



STUDY AND DESIGN OF DUAL UTILITY SPACE: STUDIO APARTMENT IN INDIAN CONTEXT

***Dr. Pooja M. Pathak, Ms. Vanshika Nahata**

**Associate Professor, Department of Interior Design, L. A. D. and Smt. R. P. College for Women, Nagpur
Interior Designer, Nagpur*

Article DOI: <https://doi.org/10.36713/epra11068>

DOI No: 10.36713/epra11068

ABSTRACT

A multi-functional space can be described as a true integration of different functions in time and space. Indian cities face problems with continuous population growth, while human needs remain the same or increase. Urbanization growth and marketing prices force citizens to adapt themselves in smaller space. Compact living has always been proclaimed as a way of the future, but the future is now here and the cities are plagued by inadequate, uninviting city- living environments. The need of urban single - person households can be rectified by the introduction of studio apartments.

The paper focuses on the three features as study of studio apartment, dual utility space and multifunctional furniture in Indian context. The aim and objectives of the study is to understand the scope of dual utility in small spaces like studio apartment with the help multifunctional furniture. The methodology of the study involves collection of primary and secondary data, primary data mainly focusing on the selection of two case studies in metro cities of India. Primary data deals with the relevance of standards and literature review. The study is concluded by designing a live space conceptualizing a studio apartment as a dual utility space and multifunctional furniture. Multifunctional space/multifunctional furniture forming space ,the chosen topic defines in this case is multipurpose usage of a particular area with different forms of multifunctional furniture used ,to justify or help the given area to achieve the purpose of ease and satisfy the demands required to be fulfilled.

KEY WORDS: *India, Urbanization, Dual utility, Multifunctional, Compact*

1. INTRODUCTION

In India majority of population is living in small apartments this is mostly because of their affordability as well as the lack of space availability for living. Most societies are struggling with the growing population and urbanization, due to more desire for housing in the cities that lead to the appearance of small apartments (Urist & Beriot, <http://TuEngr.com> Page 2 2013). The definition of what constitutes a small apartment has changed. Almost 20 years ago a small apartment needed a floor space of about 70 square meters. Today we have some apartments with a floor space of 20-30 square meters (Kilman, 2016). Though the spaces have become compact the human needs are still the same or greater than before. This has resulted in to multifunctional usage of space. Multifunctional furniture solutions give full advantage of these reduced spaces while still achieving greater comfort, usability, and order in these spaces. Multifunctional furniture as a flexible method can increase space sustainability and improve the quality of living by serving several functions at once. These types of flexible furniture can balance spaces in terms of beauty and efficiency. The main goal of this study is to investigate the impacts of multifunctional

furniture on the space efficiency of small apartments to improve human well-being taking an example of Studio Apartment.

1.1 Studio Apartment

Studio apartments, also known as a bachelor-style apartment, efficiency apartment or a studio flat are small and self-contained. A studio apartment is a small apartment which contains a bedroom, kitchen, and living area in a single room. A studio apartment typically consists of one large room that serves as the combined living, dining, and bedroom. This concept is popular among single individuals such as students and working professionals living away from home. Sometimes, even couples looking for an affordable place to live in temporarily, might opt for studio apartments.

1.2 Dual Utility Space

A dual utility space can be described as a true integration of different functions in time and space. Dual utility spaces are designed in order to satisfy different demands at less area. Also in contemporary era, inner city congestion is an increased



problem and the preference of dual utility spaces is an ideal approach in order to improve the situation.

With the increase in population, rise in birth rates, better medical facilities and reduction in death rate has led to overcrowding in urban areas leading to less space for every individual. With the reduction of per person space and increase in number of human activities, dual utility space is the only solution to accommodate multiple activities in smaller spaces. Dual utility is not only about saving space but to increase to the level of convenience and comfort for the user. It not only takes up small spaces but also helps in performing various functions in a given space which leads to reduction in movement thereby less energy consumption which eventually leads to more productivity in other aspects. Various combinations of dual utility spaces are Home office and residence, dining and Kitchen, storage and Study and Bedroom and Study.

