

## Archaeology and Development: Dams and other Dangers

Harriet Crawford

One of the most difficult and urgent problems facing archaeology today is that of balancing the often conflicting demands of the past and the present. The remains of the past are a precious legacy which is constantly being depleted, but the world today demands ever higher standards of living and is using natural resources like the land in which the past is buried and on which its monuments stand at an ever faster rate to satisfy these needs. Such problems are especially acute in regions which are rich in archaeological remains and which also have a rapidly expanding population and rising expectations. These regions include Turkey, the Levant, Mesopotamia and Arabia.

Dramatic examples of the problems which can arise from this conflict of interests have been seen recently in the destruction to the past which can result from major dam building projects such as those in Turkey, and on the Euphrates and Tigris rivers. It is said that these dams are urgently needed to provide power and irrigation water for the modern day inhabitants of the land, but the cost is high. Not only are people displaced and communities fragmented, but archaeological and historical remains are swept away too. The Ilisu dam on the Tigris in Turkey threatened what was said to be one of the oldest towns in the world at Hasankeyf while the waters of the Birecik dam on the Euphrates have destroyed priceless mosaics at the ancient site of Zeugma in spite of international attempts to salvage some of them ahead of the rising waters.

A plan to build a dam with potentially even more disastrous results has recently been re-

ported in the media<sup>[1]</sup>, bringing this issue into sharp focus. The Iraqi government has apparently already begun the construction of a dam north of Ashur on the Tigris river to be known as the Makhoul dam. This dam is said to be essential for agriculture in the region because of the reduced flow of the river brought about by other dams already built further north in Turkey. When complete in five years time the Makhoul dam will flood the great Assyrian capital city of Ashur, Kar-Tikulti-Ninurta, another Assyrian capital city and at least a hundred other known sites. The loss in terms of knowledge, of buildings and of artefacts is incalculable, not only to Iraq itself, but to the world.

The city of Ashur was inhabited for more than three thousand years and played a major political and symbolic role for much of that time. Little is known of its origins, but the discovery of a unique temple to the goddess Ishtar with rich furnishings dating back to the early third millennium, hints at great riches even then; in the early second millennium the city was the hub of an international trade network which stretched from central Turkey to Afghanistan, and became the launching pad from which the great king Shamsi-Adad I established what is often referred to as the first Assyrian empire.

The city's heyday was later in the millennium when a massive building programme was undertaken by Tikulti-Ninurta I of Assyria. The city had magnificent monumental buildings, fortifications, ziggurats, temples, and palaces many of them beautifully decorated and, no doubt, filled with booty from all over the

empire. It continued to be of great importance in the first millennium when it became the heart of the largest empire the world had seen. There was also a vast administrative structure whose records were written on clay tablets and whose scribes included astronomers, mathematicians, lawyers and poets. All of this is threatened. Buildings and tablets alike are made of clay and as the waters rise they will simply melt away taking with them irreplaceable information as well as many exquisite artefacts. Only the highest part of the city will remain above the waters and even that will be threatened by the rising water table.

There are many other less dramatic examples of the conflicts which can arise between the past and the present. Houses have to be built as the population expands and standards of living rise. Roads and airports have to be constructed as the volume of traffic increases. The people who use these facilities need water and food as well as energy to light, heat or cool them, leading to further pressure on land. These pressures mean that, inevitably, the remains of the past, and the traditional buildings still standing today, come under threat. In Bahrain for example, where land is at a premium, many of the huge fields of burial mounds which made the island famous have been swept away to make room for more villas and other facilities, although great efforts were made by archaeologists to record them first. Traditional buildings, and structures such as irrigation systems and standing stones are being swept away all over the Middle East taking with them much valuable knowledge about the use of traditional materials, materials and designs, which are often cheap, eco-friendly and well suited to local conditions. They are often replaced by faceless office blocks of expensive imported raw materials and ring roads producing ever more pollution.

There is another threat too.

In some countries it appears that buildings associated with certain groups of people are being deliberately targeted in the name of progress in an attempt to modify history itself. There are reports of the deliberate neglect and even destruction of Muslim and Armenian buildings in Jerusalem for instance<sup>[2]</sup>; in other countries Ottoman forts and public buildings are also at risk and synagogues have been destroyed or put to different uses. These all appear to be attempts to erase uncomfortable historical interludes which the country concerned would like to forget.

