

# Mud Moves Into the Mainstream

From farm houses to meditation centres, mud architecture is rapidly gaining ground

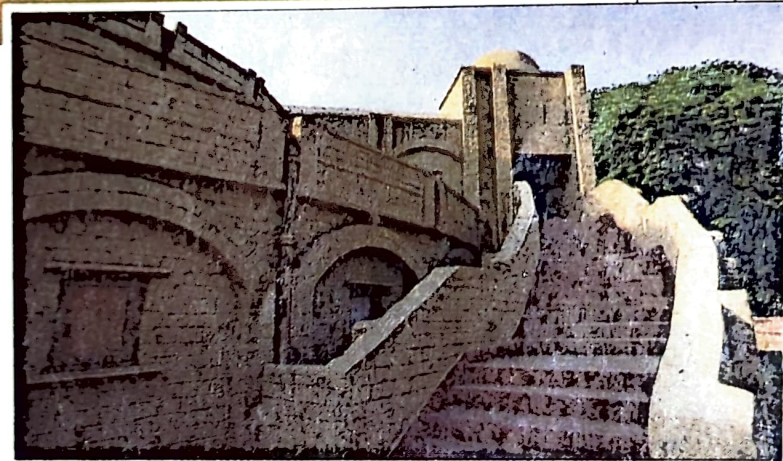
A CLUSTER of round mud cottages rises above the shimmering sands of the Thar desert. The walls outside are decorated with folk motifs in white chalk. Walking in, as the eyes get used to the dark, a huge tree trunk seems to lurch towards you, its head shooting through the roof. A spread of colourful Rajasthani *Bandhej* cloth seems to be bunched up against the mud-plastered wall. A generic village hut? Actually, it's the Mandawa Desert Village, a holiday resort just outside Mandawa town in the Shekhawati region of Rajasthan.

Eight years ago, when Delhi-based architect Revathi Kamath built the Mandawa Desert Village, mud was a romantic material. Architects said it was cheaper, environmentalists loved its image of low energy consumption, the ritzy fell for the rustic chic look.

But today, mud is serious business.

It's moved from hotels and the odd farmhouse to low-cost housing settlements and meditation centres for the religiously inclined. Kamath is now also bringing mud into the mainstream. She is designing a 165-suite hotel in Jaisalmer for the Taj group out of mud. "The Taj chose mud because the group wanted a material that was both good-looking and ecologically sound," says Kamath.

The earth devotees are charged up about its future. "Mud is a step forward and not a step backward. It will be the only answer, especially after the nation has been stripped of its entire forest cover," says V. Suresh, director, corporate planning, Housing & Urban Development Corp (Hudco), whose organisation propagates mud. Hudco spends 10% of its Rs 2,150 crore budget for rural housing on mud.



■ The IGNCA's appeal lies in its arches and rounded edges

Certainly, the range of buildings coming up in mud is widening. Kamath has already built another hotel in Jaisalmer using compressed mud blocks, a sprawling farmhouse for Nandita Jain of *The Times of India* family, just outside Delhi and one for a garment exporter in the capital as well. There are two resorts by other architects — in Coonoor and in Bandipur, Karnataka — that have been built with mud blocks. Says Kamath: "It's a post-industrial look for people with an aesthetic that goes beyond the material."

Mud is also being effectively used for housing settlements and other institu-



tional complexes across the country. This includes housing projects for the Karnataka Housing Board, the Mysore Urban Development Authority and the Andhra Pradesh State Housing Corp. In addition, the Bangalore-based Indian Institute of Science's (IIS's) Application of Science & Technology to Rural Areas (Astra) has built all the offices on its 400-acre campus out of mud bricks. IIS professor K.S. Jagadish, who is also the former head of Astra, is working at present with a voluntary agency in Kurnool, Andhra Pradesh, to build a hospital purely out of mud blocks.

Bangalore is a city where mud architecture has been particularly popular. M.R. Yogananda, chairman of Mrinmayee, a consultancy group on mud blocks, built his house out of mud bricks in 1988, a year of unprecedented rainfall. The building survived, and the number of believers in mud suddenly shot up. From three mud houses in 1988, the number went up to 100 in 1990. Today, Jagadish estimates there are around 500 buildings made out of mud blocks in Bangalore.

That's not all. Development Alternatives (DA), a Delhi-based non-governmental organisation which has been involved in R&D work in mud architecture (its own building is mostly mud), is now concentrating on making mud a commercially viable proposition. Among its earth block projects: two workshop buildings for the Sushant



■ A mud house in Bangalore (top); Jain's sprawling mud farmhouse

School of Architecture in Gurgaon, a dispensary in Bulandshahr in Uttar Pradesh, a hospital block in Noida and a training institute for rural women at Harohalli in Karnataka. At present, DA and Delhi-based architect Sanjay Prakash are working on a leprosy centre made of mud in Bodh Gaya.

Apart from the conservation angle and its socio-political correctness, building in mud is simply cheaper. A compacted mud block could cost as little as 25-40 paise compared to a burnt brick which is between Rs 1.20-1.50 a piece. The cost of construction of a basic mud structure can be as low as Rs 200 per sq ft, compared to Rs 450 per sq ft for a similar structure in burnt brick.

And in case you thought mud was a weak material, its load-bearing capacity is impressive: a good mud brick can take a weight of 50 kg per sq cm (naturally, burnt brick takes more, about 75 kg). And, as environmentalists can't stop

pointing out, mud bricks need less energy to make: 600 tonnes of firewood are burnt for a 100 sq ft of burnt brick construction. Says Hudco's Suresh: "It combines traditional knowledge with technical knowledge."

Moreover, mud buildings are aesthetically attractive. The Indira Gandhi National Centre for the Arts (IGNCA) in New Delhi, which was specifically designed for an exhibition called *Kala* (time), is evolved out of three concentric rings of increasing height with the inner ring crowned by a huge dome (which, incidentally, is not made of mud). Says Prakash, who worked on the IGNCA building with DA: "It goes away from the geometry of conventional architecture. There are no straight lines; it relies more on arches and rounded edges."

Mud also appeals to the philosophical leanings of people who want to be at one with the earth. The Auroville ashram in Pondicherry has built its reception area and a community kitchen in mud. The Brahmakumaris in Mount Abu too are building a meditation hall in mud.

However, there are still some sceptics. Gautam Bhatia, another Delhi-based architect

who dabbled in the medium a decade or so ago, is disenchanted with it today. His mud housing project in Kanyakumari for a voluntary agency, Nambikai Foundation, fell down ("like a melted chocolate ice-cream," he says) after one monsoon. Similarly, he was unable to sustain a mud housing project in Mathura because people doubted its ability to survive in an earthquake-prone area. In Bhatia's opinion, mud building is too labour-intensive and the maintenance costs are high.

But that hasn't deterred others, including corporations, from experimenting with other energy-saving technology. ITC Bhadrachalam, for instance, has used fly-ash bricks for some of its buildings. Mawana Sugars has also been trying out pressed lime sludge blocks as a construction material. Perhaps there will soon be a series of alternatives to the alternative material.

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(With reports from Sreya Yogendra Urs in Bangalore)