1.3 Multifunctional Furniture

Furniture may be a necessity and not a luxury, everybody needs it. Furniture covers about 50 per cent of usual floor space (Kandalkar, 2020). Hence, to preserve human well-being, living during a small space therefore requires smart and space-saving furniture solutions (Kandalkar, 2020). Multifunctional furniture bolsters the “less is more” attitude of the tiny-house and minimalist movements. Multifunctional furniture is space-saving furniture that can serve more than one function. There are many types of multifunctional furniture for living areas including space-saving beds and tables as they have more functional properties than other multipurpose furniture because they are among the most-frequently-used piece of furniture (Husein, 2020). Multifunctional furniture is a revolution for furniture design as their designs do not only make them a smart solution for small spaces but also make them look more pleasing aesthetically. It is an approach to space sustainability that, at the same time, serves all kinds of functions. Multifunctional furniture denotes pieces of furniture that adjust with different applications by transforming spatial relationships of their pieces. Multifunctional items like foldable, stackable, and transformable furniture are great solutions for maximizing small spaces. Figure 1 depicts multipurpose furniture that can work as a table, chair, bookshelf, and a wardrobe at the same time. Figure 2 depicts a regular space saving bed might be a shelf, desk, or combined bed and desk, in which the desk portion is capable of being transformed into a bed.



Figure 1 Multipurpose Table



Figure 2 Multipurpose Bed

1.4 Aim

To study and design dual utility small spaces like studio apartment with application of multifunctional furniture.

1.5 Objectives

- To function multiple activities in restrictive spaces.
- To study multifunctional furniture that can transform a living space based on the needs and time of the day.
- To understand various mechanisms of multifunctional furniture.

2. METHODS

The method adopted here is collection of secondary data and Literature review, primary data in the form of case studies as one of Indian origin and other of International category. Based on the comparative analysis a design programme is framed. A site is selected for final design with site analysis, conceptual analysis, functional correlation and final design. The site selected is existing Studio apartment in a metro city considering a hypothetical case of family structure and profession. Design output involves the features of dual utility space and multifunctional furniture.

2.1 Case Study 1

The case study 1, Figure 3 is selected from Bandra, Mumbai, India with an area of 470.00 Sq. Ft. owned by K.V. Bala, Chairman, BVK group, his second home. It needed to be a self-sufficient, comfortable apartment that he could use on his frequent business trips to the city. The architects, kept the 470-square-foot linear space as open as possible. The brief was to



create a stylish, modern space that was minimal in decor but high on function. Mainly the false ceiling, small windows and unnecessary walls were removed. The activities included are Living area sharing Space with kitchenette, a bedroom and a toilet. A small study / TV room which gets converted in to a guest room is at other corner. The doors are folding and furniture multifunctional for better spatial quality. Each room changes seamlessly to accommodate various needs.

2.2 Case Study 2

Figure 4 showcases Hong Kong designer Gary Chang sets us a good example- he innovated his apartment into a space that could be transformed into 24 different rooms. His key to success is movable wall, space dividers and foldable furniture. He used this space as his experiment studio and started to customize all the components, from the wall construction to curtain setting. This apartment space is a simple rectangle, but after the renovation, it gets divided into a lot of sections that maintain varieties of function- kitchen, spa area, bedtime space and dining room. This apartment got renovated for four times in total and finally got 24 different layouts. There are 13 tracks hiding in between the architecture substantive ceiling and a mirror ceiling to hold all the movable walls

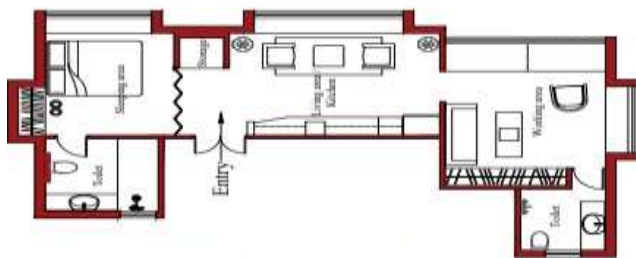


Figure 3 Case Study 1



Figure 4 Case studies 2

with truckles. The mirror ceiling not only effectively covers the busy tracks on the top, but also extends the top space and visually enlarges the room.

