

ABSTRACT

Traditional built forms have long reflected human adaptation to climate, evolving over generations to offer functional and sustainable solutions tailored to regional environmental conditions. As concerns about energy efficiency, thermal comfort, and sustainability become increasingly central in architectural discourse, traditional practices have emerged as vital sources of knowledge for contemporary design. In the context of Northeast India, the Assam-type house stands as a prominent traditional typology, known for its adaptability to the region's humid subtropical climate through passive design strategies. However, with rapid urbanization, changing construction technologies, and evolving lifestyle preferences, the application of such traditional wisdom has been increasingly marginalized in contemporary architectural practices. This research investigates the potential for integrating traditional features of Assam-type houses into contemporary residential designs for climate responsiveness.

The study began by identifying context-specific traditional elements and corresponding attributes, through a combination of literature studies of traditional architecture and an expert opinion survey involving professionals familiar with traditional and climate responsive architecture in Northeast India. These features, recognized for their climatic performance, formed the basis of further inquiry, and were used to identify the features of traditional Assam-type houses which support climate responsiveness. These features were subsequently looked at through three lenses: user perception on comfort and efficiency and acceptability of the traditional features, expert recommendations on relevance of the traditional features and feasibility of adoption in contemporary designs, and building surveys which shows the extent of their use in current practices. This multi-source examination was structured through a triangulation-based analysis, enabling the cross-verification of findings and offering a comprehensive lens to assess the relevance, practicality, and acceptability of traditional design features in the contemporary context.

A significant contribution of the study is its emphasis on user perception, a perspective that is often underrepresented in architectural research. Since homeowners and users are the ultimate decision-makers in the design and construction of residential spaces,

their views on comfort, efficiency, and willingness to adopt traditional features are pivotal. Understanding their preferences not only sheds light on the cultural and functional appeal of traditional architecture but also helps identify features that have the highest likelihood of successful adaptation in present-day housing.

The research presents a structured framework for analysing and evaluating traditional architecture for contemporary use. It culminates in a ranked list of adoptable traditional Assam-type house features for climate responsiveness, providing clear and actionable guidance for homeowners, architects, builders, and others involved in the process of designing climate-responsive contemporary houses. By identifying the most contextually effective and user-accepted elements of traditional design, this study offers a practical guiding tool for integrating traditional wisdom into current practices. It not only shows the continued relevance of traditional architectural knowledge, but also bridges the gap between traditional wisdom and contemporary architectural requirements.