



**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH  
TECHNOLOGY**  
**PLANNING AND DESIGNING OF RESIDENTIAL APARTMENTS AND IT'S  
PROBLEMS AT SHAHADA CITY**

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**ABSTRACT**

These days, as the expectation on the urban & rural environment is growing due to the economic development and the enhanced civil awareness and the concern of people about the life quality is increasing in the modern society, the function of house is changing from the simple residential function to the pursuit after the pleasantness of residential environment. Recently, many apartment complexes of high rise and high density have been built in good environment with a Good scenery. As a result, the desired dreams have change unstably and caused diverse quality problems in the residential environment such as the reduction of natural ventilation and the accumulation of pollutants. Therefore, it is necessary to design the residential complexes or the building development projects in the future in positive consideration of characteristics of surrounding areas in order not to interrupt the flow of different kind of issues. In this view point, these study is carried out for the purpose to analyze the required arrangement in change of modern period and to suggest the basic data for the design and planning of more healthy apartments and complexes in the future.

**KEYWORDS:** Residential, complex, Shahada,

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**INTRODUCTION**

Apartments are becoming an increasingly popular form of dwelling in urban areas. There are a number of reasons for this trend, including the impact of both the urban renewal measures promoted by this Department since 1986 and of the Residential Density Guidelines issued in 1999, as well as smaller average household sizes. The primary aim of these guidelines is to promote sustainable urban housing, by ensuring that the design and layout of new apartments will provide satisfactory accommodation for a variety of household types and sizes – including families with children - over the medium to long term. Planning is a noble but underappreciated profession. Planners help communities create their preferred future – good planning makes progress toward paradise while bad planning leaves a legacy of problems and disputes. Planners perform civilization's heavy lifting by anticipating and resolving community conflict.

**THEORETICAL BACKGROUND:**

Since 1960s, the economic growth and the continual industrialization have caused the populational concentration into the large cities in the capital region, and for the efficient use of land the apartment

complex came to be the typical residential type in Korea. Presently, most of apartment complexes in the city are packed with dense buildings and paved roads. These things hinder the inflow of cool and fresh air into the city and prevent the atmospheric circulation to accumulate the pollutant materials and finally to degrade the pleasantness of residential complexes. In this respect, as the methods to improve the pleasantness of residential complex in the city, the environmental-planning approaches can be draw out in two view points: first, the method to improve the heat environment of the region by reducing the artificial heats generated in the city; second, the method to improve the urban ventilation or circulation function degraded by the decrease of wind velocity or the increase of windless zones by using the wind corridor.

**PLANNING CONSIDERATIONS**

**A project has to be sustainable :**

Planning: An activity that involves the study of land facilities. In a long-range context, for the purpose of developing consensus and understanding of the issues for eventual design and implementation.

Design: An activity that involves preparation of plans and Specifications for construction or eventual Construction.

**Sustainability:**

“The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long-term benefits.” Thorough consideration should always be given to sustainability, especially the future of services and products for the beneficiaries. It also means planning the origin of the resources necessary to continue activities in the medium and long term, once the project has ended. When we say that projects must be sustainable, we refer to content, resource use, size, impact on the environment, and finance. The core elements of sustain-ability are:

**Social sustainability:** impact on working conditions, compliance with international labour standards, social protection, etc.

□ **Financial sustainability:** financing of follow-up activities, sources of revenue for all future operating and maintenance costs, etc .

□ **Institutional sustainability:** structures that allow the results of the action to continue. Consider local “ownership” of outcomes

□ **Environmental sustainability:** impact on the environment. Avoid negative effects on natural resources and on the broader environment.

The following are some of the basic considerations required during the construction planning process.

**1) Statutory Obligation**

**2) Contractual Obligation**

**3) Social Obligation**

**4) Site Characteristics**

**1) Statutory Obligation**

Statutory obligation would include the compliance with Building Regulation / Building Ordinance and Approved Plan. It is the duty of the main contractors to provide continuous Site Supervision and to notify Buildings Department any contravention of regulations that would result from carrying out the works shown in approved drawings. Asides from the above, this would also include the compliance of Chapter 123 Building Ordinance, Practice Notes for Registered Contractor, Authorized Person and Structural Engineer, Construction Site (Safety) Regulations, other rules / regulations from Buildings Department, Labour Department, Environmental Protection Department, Fire Services Department, Electrical and Mechanical Engineering Services Department, and etc.

