

## **DESIGN OF HOUSING BUILDING IN THE HOT CONDITIONS OF THE CLIMATE OF THE UNITED ARAB EMIRATES**

Nowadays, the sphere of design and construction has been thriving. It has reached such a high level that location or severe climatic conditions are not an obstacle to the most difficult construction works. Particular attention is paid to countries with extremely hot climates, such as Qatar, Vietnam, Bahrain, the United Arab Emirates (OAU), and others. Designing in these countries should take into account many factors for creating comfortable housing for residents and for maintaining these conditions.

Characteristic features of hot climate are the high voltage of solar radiation; high temperature, average air is heated to +40 ° C during the day and up to + 30 ° C at night; adverse effects of moisture and wind conditions that adversely affect human health and require special measures to protect it from these adverse effects.

The climatic conditions of the UAE are such that on its territory during the year periodically there is a natural phenomenon such as sandstorm. Another natural climate feature in the Emirates is the low percentage of oxygen in the air.

The hot climate affects not only the person, but also the materials and structures of buildings, equipment, mechanisms, property. Thus, there is not only a problem of human protection, but also a number of problems of increasing the reliability, durability of materials, structures and mechanisms, creating the necessary conditions for their operation or storage.

The best decisions to improve the design conditions in the climate of the UAE are: the right selection of materials for construction, which will be non-combustible and will facilitate the cooling of the apartments; correct orientation around the world and the location of the building area near the water; taking into account wind streams; the use of shading materials and elements on the western and southern sides like canisters, awnings, shutters; use of additional landscaping both for the territory of the building and for the vertical gardening of the facades, which will contribute to lowering the temperature and improving the air quality, which has an increased level of CO<sub>2</sub>; the introduction of special systems such as air recuperation system and solar collectors that will produce electricity and will be used for desalinating water; the addition of water surfaces, as in the UAE insufficient water resources.

As an architectural solution, compact accommodation and blocking of buildings will be suitable, which will allow the maximum storage of space from the penetration of dry hot external air in them, reduce the intensity of its movement, reduce the area of the protective structures, irradiated by the sun and protect area from dust storms.

Emirates is a country of advanced technologies and innovative proposals, so multi-comfy buildings are suitable because it take into account the heat, light, acoustic, and social comforts are suitable for building.

All these conditions must be fulfilled in order to create a special comfortable microclimate on the territory of the building and inside residential buildings.

The results of further research are planned to be used in the educational process (diploma design), during the development of project proposals, etc.

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