



Shibam UNESCO World Heritage site in the Wadi Hadhramaut

MUD AND STRAW

New Building in South Arabia

The tradition of mud-brick architecture goes back many centuries in South Arabia. In the World Heritage Site at Shibam, mud-brick skyscrapers stand seven stories high and four centuries old. RIBA held an exhibition in London last year featuring this very special architectural heritage, which few people in Saudi and the Gulf now seem to appreciate: they prefer Modernist designs with reinforced concrete.

But in the Yemen, particularly in Wadi Hadhramaut where golden cliffs rise on either side of the valley and howling deserts lie all around, the proper way to build is still with mud and straw (madar). It's cooler, they say, more comfortable and adaptable. And nobody can deny it's the most sustainable, natural and environmentally conservative building technique.

I went to the Yemen in 1994 and 2000, and always enjoyed the hospitality and fellow-feeling of the Yemenis. One can even detect some nostalgia for the old days of the Aden Protectorate. Jill and I visited a typical school-building project supported by the Friends of the Hadhramaut (FoH) at Asnab, in the dry and barren Wadi Khonab. Sultana al Qu'a'iti showed us how this village self-help project was taking shape. As 2007 was the tenth anniversary of the FoH it was satisfying to see things going so well.

A master builder is in charge. He marks the outlines of the school in the soil and fills a trench with stones to make a footing. Silt is scraped off the site and puddled into a heap of firm mud, with a little water and a lot of stubble from the field. This is slapped into a square wooden former, laid on the dust, to leave a pair of pancake bricks drying in the sun. When they are firm enough to lift off the dusty soil they are stacked on edge for the desert wind to harden. They are not fired. That's all they need. The stony footings are levelled off, with a little lime added to the bottom layer of mud. Mud-and-straw bricks are simply laid to course as high as need be; to one, two or more storeys. Wall thickness tapers inward from base to roof with bricks of diminishing size, bonded with the same 4:1 mud/straw mixture. Door and window openings are framed up neatly and the whole structure smoothed over.



Mud-brick buildings in Hadhramaut



Sultana al Qu'a'iti introducing the master builder to Friends



Digging out the footings for the school in Asnab



Puddling mud and straw for madar bricks and mortar



Mud straw and bricks hardening for the school



Bricklayers at work

Date palms are stringy and fibrous with little strength, but they can be laid, unsawn, across from wall to wall. Branches from the desert Ilb tree are short and crooked, but they can be laid across the palms to add thickness and insulation. A mud roof about 20cm thick is laid over a mat of woven palm leaves. The first time it rains a little mud may trickle through, but it soon consolidates. It's cool up on the roof when it becomes firm, and children enjoy the breeze.

With a modicum of care these buildings last almost for ever. The mosque at Tarim has a minaret almost 50 metres high, just madar without reinforcement: a building of spectacular beauty now getting on for a hundred years old. But an obsolete building in ruin can be a thing of beauty too. It softly erodes and returns to the soil of which it was made. And, finally, no trace remains.

Friends of the Hadhramaut is a UK charity promoting clinics, sewing schools and self-help projects. If you would like to know more, contact Sultana al-Qu'aiti, 48 Richmond Park Road, London SW14 8JT. Membership costs £25 a year.



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Old buildings eroding back into the soil from which they came



Wooden formers for bricks



New corbelled vault in unfired mud-brick



A luxurious new madar mansion in Wadi Doan Hadhramaut