

Housing
and
Health



Learning objectives:

1. Define human settlement and residential environment
2. Enumerate criteria for healthful housing
3. Describe housing standards with details
4. Define overcrowding and enumerate criteria of overcrowding
5. Describe health aspects of housing
6. Describe statistical indicators of housing conditions

Housing

- ✓ **Housing**, in modern concept, include not only the physical structure providing shelter, but also immediate surroundings, related community services and facilities
- ✓ **Human settlement:**
 - all places in which a group of people reside and pursue their life goals; the size of the settlement may vary from a single family to millions of people

Residential environment:

- ✓ The physical structure that man uses and the environs of the structure including all necessary services, facilities, equipment and devices needed or desired for the physical and mental health and the social well-being of the family and the individual.

Social goals of housing:

- ✓ **Shelter:** a sanitary shelter, a basic need
- ✓ **Family life:** adequate space for family life and related activities viz. preparation & storage of food, meeting, sleeping, individual activities and other basic activities. (affects productivity and stability)
- ✓ **Access to community facilities** such as health services, school, shopping areas etc.
- ✓ **Participation in community life**
- ✓ **Economic stability:** investment of personal saving.

Criteria for healthful housing:

- ✓ By an expert committee of WHO, similar to the basic principles of healthful housing by American Public Health Association:
- ✓ Provides physical protection and shelter;
- ✓ Provides space adequately for cooking, eating, washing and excretory functions;
- ✓ Is designed, constructed, maintained and used in a manner such as to prevent the spread of communicable diseases;

Criteria for healthful housing (Contd.)

- ✓ Provides protection from hazards of exposure to noise and other pollution;
- ✓ Is free from unsafe arrangements due to construction or maintenance & from toxic or harmful materials;
- ✓ Encourage personal and community development, promotes social relationships etc.

Overview of housing conditions in the world:

- ✓ Greatly improved in the affluent industrial nations
- ✓ Urban population will compose as much as 65% by 2025
- ✓ Many cities are already large

Overview of housing conditions in the world (Contd.)

- ✓ Urban dwellers in developing countries: terrible living conditions, crowded into peri-urban slums
- ✓ Often lack sanitation, clean water, access to health care and other basic services such as elementary education
- ✓ IMR $>$ 100 in many parts
- ✓ Abandoned children crime, antisocial activities

Overview of housing conditions in the world (Contd.)

- ✓ Worldwide, an estimated 100 million people are entirely homeless, living on the streets without possessions, often from infancy onward (due to growing rate of urbanization and population density in urban areas....)
- ✓ Proliferation of high-rise, high-density apartments
- ✓ New set of health problems: emotional tension (too close neighbor hood), inadequate play area for children, poor services, defective elevators, etc

Housing standards:

Aim:

Improvement of housing and environmental conditions for the majority of families within the limits set by available resources and objectives

Site

- ✓ elevated from its surroundings
- ✓ independent access to the street
- ✓ away from breeding places
- ✓ away from nuisances such as dust, smell, noise, traffic
- ✓ Should be in pleasing surroundings.
- ✓ soil should be dry and safe for founding any structure (made-soil) & well drained
- ✓ sub soil water should be below 10 feet

Set back

- ✓ There should be an open space all around the house for proper lighting and ventilation
- ✓ built up area:
 - ✓ rural – not more than one third
 - ✓ urban – up to two thirds

Floor

- ✓ Impermeable (mud floors not recommended)
- ✓ Smooth and free from cracks and crevices
- ✓ Damp proof
- ✓ Height of the plinth should be 2-3 ft.

Walls

- ✓ reasonably strong,
- ✓ low heat capacity i.e. should not absorb heat and conduct the same
- ✓ weather resistant
- ✓ unsuitable for harborage of rats and vermin
- ✓ not easily damaged
- ✓ Smooth
- ✓ These standards can be attained by 9 inch brick wall plastered smooth and coloured cream/ white

Roof

- ✓ height not less than 10 ft in the absence of air conditioning for comfort
- ✓ should have low heat transmittance coefficient

Rooms

- ✓ should not be less than two, at least one of which can be closed for the security purpose
- ✓ no. and area of rooms should be increased according to the size of the family

Floor area

- ✓ The floor area available in living rooms per person should not be less than 50 sq. ft., the optimum is 100 sq. ft.

Cubic space

- ✓ The height of rooms should be such as to give an air space of at least 500 c. ft. per capita, preferably 1000 c. ft.