It is not hard to describe the problem but it is a great deal more difficult to propose a solution. There is no quick fix. Education, improved communications, the support of governments, money, and the good will of all parties each have a part to play. Education is essential to provide a core of well trained professional archaeologists; to ensure that people appreciate the value of their heritage before it is too late, and to encourage the political will to solve the problems outlined above, museums, schools and perhaps above all, television and the press, have vital roles to play in achieving this. Children and adults alike need to be taught to be proud of their heritage and to protect it. Public opinion, when activated, can be a powerful weapon. It is widely thought that the Ilisu dam will not now be completed as the main contractors are said to have withdrawn, partly as a result of the worldwide outcry and extensive media coverage about the impending destruction of archaeological remains. Perhaps a similar campaign may also help to save Ashur?

Communication between developers and archaeologists also needs to be improved. There should be a statutory duty on developers to consult with archaeologists before final plans are drawn up in order to identify any re-

mains which may be at risk within the area of the proposed development.

The price of such an evaluation would be built into the overall costing of the project and in most cases would be an infinitesimal proportion of the budget. If monuments or sites are identified at an early stage it may be possible to modify the development to preserve them, or at least to minimise the damage. Roads can be diverted, the height of dams can be lowered and buildings can be preserved, or in extreme cases dismantled and re-erected. It is greatly to be hoped, for instance, that the proposed height of the Makhoul dam will be reconsidered. If negotiations between the parties fail to come to an amicable agreement then governments may have to step in. In some cases land could be compulsorily purchased, although this can be prohibitively expensive.

It may be more realistic to impose a temporary halt on the development work so that archaeologists can move in and record the remains, salvaging what they can before the bulldozers return and the inevitable destruction takes place. Outstanding monuments can be protected by conservation orders and grants may have to be made available from central funds to keep them in good repair. Such strategies require the presence of an independent, well trained inspectorate which can evaluate the significance of the finds and determine the most appropriate action to be taken. It is important that the inspectorate is independent as disputes may arise between government departments in charge of development and those dedicated to the preservation of the country's heritage.

In the case of major developments it is often the case that the country concerned does not have the resources to carry out the rescue work. There are now a number of instances where international teams have successfully

been called in to assist the host nation.

The best known of these international efforts is probably that coordinated by UNESCO in advance of the Aswan dam which culminated in the rebuilding of the great Abu Simbel temple.

A less spectacular, but equally successful international effort took place before the building of the Tabqa dam in Syria and resulted in a wealth of new information about the region and especially about the so-called Uruk colonies of the late fourth millennium, information which revolutionised our picture of the period.

Successful projects have also taken place in Turkey in the Asvan dam area, and in Iraq. Extensive survey and excavation in the Jebel Hamrin by international teams ahead of yet another dam has literally redrawn the historical map of this important border area. Were the Iraqi government to invite foreign teams to participate in a similar international effort during the construction of the Makhoul dam much valuable information could be saved, although much would still inevitably be lost. Some nations might be unwilling to participate, but there is much support from the archaeological community across the world for a positive response to such an invitation.

Archaeologists are now coming to accept that the needs of the living are often more important than those of the past and that they must therefore be prepared to compromise. On the other hand, developers have been slower to realise that archaeology is more than an academic whim, or a hobby for expatriates, and to accept that it can play a vital role in the building of a national identity and in fostering a proper pride in the achievements of the past. It also has an increasingly significant economic role, generating income through tourism and the burgeoning leisure industry. Both are areas which form important strands in economic strategies aimed at widening the economic

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base, something which even oil-rich nations are now attempting to achieve. Developers too must be prepared to negotiate.

Like oil or water, the past is a valuable and finite resource. Once destroyed it can never be

replaced. This is why it is of such importance that a framework is put in place to resolve potential conflicts of interests and to preserve the remains of our predecessors wherever possible for the benefit of future generations.

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### Notes:

[1] See for example: **The Sunday Times** (London) of July 7th, 2002

[2] For an interesting account of the destruction of non-Jewish buildings in Jerusalem see: William Dalrymple, **From the Holy Mountian**, Flamingo, 1998: 312ff.