

INTRODUCTION



CHAPTER – I

INTRODUCTION

“Humans strive to make a home, a nest, a place for their family and themselves to retreat, nourish, rejuvenate, flourish, and grow.” - (Snell, 2017)

A house is a place where we all aspire to cherish quality time with our family. It is believed that a house functions as a home, where one spends most of the life-creating memorable moments with friends and family. With the rapid increase in world population, there has been a surge in the demand for housing space. As more and more individuals are in search of affordable and multipurpose space, it becomes even more important to design a house with a relaxing, pleasant, and aesthetically appealing interior (Husein, 2021). Today’s society is affected by urbanization, which is resulting in an increased demand for housing in the cities, leading to higher marketing prices and smaller apartments. There is a rise in the number of people struggling in present societies due to the increased population and urbanization. More people are drawn towards living in cities, which causes a rise in the number of small spaces (Urist, 2013).

According to Coop, and Lagos, 2018, making a home is a personal choice, which includes finding joy and comfort in life’s pleasures and incorporating simple things. Embracing the tiniest spot, creating delightful rooms, and incorporating unique charm through individual preferences create a meaningful home.

“Furniture is precious to its owners if it has more than one purpose in the household.”

- (Sexton, 2014)

Furniture makes the home a functional place. A well-chosen piece of furniture adds detail to the place. (Bailey and Bailey, 2009). According to Doshi, 2019; people living in a small houses face various difficulties such as the lack of clearance space, unorganized furniture arrangements, lack of storage space, improper selection of size-wise furniture which could make the room look smaller, the colour of the walls can also make the house look unpleasant, and low ceiling gives an illusion of shorter and bulkier room. Thus, to utilize the space available in the most beautiful way and with the least possible error, proper guidance is of utmost importance. This could be done with the

help of interior designers, space planners, decorators, or any other designers associated with residential spaces.

When the size of the space is small, there is an insistence on the homeowner to use the space wisely. Effective space planning helps to maximize the amount of available space, it also embraces elements such as principles of space planning, application of principles of design in the context of elements of art, appropriate furniture placement, and placement of doors, windows, light, and ventilation. The most important element of designing a small space is furniture because one needs furniture to accomplish the necessities and needs of the dwellers such as storing, sitting, sleeping, and relaxing. Along with adding comfort to the space, it also helps in overwhelming the space by improving the overall aesthetics of the interior. The need of today is to design an adequate house that is the perfect blend of simplicity and logic, especially when the area is small.

1.1 Space scarcity in India:

According to the Indian population density report in India at glance, 2021, the ratio of people to land is 434.38 people per square km. The data on the website of the Government of India shows India has a land of 3.3 million square km (which includes all the geographical latitudes and has a 1.366 billion population which brings it to 0.12 hectares land per person¹ and an individual needs around 5 to 6 acres land to survive (that is 2 to 3 hectars), but an individual not even has 1/4th of what an individual needs. Through this, a broad calculation of what an individual has in a whole country can be achieved (Swanson, 2021). Though the population is increasing India's annual growth rate is unable to meet in line with it, resulting in a huge imbalance in population, growth rate, and availability of space. This imbalance has given rise to small houses, consisting of a greater number of family members, as a result space management has become one of the important aspects in current times. There are different pros and cons of having a small space. If the number of members residing in the house is less, it becomes easy to design the space as compared to when more people are residing in a small house, sharing rooms and spaces; it becomes a challenge to accommodate everyone's needs. In addition, designing for limited spaces allows designers to establish parameters for their interior designs.

With the help of an interior designer's skills and creativity, small spaces can be effectively managed in several innovative ways. In a well-planned setting, space is utilized brilliantly just as in the modern-day trend of minimalism, where every tiny space is utilized, and yet the entire setting, no matter how big or small looks meticulously clean and sophisticated but still has that element of luxury. The room's needs and functions should be taken into consideration while dealing with the most challenging areas of the house. An exceptional skill of imagination and a sense of composition helps to enhance the quality of work with new fresh ideas and test the knowledge about the space allowance. Thus, utilizing the space available in the most elegant way and with the least possible error is important.

