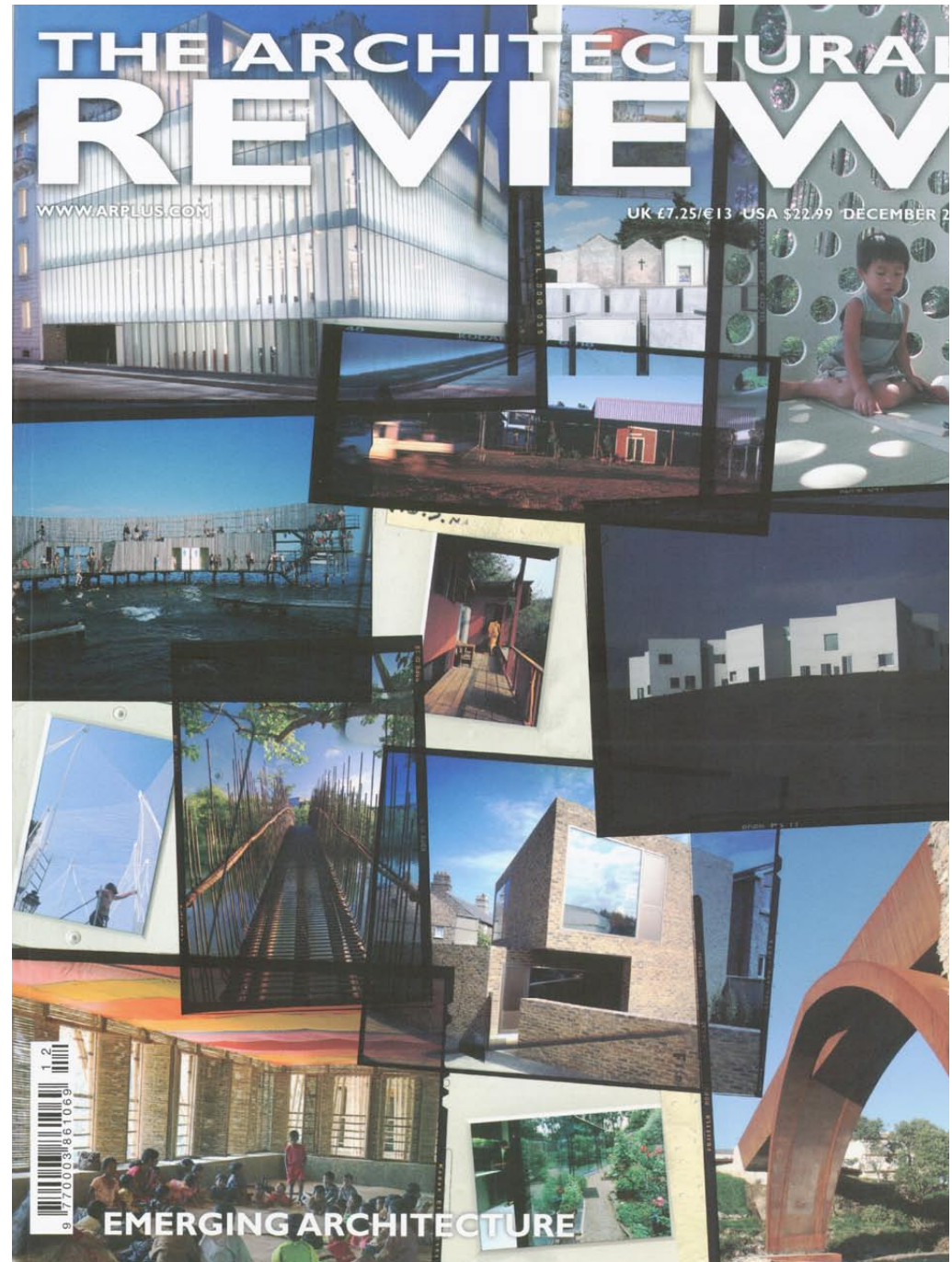


# THE ARCHITECTURAL REVIEW

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EMERGING ARCHITECTURE



All too often, aspirations towards modernity in developing countries have malign economic and cultural effects where construction is concerned. Traditional materials and techniques are abandoned in favour of the import of expensive and sometimes energy-inefficient materials and products, benefiting only manufacturers in more advanced economies. The outcome can at worst be the imposition of alien buildings, forms and materials which don't last long and are difficult to maintain. Their only merit is to look new

for a time. By contrast, this joyful project, in a poor rural area of Bangladesh (said to be the world's most densely populated country), shows that new and refreshing local identity can be achieved by exploiting the immediate and the readily available – ironically via architects from Europe.

