

Timeless touchstones

Without patronage from the government, traditional materials and technologies have fallen out of favour



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TRADITIONALLY, BUILDINGS in India have been considered living entities, and were respected by the creator and users alike. From the stone temples of South India to the multi-storied rammed earth structures in Ladakh; from the bamboo structures in eastern India to the cave architecture in the western parts; and from stepped wells to the riverbanks, all built spaces have been environmentally responsive and ecologically sensitive.

Materials and technologies that were used to build these time-defying buildings are still available, but builders do not opt for them because they are either not easily available in the market,

or the craftsmen have forgotten the use of these materials. There is a pressing need for making these traditional materials acceptable and make them available for the end user in the mainstream. There is also a need to modify some of the traditional techniques so that they can be used in conventional buildings. These materials and techniques have the potential to transform our buildings towards a sustainable future. It is probably too much to expect that all buildings would be green, but the optimist within me sees that as a possibility.

Here are a few materials that have stood the test of time and continue to amaze architects with their strength and versatility.

PHOTOGRAPHS: DHRUV BHASKER



LIME: It is a wonderful binding and strengthening building material, and was once widely used across the country. Its climatic responsiveness and advantage, right from embodied energy to heat transfer and longevity, in tropical India are experienced both by laypersons and technical experts. But it has failed to compete with its vicious competitor—cement. The fact is that the cement industry gets tremendous support from the government, right from procuring raw material, to sourcing energy, water and land. As a result, the highly subsidised readily usable cement bag is easily available to a consumer compared to lime, which is difficult to source. This has prompted builders to opt for cement over lime for basic construction. The use of lime over cement in various components, such as lime-mortar, lime-plaster and screed, would propel a building towards being green.

STABILISED RAMMED EARTH WALLS: The sub-continent which was at one time, the land of earth construction, sees lesser and lesser of earth construction due to genuinely valid issues of maintenance, easier availability of durable alternatives, constraints of time and seasonal cycles, higher financial resources, and so on. This does not mean that the advantages of earth construction have diminished. All we need to do is to enhance these traditional earth skills and use the same resources to make the use of earth in construction. A successful example is stabilised rammed earth walls. This technology takes all advantages from earth as a material and combines it with the stabilised strength of lime or cement, and high density compactness to make an extremely durable, earth wall system



GUNA TUBE VAULT ROOFING: It is essentially a catenary structural form, stable in its each row of arches. The terracotta tubes are inserted into one another and laid in alternately opposite direction along the entire span. A series of such archs make the vault capable of withstanding considerable loads, even without steel or timber. The top of the roof is given a plaster finish, after which it becomes rigid and waterproof. Air inside the hollow-tiled roof protects from heat and cold. It is fabricated and ready for use within three days. It requires no maintenance and has a lifespan of more than 50 years. Being light in weight, this variation of vault roof is safe even in earthquake-prone zones. This technique has been traditionally used in the Guna region of Madhya Pradesh. The technique has been extensively studied by some organisations. One such organisation, Centre for Science of Villages in Wardha, has made it popular as a successful alternative roofing technique

ATTANGUDI TILES: These tiles of Chettinad still thrive despite all odds due to their uniqueness, and are yet another example of the brilliance of traditional skills, positioning them in the greenest of all segments. Even though they were originally derived from the European practice of tile making, due to the affluence of the native community and its constant patronage, the adopted technique has lasted over centuries and still offers the most beautiful and sustainable flooring or wall cladding tiles