Windows

- ✓ Every living room should be provided with at least two windows, and at least one of them should open directly on to an open space
- ✓ The window should be placed
 - ✓ at a height not more than 3 feet above the ground
 - ✓ window area should be $1/5^{\text{th}}$ of the floor area
 - ✓ doors and windows combined should have $2/5^{\text{th}}$ the floor area

Lighting:

- ✓ the day light factor should exceed 1% over half the floor area

Kitchen

- ✓ Separate
- ✓ protected against dust and smoke
- ✓ adequately lighted
- ✓ provided with arrangements for storing food, fuel and other provisions
- ✓ water supply and a sink with drainage
- ✓ impervious floor

- ✓ Privy: A sanitary privy is must in every house.
- ✓ Garbage and refuse: Should be removed from the dwellings at least daily and disposed of in a sanitary manner
- ✓ Bathing and washing
- ✓ Water supply: Safe and adequate water supply
- ✓ Fire safety

Rural housing

- ✓ “approved” standards may be lower than urban
- ✓ Minimum standards are as follows:
 1. At least 2 living rooms
 2. Ample verandah space
 3. Built-up area less than $1/3^{\text{rd}}$ of the total area
 4. Separate kitchen with sink or platform
 5. Sanitary latrine
 6. Window area at least 10% of floor area

Rural housing (Contd.)

- ✓ **Sanitary well or tube well within a quarter of a mile from the house**
- ✓ **Cattle sheds – at least 25 ft away from dwellings**
- ✓ **Adequate arrangement for the disposal of waste water, refuse and garbage**

Overcrowding

- ✓ The situation in which more people are living in a single dwelling than there is space for, so that movement is restricted, privacy secluded, hygiene, rest and sleep difficult.
- ✓ **Risks:-**
 - ✓ infectious diseases (high morbidity and mortality)
 - ✓ psychosocial: lack of sleep, irritability, frustration, anxiety, violence, psychosomatic and mental disorders

Criteria of overcrowding

1. Persons per room:

1 room	2 persons
2 rooms	3 persons
3 rooms	5 persons
4 rooms	7 persons
5 / more rooms	10 persons (additional 2 for each further room)

Criteria of overcrowding (Contd.)

2. Floor space:

110 sq. ft.	2 persons
90-110 sq. ft.	1.5 persons
70-90 sq. ft.	1 person
50-70 sq. ft.	0.5 person
< 50 sq. ft.	nil

- ✓ (infants are not counted; children between 1 to 10 years are counted as half a unit)

Criteria of overcrowding (Contd.)

3. Sex separation:

- ✓ Overcrowding is considered to exist if 2 persons over 9 years of age, not husband and wife, of opposite sexes are obliged to sleep in the same room

Health aspects

A strong relationship can be established between poor housing and the following conditions:

- ✓ Respiratory infections
- ✓ Skin infections
- ✓ Psychosocial effects
- ✓ Accidents
- ✓ Arthropod borne infections
- ✓ Rat infestation
- ✓ Morbidity and mortality

Statistical indicators of housing conditions:

1. Physical : floor space, cubic space, room height, persons per room, rooms per dwelling, environmental quality (e.g. air, light, water, noise, sewage, disposal etc.)
2. Economical: Cost of building, rental levels, taxes, expenditure on housing etc.
3. Social

Social indicators:

A. Indicators related to prevention of illness:

- ✓ Frequency of illnesses due to inadequate sewage & garbage collection
- ✓ Frequency of illness associated with contaminated water sources
- ✓ Frequency of water borne diseases
- ✓ Frequency of illness due to overcrowding
- ✓ Frequency of illness due to accidents
- ✓ Frequency of illness due to proximity to animals
- ✓ Access to medical facility

Social indicators (Contd.):

B. Indicators related to comfort

- ✓ Thermal comfort
- ✓ Acoustic comfort
- ✓ Visual comfort
- ✓ Spatial comfort

Social indicators (Contd.):

C. Indicators related to mental health and social well-being

- ✓ Frequency of suicides in the neighborhood,
- ✓ Neglected and abandoned youth in the neighborhood
- ✓ Drug abuse including alcohol in the neighborhood

Special housing needs:

Elderly and disabled: require accommodation that has been adopted

- ✓ to enable easier access (ramps, strong handrails, wide doors for wheelchairs)
- ✓ to facilitate storage and preparation of food (low placed cupboards and stoves with front fitted switches, which are inadvisable in houses having small children)
- ✓ special equipment for bathing and toileting: strong handrails and wheelchair access

Healthy communities / healthy cities initiative:

- ✓ Provision of improved recreational activities
- ✓ Services for children and their mothers including basic education even to the mothers
- ✓ Aggressive action to eradicate urban wasteland, industrial pollution, toxic dumpsites etc.

THANK YOU