

The investigation of the efficiency of using natural ventilation in traditional architecture (case study: northern Iran, Qajarieh era houses)

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ABSTRACT:

One of the main problems in human life is achieving an inexhaustible source of energy. One of the most important renewable energies is wind and human being has been always thinking about application of this energy in industry and construction of buildings. Oldest method of using wind energy is documented in returns to ancient Iran. For the first time, Iranian succeeded to invent waterwheels by using wind force and send water from their water wells to farms. In Iranian traditional architecture, natural ventilation was the main part of building design that came to existence by creating natural air current into buildings. Native architecture reached to a phenomenon that is the purpose of stable architecture. For example, in North of Iran (Gilan, Mazandaran and Golestan Provinces) architecture in humid and moderate weather, as a sample of native architecture mixed with nature, has an ancient history in which a soothing space and compatible to climate was created by considering nature. This architecture guaranteed its stability by using ecological buildings and consuming and proper storage of energy resources that one of the main samples is in Qajarieh era and has considerable importance in art and architecture history of Iran because in that period, based on architecture of their ancestors heritage and also intercommunication with west, salient revolutions and innovation produced in domain of art and architecture. This review article was aimed in identifying stable architecture and useful alternatives that were used for utilizing air current in humid and moderate climate.

Keywords:

Wind energy, Natural ventilation, Stable architecture, Native architecture, Qajarieh era