

ARCHITECTURAL AND CONSTRUCTION RESEARCH

PART

Adequate Housing Description

- **Disease Transmission:** According to ARCHIVE Research: ARCHIVE defines inadequate housing as housing that promotes the spread of disease. To reduce the spread of infectious disease, several parameters are important to consider. These include Layout, Occupant Density, HVAC, Flooring, Roofing, Water Access, and Electrification.
- **Layout:** The internal design and layout of a space could increase the transmission of diseases. For spaces with cellular layouts or interior partition walls, occupants who are located adjacent to where contaminants are generated are at risk. In the same way, people directly facing infected individuals are at greater risk than individuals facing away from each other even they may be much closer together.
- **Occupant Density:** A densely occupied space increases the likelihood of contact between susceptible individuals and infected cases. Proximity to the infected individual may increase the chances of contract and infection.



- **Heating, Ventilation and Cooling:** Poor heating and ventilation cause mold, fungus and bacteria which compromise the respiratory system.



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According to the World Bank, dirt floors and adobe walls are associated with numerous health hazards including intestinal diseases, worms, and pests. Poor quality of floors in housing account for 10% and 20% of the difference in malnutrition and diarrhea prevalence.

**Roofs:**

Leaky roofs prove increased disease transmission.

**Walls:**

Walls that allow for excessive transmission of humidity lead to the easier spread of infectious disease.

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- **Water:**

Access to piped water is a key determinant of child mortality, explaining about a quarter of the difference in infant mortality between the poorest and the richest quintile, and 37% of the difference in child mortality.



- **Electrification:**

Without electrification there is no way to refrigerate vaccines and/or provide light for medical interventions, according to Cold Chain Program evidence. And without electrification food cannot be kept cool.

Electrification has been associated with substantial reduction in ARI for children in Gambia, Nepal, and higher birth weights in Guatemala. It is also associated with substantial reduction in burns and paraffin poisoning in South Africa.