**2) Contractual Obligation**

Contractual obligation is the commitment between the Contractor and the Employer in delivering the services as accordance to the terms and conditions as laid out in the contract documents. This would also include special terms and conditions required by the Employer together with design assumptions and requirements from the Architects and Engineers.

**3) Social obligation**

Social obligation involves the care of workers on site and neighbors or public outside site boundary. For the workers, we have to provide a safe working environment together with all necessary welfare facilities for all workers working on site and to ensure they are getting paid from the respective employers in a timely manner. In taking care of the neighborhood, it has always been the concerns of main contractors in minimizing nuisance and impacts to all nearby residents and pedestrians or road users during the course of construction. Besides the care of workers and neighborhood, sustainability is also one of the upcoming key issues in the construction industry. On the corporate side, it stresses on long-term growth and development. Whilst on the environmental aspect we need to look into new ways and methods in minimizing impact to the environment via noise management, energy management, materials and waste, and look into project life-cycle from design ideas throughout construction, operation and maintenance to decommissioning and renewal.

**4) Site Characteristics**

Every projects in Hong Kong are different and having its own characteristics in view of its own geographical location, nature of works, time of construction, people’s knowledge and skill-set. Construction planning is somehow tailor made to suit the site characteristics or constraints and is a one-off exercise, which is not fully applicable to other identical projects although the concept may be the same.

**PLANNING CONCEPTS**

**Viability Of Project**

**1. As per locality**

**2. As per Economy**

**1. As per locality**

This site should be situated at vapi - daman road one of the cream residential area of described dream. The prime education center should be available.

□ Hospital, Industry should be fully developed.

□ A very good Railway, state transport bus station and communication facility.

## 2. As per Economy

It is the dream of each families to reside in his own residential apartment but high cost of land & construction does not permit the dream with in the budget for middle class family.

### Principles of Planning:

□ To arrange all the units of a building on all floors and at level according to their functional requirements making best use of the space available for a building.

□ The shape of such a plan is governed by several factors such as a climatic conditions, site locations, accommodation requirements, local bye laws, surrounding environments, etc.

### Factors to be considered planning.

#### Aspect:

Aspect means peculiarity of the arrangement of doors and Windows in the external walls of a building which allows the occupants to enjoy the natural gifts such as sunshine, breeze, scenery, etc. Aspect is a very important consideration in planning as it provides not only comfort and good environment to the live in but from hygienic point of view also. From the above sun-diagram, it is clear that a kitchen should have an E-aspect, so that, the morning sun would refresh and purify the air and keep the kitchen cool during the remaining period of the day.

#### Prospect:

Prospect in its proper sense, is the impression that house is likely to make on person who looks at it from outside. Therefore, it includes the attainment of pleasing appearance by the use of natural beauties; disposition of doors and windows; and concealment of some undesirable views in a given out look.

#### Privacy:

Privacy is one of the important principles in the planning of buildings of all types in general and residential buildings in particular. Privacy requires considerations in two ways. Privacy of one of room from another. Privacy of all parts of a building from the neighbouring buildings, public streets and by-ways.

#### Grouping:

Grouping means the disposition of various room in the layout in a typical fashion so that all the functions and in proximity with each other. The objective of

grouping of the apartments is to maintain the sequence of their functions with least interference. For example, in a residential building, dining room must be close to the kitchen; at the same time kitchen should be away from the drawing or the main living room, otherwise kitchen smells and smoke would detract them for their usefulness.

#### Roominess:

Roominess refers to the effect produced by deriving the maximum benefit from the minimum dimensions of a room. In other words, it is the accomplishment of economy my space at the same time avoiding cramping of the plan. It is essential particularly in case of residential buildings where large storage space is required, to make maximum use of every nook and corner of built up area of the building before making an addition to the plinth area.

#### Furniture requirements:

The functional requirement of a room or an apartment governs the furniture requirements. This is an important consideration in planning of buildings other than residential in particular and residential in general. In case of residential buildings, a room whether intended for bad room or kitchen or drawing room, the architect likely to be accommodated , so that the doors, windows, and circulation space do not prevent from placing of sufficient number of pieces.

#### Sanitation:

Sanitation consists of providing sample light, ventilation, facilities for cleaning and sanitary conveniences in the following manner:

##### a) Light:

Light has two fold significance, firstly it illuminates and secondly from hygienic point of view. Light in interior buildings may be provided by natural or artificial lighting. Glare in light distracts and disables the vision and hence the source of glare may be avoided. Generally, the minimum windows area fir proper lighting should not be less than 1/10th of floor area.

