

From traditional weaves to Bam-MudCrete Shells

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Bamboo has been used in construction since time immemorial. A large population of the world even today especially in South- South East Asia, lives in houses which use bamboo as a major material of construction. Though a majority of them do it more out of compulsion rather than by choice. Due to this, most of the traditional technologies of construction with Bamboo has got lost.

India is the second largest producer of Bamboo in the world. With the renewed interest in local and natural materials such as mud, Bamboo, etc as eco friendly materials for mitigation of global warming, Bamboo has come out as one of the most promising and viable material for the building sector to achieve the SDG's. But most of the research on Bamboo as a building material remains in the lab and does not reach the field. The institutions and organisations have no interface with the building fraternity. Several civil society organisations are trying to bring change but are plagued with severe dearth of funds.

This paper will outline a few bamboo weave based techniques, traditionally used in building components in the tribal areas of Madhya Pradesh, the heartland of India since time immemorial. And our journey of using it to create a Bamboo and Mud crete shell structure, between Art and Architecture continuing the tradition of "Crafting Buildings" in the time of brutalist approach to building design at Art Ichol - an art and design museum, in the sleepy town of Maihar, Madhya Pradesh, India, by vertically connecting the local artisans, designers and the policy makers.

To achieve this, Manasaram Architects and Centre for Green Building Technology conducted a 45 day winter school with two workshops and two month long residencies, for the tribal youth and artisans along with architects, students, artists, engineers, musicians, policy makers, art connoisseurs, photographers etc to document and explore the existing construction technologies with bamboo and mud. And then we worked with engineers, to design the mix for the plaster to take the dynamic load of the bamboo shell due to thermal expansion and contraction with climatic temperature variations which are large in this region, and the properties of the available soil on the site. Below are some images of the project attached for reference.



Both the organisations have been working in the Sustainable building sector for 31 years and with Bamboo for the last 20 years to bring about awareness and change in the usage of this materials in the building sector.