3. PROPOSED DESIGN



Figure 5 Proposed Site

The proposed site is a small apartment in L&T Realty Raintree Boulevard, Bangalore, India, Figure 5. The site is close to the user’s office which makes it more convenient. The site is located in a residential building in a commercial area making allessential service easier to access. L&T Realty Raintree Boulevard is a 65-acre mixed-use development centered on the philosophy of Live, Work, and Play. Located in the serene locales of Hebbel, the project offers its residents luxury flats in Bangalore, with the opportunity to live a well-rounded life together with seamless connectivity to the city, as the airport is only a stone's throw away. The presence of many IT parks in and around the area like the Manyata Tech Park, Brigade Magnum add to its attractiveness. Some of the offices nearby include Coca Cola, ABB, IBM, HP, Cognizant and more. Bangalore has a tropical savanna climate with distinct wet and dry seasons. Due to its high elevation, Bangalore usually enjoys a more moderate climate throughout the year. Bangalore receives rainfall from both the northeast and the southwest monsoons and the wettest months are September, October and August, in that order. Among these 17 towers one of the towers is named as "MERAKI TOWER". L&T Meraki Tower is offering fully furnished Studio Apartments.

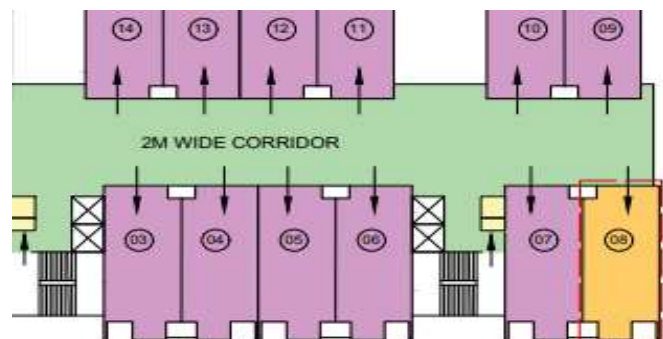


Figure 6 Plan Meraki Tower



The front elevation of building is facing north west and the flat is situated on the rear of the building with the balcony facing south east that's why it get more sunlight, Figure 6.

3.1 Design Program

The space is used by a chartered accountant and his wife in a new town. He is working as an Audit Manager at Avalinte and associates. The users are two in number as Husband and wife. The age group of the users is 23 years to 25 years. Both are Chartered Accountants by profession. User’s needs: A work friendly space with proper levels of illumination, a working desk with a comfortable chair, along with space for laptop and stationery items. The client needed a well-equipped sleeping space with wardrobe and dresser along with a kitchen and a seating area in the balcony.

3.2 Space Requirements

The total area of the apartment is 32 Sq.M. (Carpet area). The apartment is rectangular in shape. Entrance is on the shorter side. The Total height of the apartment is 3.0 meters.

