

## Experiments in Earth Construction in India



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### ABSTRACT

**Objectives:** This paper attempts to review and evaluate the earth construction experiments in India over the past six decades.

**Methods:** The early experiments in Karnal (1948) to build 4000 rammed earth houses and the experiment in Bangalore (1949) to build 260 houses of soil-cement are discussed. The performance of these houses and the reasons for the abandoning of the new technique are examined. The experiment of “ASTRA”, Indian Institute of Science since 1974 are discussed. The development of the stabilized mud block technology and the continued upgradation of the techniques are presented. Experiments in the use of unstabilized mud, use of plasters and paints, stabilized adobe, traditional organic soils of India are presented in detail. The performance of various techniques is evaluated. More recent developments like fine concrete, steam cured blocks, rammed earth construction and containment reinforcement for earthquake resistance are presented.

**Results:** The dissemination of the stabilized Mud Block technology all over India in the past 25 years is discussed. The relevance of the technology in different contexts and the importance of stakeholders for the spread of new technology are highlighted. The replication of technologies like rammed earth, containment reinforcement, steam cured blocks are discussed.

**Conclusions:** The major conclusions emerging from the 3 decades of earth construction in India are highlighted. The importance of ongoing research to support the spread of earth technologies is emphasised.

**Key words:** Experiments, Earth construction, Stabilized earth, Unstabilized earth, Spread of technology.