion of the south-eastern facade of the Great Mosque of Djenné.

Earthen Architecture Programme

Much of what we know of Mali's past comes from oral histories passed down from one generation to the next by *griots*, or bards, whose profession is to memorize and recite events of the past. One of the first travellers to write an eyewitness account of Africa was Ibn Battuta travelling from Morocco to Mali in 1352. Since the late nineteenth century, archaeology provides us with clues of the past; we know that people lived in the region of present-day Mali as far back as a time when the Sahara Desert had abundant rainfall to support a lush forest, grasses and animals – long before it became a desert. In Djenné-Djeno, near present-day Djenné, there have been many archaeological finds despite a considerable amount of looting in the past. These finds indicate that Djenné-Djeno was inhabited as early as the third century BC. Urban life developed as early as the first century BC along the Inland Niger Delta (located between the Bani and Niger rivers in present-day south-western Mali) and for more than 2000 years it has been a crossroads of culture and trade and has seen the rise and fall of great empires.

Trade became an essential element in the rise and fall of the successive great West African empires of Ghana (Wagadu), Mali and Songhay. By about AD 300 camel caravan routes began to be established through West Africa and the Sahara Desert linking West African cities with Europe and the Middle East. Under the most famous of its emperors, Mansa Musa, Mali's influence expanded over the large city-states of Timbuktu, Gao and Djenné, which were all major trading cities along the trade routes, as well as cultural centres for the whole of West Africa. It was in these cities that vast libraries were built and *madrasas* (Islamic schools) were endowed.

Little remains from the medieval grandeur in Timbuktu or Djenné except their congregational mosques, situated on the sites of earlier mosques, and some of the urban fabric in their cities. Constructed in mud, like the vast majority of Mali's building stock, the mosques of Mopti, Djenné and Timbuktu are among the world's largest and finest examples of earthen architecture and form an essential part of Mali's cultural heritage.

With these important landmarks of Mopti, Djenné and Timbuktu the Aga Khan Trust for Culture (AKTC) commenced the activities of its 'Earthen Architecture Programme'. The Trust strategy hinges on close cooperation with local institutions and stakeholders, and the direct participation of experienced local masons and



Left, at Djingareyber Mosque *golettes* (pieces of wood placed between beams) are used for the roof of the Mosque.



Right, the *golettes* are being put into place.

specialists in restoration activities, ensuring a practical, hands-on approach and providing much needed training and job opportunities for local craftsmen.

The oldest mosque in the entire sub-Saharan region, the Djingareyber Mosque in Timbuktu, built in 1325, is still in use by the community. When the Trust commenced a survey and studies, the Mosque, made of tuff stone and mud subject to the depredations of a harsh arid climate, was in a process of advanced degradation due to deterioration of the mud plaster mix, associated with rainwater ingress into the stone and mud masonry and termite infestation of the timber beams; moreover, the accumulation of mud fill resulting from years of maintenance threatened to weaken the structure to the point of collapse.

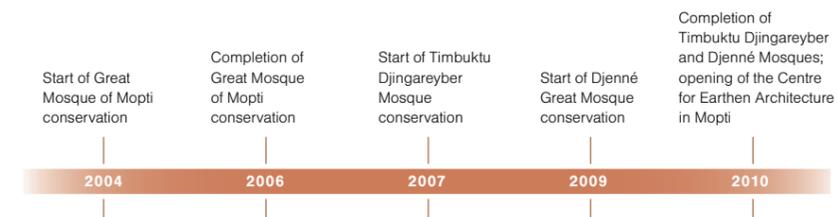
The Great Mosque of Djenné, constructed in 1906, lies in the core of the historic city on an elevated platform overlooking the city's main market square. Its construction technique is most unusual since it was built entirely of small cylindrical mud bricks called *djenne-fey*, a tradition that local masons grouped in a corporation called *barey-ton* are responsible for maintaining. As well as their technical skills, the traditional masons in Djenné hold magical powers, giving them social importance in the community. In spite of the yearly festival of *crépissage* during which the community replasters the facades of the Mosque, work by AKTC brought to light the poor inner structure of the walls and roof and proposed a comprehensive conservation plan.

The Great Mosque of Mopti, commonly called the Mosque of Komoguel, built between 1936 and 1943, was also in poor condition; it had been damaged by the inappropriate use of cement in a previous restoration effort in 1978. In an attempt to address further decay of the building, the community had applied a cement crust to the upper part of the walls, preventing the building from breathing and threatening to weaken the structure to the point of collapse.

Following the completion of the Great Mosque of Mopti, the Trust has implemented an infrastructure and habitat improvement programme that aims to raise the quality of the urban environment and the standard of living for residents in Komoguel. This programme involved the installation of an infrastructure network of water and sewage, street paving using blocks manufactured with recycled plastic bags, vocational training in building



Phasing 2004 → 2010



Heavy scaffolding covers the Great Mosque of Mopti in the early stages of its restoration in 2005.

crafts, the creation of a dyke to prevent annual flooding along the Pagué Danawal Lake and the creation of a community and visitor centre, public toilets and green open space for the public.

The 'Earthen Architecture Programme' has reversed the deterioration process and achieved the restoration of three important landmarks in Mopti, Djenné and Timbuktu, providing valuable experience in the technical, organizational and community-related aspects of preserving earthen structures in the country. Specifically it has succeeded in firstly identifying best practices of earth building grounded in local traditions and materials, introducing conservation methods and processes. In spite of the apparent vulnerability of earth architecture, the recourse to adequate mixes and organic additives, such as *karité* butter or baobab fruit powder, greatly improves the performance of traditional mud building. Secondly it has created a database of architectural, archaeological and technical documentation via first-hand knowledge of unique historic sites. Thirdly it has improved the local capacity to manage a precious architectural heritage, training locals in the skills of building with earth and reviving the traditions of handing down knowledge of restoration methods and materials to future generations. Finally it has generated economic benefits in terms of the development of local supplies, employment and tourism.