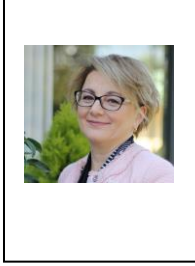


## From Research to Regulation: Earthen Construction and Seismic Code Development in Türkiye



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### ABSTRACT

This paper examines the relationship between publicly funded research and seismic regulation in the context of earthen construction in Türkiye. It focuses on the TÜBİTAK İNTAG TOKİ 622 research programme (1995), which aimed to develop a mechanized construction technology and a pathway toward standardization for gypsum-stabilized adobe (alçılı kerpiç) as a viable material for the housing sector. The research framed earthen construction as a system open to technical improvement and industrial adaptation, reporting enhanced material performance, including compressive strength values in the range of approximately 2.8–4.5 MPa, improved workability, and the feasibility of year-round production.

In parallel, the current Turkish Seismic Code (TBDY 2018) adopts a restrictive approach to masonry systems and excludes adobe and similar materials from use as load-bearing wall elements. Rather than framing this situation as a direct contradiction, the paper interprets it as a case of **regulatory discontinuity**, where advancements achieved through state-supported research have not been translated into a performance-based regulatory pathway.

Drawing on international comparisons, particularly the standards-based approach of New Zealand and the research-led institutionalization observed in France, the study situates the Turkish case within a broader debate on how building regulations engage with alternative material systems. The findings suggest that the key issue is not the inherent suitability of earthen construction under seismic conditions, but the absence of mechanisms within the regulatory framework to evaluate and incorporate improved material systems.

The paper contributes to discussions on low-carbon construction, heritage-compatible technologies, and the role of public research in shaping building law, and calls for a more integrated relationship between research outputs and regulatory development.

**KEY WORDS:** Earthen construction; Adobe (kerpiç); Seismic regulation; Building codes; Regulatory discontinuity; Low-carbon materials; Türkiye