

## **DESIGNING AN ADOBE-BASED SPORTS HALL FOR SMALL-SCALE SETTLEMENTS: MATERIAL CONTINUITY AND COMMUNITY RESILIENCE**



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### **ABSTRACT**

The paper proposes the architectural design of a sports hall constructed primarily with adobe (earthen) material for small-scale settlements, where economic constraints, ecological sensitivity, and social cohesion are decisive parameters in the built environment. Rather than perceiving adobe merely as a vernacular remnant, the study repositions earth as a contemporary, performative material capable of responding to present-day structural, climatic, and communal needs.

Small settlements often lack multi-functional public facilities that foster social interaction and collective identity. In this context, the sports hall is conceived not only as a physical structure for athletic activities but also as a socio-cultural condenser that strengthens community resilience. The project investigates how load-bearing adobe walls, combined with a lightweight timber roof structure, can generate a thermally efficient and structurally rational system suitable for moderate-span spaces. Passive climate strategies—such as thick earthen walls for thermal mass, controlled daylight openings, and natural cross-ventilation—are integrated to minimize operational energy demands.

The research draws upon the historical continuity of earthen construction in Anatolia and its adaptive transformation into contemporary architectural practice. By employing stabilized adobe blocks and modular construction techniques, the proposal addresses durability and maintenance concerns traditionally associated with earthen architecture. The structural system is supported by reinforced ring beams and seismic considerations appropriate for rural contexts.

Ultimately, the paper argues that designing a sports hall with adobe in small settlements represents not a nostalgic return to tradition, but a forward-looking architectural strategy that merges material heritage with sustainable design principles. The project demonstrates how earthen construction can contribute to low-carbon public architecture while reinforcing local identity, collective memory, and long-term environmental responsibility.

### **KEY WORDS:**

Adobe, gym, hall, design