##### b) Ventilation:

It is the supply of outside air either positive ventilation or by infiltration into the buildings. Good ventilation is an important factor conducive to comfort in buildings. The poor ventilation or lack of fresh air inability to fix attention, etc.

#### Flexibility:

Flexibility means planning a room or rooms in such a way, which thought.

**Circulation:**

Circulation means internal “thoroughfares” or the movement space provided on the same floor either between the rooms or within the room called horizontal circulation and between the different floors through stairs or lifts called vertical circulation. Passages, corridors, halls and lobbies serve the purpose of horizontal circulation, where as far vertical circulation normally stair or staircase, electric lifts, ramps etc. Are the means of access the different floors.

**Elegance:**

Elegance is the effect produce by the elevation and general layout of the plan. The elevation, therefore, should speak out the internal facts and be indicative of the character. Elevation should be impressive and should be developed together with the plan simultaneously.

**Economy:**

The economy may not be a principle of planning but it is certainly a factor, which effects planning the economy may restricts the liberties of the architect and may also require certain alteration and omission in the original plan. The economy should not have any bad effect on grouping or aspect, however the prospect at the most to some extend can be sacrificed if need be. Economy should not have any evil effect on the utilities and safety of the structure.

**SITE SELECTION & REQUIREMENTS**

Shahada city (M.S) is composed of 3-4 lakhs & all of them think for a good facility houses based on economy. The type of Residential Apartment being finalized is based on surveyed data from local crowd of Shahada city about their requirements & it is Studio type & Garden Apartment. It is planned in 40000 sq.ft.s. Selection of plot is very important for buildings a house. Site should be in good place where there community but service is convenient but not so closed that becomes a source of inconvenience or noisy. The conventional transportation is important not only because of present need but for retention of property value in future closely related to are transportation, shopping, facilities also necessary. One should observe the road condition whether there is indication of future development or not in case of un developed area.

*Studio Apartment:*

Apartment can be classified into several types.

- These all tend to be the smallest apartments with the cheapest rents in a given area.
- This kind of apartment usually consists mainly of a large room which is the living, dining and bed room combined.
- There are usually kitchen facilities as part of this central room, but the bathroom is a separate, smaller room.



*Figure 1: Studio Apartment*

- Large apartments often have two entrances, perhaps a door in the front and another in the back.

*Garden Apartment:*

A garden apartment complex consists of low rise apartment buildings built with the landscaped grounds surrounding them.

- The apartment buildings are often arranged around courtyards that are open at one end.
- A garden apartment has some characteristics of a town house.
- Each apartment has its own building entrance, or just a few apartments share a small foyer or stairwell at each building entrance.
- Another definition of “garden apartment” is a unit build half below grade or at ground level.



Figure 2: Garden Apartment

□ The implication is that there is a view of direct access to a garden from the apartment.

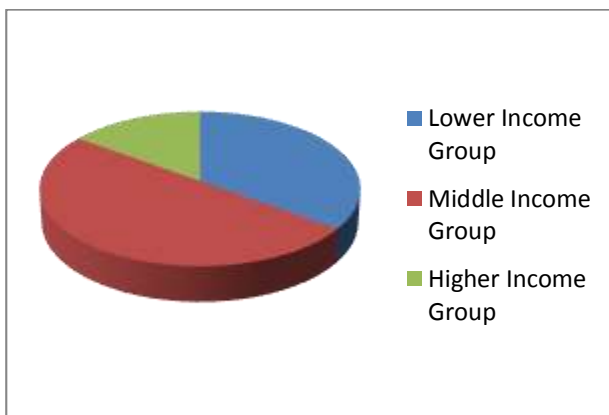


Figure 3: Pie chart showing different income group

### CONCLUSION

In Shahada city, it is desirable to plan both type of apartments depending on the above pie charts. In this study, the influence of apartment development on the wind circulation was estimated for good circulation of fresh air. As an analysis result of simulation experiment, the pointed layout of tower type buildings in the apartment, complex design and the application of surface greening technique are effective for generation and circulation of winds. Therefore, if the wind corridor is considered in the future planning of apartment complexes, it seems to contribute to enhancing the pleasantness of residential environment widely in the dimension of city planning and narrowly in the dimension of complex or architectural planning. Finally, this study has limits that it reflects only the summer characteristics and that only few planning elements

were applied and other diverse variables were ignored. Therefore, in the future it seems desirable to search the wind corridor while considering the diverse control elements and all four seasons.

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### Author Bibliography

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