

ABSTRACT

The high prices and declining reserves of fossil fuels have created severe economic hardship for many of the non-oil producing Third World countries. In this context, energy conservation becomes a high priority and as housing is one of the four major consumers of energy, savings in this field could provide a significant benefit. In tropical regions substantial savings in energy can be made by the use of natural rather than mechanical means for cooling residential buildings. The Project Report concentrates its attention on this aspect and examines the factors affecting human comfort and natural cooling in tropical island climates, and the impact of these factors on the design and construction of houses in such regions. The field work investigates the thermal performance of a number of different building envelopes for the purpose of comparison and also includes a user survey to determine occupant response. The report also briefly outlines a rationalised construction system which can incorporate the principles of natural cooling and points out the important contribution that feedback information from occupants can make to the design process.

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