This school is built using brick, loam, straw, bamboo and rope, plus some steel pins. Refining the local technique of using very wet loam to build walls, the school has a brick foundation, a damp proof course, and walls made

of a mixture of loam and straw, the latter acting as a form of reinforcement. The loam and straw are combined by getting cows and water buffalo to tread them in. The 'Wellerbau' technique employed here involves building a 700mm high wall layer, leaving it to dry for two days, and trimming off with a spade. A further drying period is followed by the addition of the next layer.

The ceiling and first floor are constructed using bamboo. Three layers of bamboo sticks, bamboo boards

#### MATERIALS

83m<sup>3</sup> brickwork for foundations and veranda  
276m<sup>3</sup> loam for walls, ceiling, floors, caves  
2300 bamboo poles for ceiling, roof and facade  
2500 bamboo slats for facade

#### TOOLS

4 'Weller' spades  
2 pitchforks  
3 drill machines  
4 hammers  
2 soldering irons  
2 cows  
2 water buffalo  
tension belts



## EARTH WORKS

Simple materials and local skills inform a life-enhancing rural architecture.

PRIZEWINNER  
HANDMADE SCHOOL,  
RUDRAPUR, BANGLADESH  
ARCHITECT  
ANNA HERINGER,  
EIKE ROSWAG



1 The colourful east facade.  
2 The workforce was made up of local labourers, cows and water buffalo.  
3 Innovative architecture using traditional materials.



**PRIZEWINNER  
HANDMADE SCHOOL,  
RUDRAPUR, BANGLADESH**  
ARCHITECT  
**ANNA HERINGER,  
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and an earth filling make the surface of the floor. The upper walls and roof comprise a frame construction using four layers of joined bamboo sticks, and vertical and diagonal poles; steel pins are fixed with nylon lashing from the junction of the sticks (a modified form of traditional local lashing was used).

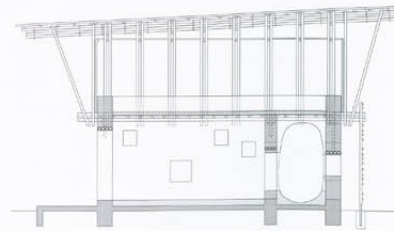
The inventive architecture, allied to traditional materials,

has attracted thousands of visitors to the building, which is elegant, spacious and colourful. The architects sum it up thus: 'Comfort, durability and style as teaser – sustainability as concept'. It is the only two-storey building in the neighbourhood, and the architects hope that the principles that inform the school design may be replicated in relation to housing development,

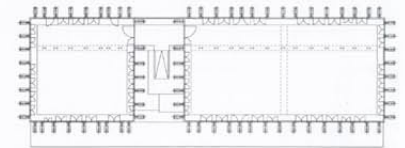
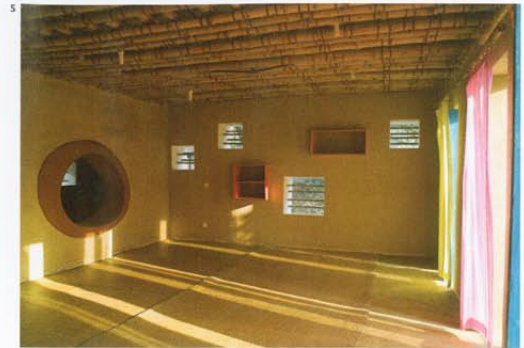
escaping the apparent tyranny of the earth hut. The judges felt this project more than lived up to its aims and ambitions, and that the thorough analysis which underlies the design has been matched by the quality of architecture achieved. PAUL FINCH

Architect  
Anna Heringer, Eike Roswag, Berlin  
Photographs  
Kurt Hörbst

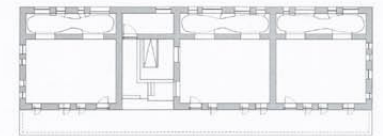
4  
Classes take place on the first floor.  
5  
Light need not mean heat.  
6  
Children enjoy the clay playspace.



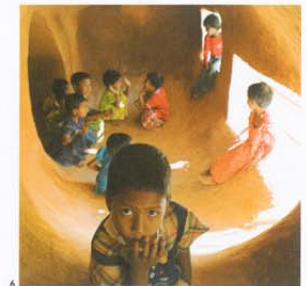
cross section



upper floor plan



ground floor plan (scale approx 1:500)



6