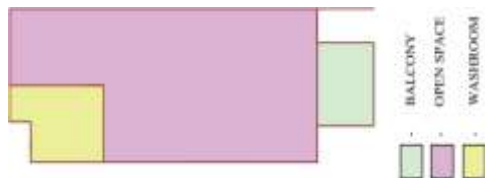


Figure 7 Plan of Apartment

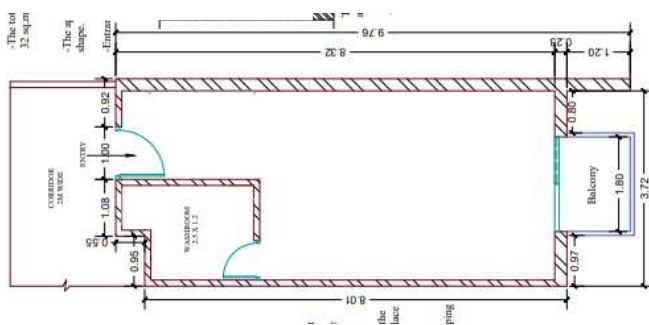


Figure 8 Measured Plan of Apartment

The design concept is ‘Minimalism’. Minimalist interior design is very similar to modern interior design and involves using the bare essentials to create a simple and uncluttered space. It’s characterized by simplicity, clean lines, and a monochromatic palette with color used as an accent. It usually combines open floor plan, sufficient light, and functional furniture, and it focuses on the shape, color and texture of just a handful of essential elements. “Less is more,” defines the essence of minimalist design. Minimalism is “a style in art, design, and theatre that uses the smallest range of materials and colors possible, and only very simple shapes or forms”. Multifunctionality is a key feature of minimalism. Multifunctional

furniture can be incorporated in design as it facilities more than one activity using a singular structure. Sleek furniture is used as it makes the space look larger and is easy to fold and store or convert into furniture as multifunctional furniture.

3.3 Design Proposal

A couch with side table and storage is provided at the entrance as creating a welcoming space which also acts like an official meeting area for the CA separated by the rest of the space by a curtain closure. The table and working space is provided on the other side of the curtain to connect the working area with the meeting area at the entrance. The work area can then be converted into sleeping area and the bed being closer to the entrance also acts as a security aspect for the user. The T.V unit is placed opposite to the bed to making watching T.V convenient.

Along with the T.V unit the wardrobe is attached which being close to the washroom makes it easier to use. The T.V unit can be converted into dining area opposite to the work area for maximum comfort in use. A sofa cum bed is provided besides the T.V separated by a partition. The sofa cum bed acts as a rest space while in the working setting arrangement.

The kitchen is provided opposite to the sofa with a two side storage acting as a partition between work area and kitchen maintaining maximum privacy and giving clean space appearance, Figure 9.

3.4. Activities

Table 1

Day time activities	Evening /Night time activities
Converting sofa in to sofa cum bed	Watching T.V.
Converting console into Dining table	Converting Console in to Dining Table
Getting ready, Wardrobe and Dresser	Cooking: Kitchen
Cooking: Kitchen	Winding up work area: Storage
Converting sofa cum bed in to sofa	Converting sofa in to sofa cum bed
Getting ready: Wardrobe and dresser	Cooking: Kitchen
Washroom	Seating: Balcony



Figure 9 Day time and night time plan

4. <http://www.architecture-student.com/tag/concept-of-studio-apartment/>
5. (Husein, 2020)
6. Husein, H. A. (2020). Multifunctional Furniture as a Smart Solution for small spaces for the case of Zaniary Towers Apartments in Erbil city, Iraq. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 1-11.
7. <https://www.studioosmosis.com/project/minimalistic-space-saving-home>

4. CONCLUSION

With the population rising at a constant level and limited resources, Studio apartments are the future of accommodation in metropolitan cities. Studio Apartment not only solve the problem of space division but help use the space in the best possible manner, thereby letting a user perform multiple activities within a given spaces. Studio apartment is an ideal space for students moving out of town to study, for Youngers working away from home and for small families. Small spaces are not only the future but also time saving and economical, with minimal maintenance charges, easier to clean, etc. Multifunctional furniture and small spaces go hand in hand as both promote less wastage of space and more usability. Multifunctional furniture like studio apartments takes less space and enables dual functionality. Multifunctional furniture are not only dual purpose but easy to maintain and use and are made taking user's convenience and comfort into consideration Hence multifunctional furniture and small space living such as studio apartment is an ideal combination.

5. REFERENCES

1. Urist, J., and Beriot, B. (2013). *The Health Risks of Small Apartments*. The Atlantic.
2. Kilman, C. (2016). *Small House, Big Impact: The Effect of Tiny Houses on Community and Environment*. *Journal of Humanistic Studies*, 2, pp. 1-12
3. Kandalkar, P. (2020). *APPROACH TOWARDS DESIGN SMALL SPACES USING*. Kolhapur: Aradhya International Publication.