1.2 Small space houses:

Since ancient times, people have been living in small apartments, in a continent like Asia. Living in small space houses is an age-old phenomenon (Post, 2014). This is especially because of the high population in the big cities (Thøgersen, 2019). Division of space can be done visually, by dividing spaces through furniture design, dividing space through different types of design options creating an illusion of space through the application of different floor, wall, and ceiling finishes. Partitioning a small space is, in general, more useful if it is not divided into too many small rooms. Space-saving furniture depicts versatility. There are generally space-sparing gadgets planned for people living in little spaces and homes, which are quite expensive. People living in small spaces or homes, have a very little part of their income to spend on designing space using multipurpose furniture (Levin, 2022). Thus, the readily available furniture might be useful for such residents, provided it should be cost-effective, and fit their needs and space. As furniture plays a vital role in designing an interior space, it is of utmost importance to design furniture according to our needs and budget.

Furniture comes in various shapes, sizes, materials, and finishes. Depending on the function and purpose one can make choices. The size and scale of the furniture are important factors of function and practicality, e.g., the height and depth of a sofa can determine how comfortable it feels. Since furniture is a necessity and not a luxury, everybody needs it. Furniture is generally taking almost 50 percent of normal floor space. Therefore, living in a small space requires smart and space-

saving furniture solutions to maintain the balance between available and used space (Thøgersen, 2019).

Professional designers always begin a project by analysing the space they are working with. Furniture as a part of interior design creates rhythm and calls attention to a space. Designing a piece of furniture to comply with a multitude of needs in a home is essential (Dorsey, 2020). So, working with furniture design is one of the most important aspects of space planning in interior design.

Designing good furniture talks about designing aesthetically beautiful furniture, pleasing the users. Apart from that the other important factor considered in designing is, the furniture should offer good comfort and functional features to the user while taking as little space as possible. Consideration of design mechanisms, and ergonomics, are also some of the important aspects which are needed to be considered during the design of any furniture item (Salazar and Sáez, 2014).

1.3 Furniture:

According to Mastroeni, 2022

“Furniture defines a function, dictates the flow of movement, balances visual weight, and shows personal style”.

(Mastroeni, 2022)

Furniture is a necessity and the most crucial part of interior space. It makes the space functional and lively. Ankita, 2018, has stated the importance of furniture in designing and styling a house which includes enhancing the look of the space through furniture design, and making the space well-equipped which provides warmth in the house. Furniture is the source of endless utility and comfort, adding visual weight, and providing a balanced view of the entire space. Furniture transforms an empty built structure into a complete house. It defines areas by dividing the space along with taking care of the easy movement and circulation space for the users. Designing furniture in groups also sometimes decides the flow of people in the various parts of the house (Ankita, 2018). Similar lines to what Ankita suggested, Simpson, 2016 also discusses the importance of furniture design, which states, one cannot achieve a complete look of the home without making the

right use of furniture. She describes that furniture completes the look of the house, defining the flow of movement formed due to the placement of the furniture (Simpson, 2016). It can be said that furniture is not just an object but a fundamental part of the design element as no room can accomplish its function, without the furniture which is needed to be designed in it. For example, the living room needs a sofa and TV unit which defines that room as a living room. Without that furniture, it would be just a room or a corner of space. Further, each piece of furniture has a specific utility associated with it, like a couch that could be used to sit and rest. There are different sorts of furniture, and each has its unique utility as some are designed to anticipate holding objects at an accommodating stature for work with level surfaces over the ground, such as tables and work zones. On the other hand, another furniture is designed to store objects, such as cabinets and racks. Some are designed to relax such as beds and couches. Each piece of furniture has its purpose for which it is designed, it can be a creation of the arrangement or can be designed considering the function of the place in which it is designed (Binag and Caranguian, 2015).

According to Eckelman, 2003, it is correctly explained that,

“Furniture is one of man's most prized possessions. He sits on it, sleeps on it, eats on it, and perhaps most importantly, puts his most valuable belongings into it.”

- (Eckelman, 2003)

Postell, 2012, agrees with Eckelman, 2003 and adds, “Furniture is the movable articles that are used to make a room or building suitable for living or working in, such as tables, chairs, or desks. Furniture is also the small accessories or fittings that are required for a particular task or function” (Postell, 2012). Thus, furniture is a functional product, having single or multiple utilities, as well as an accessory serving the aesthetic need of the space. According to Bull, 1961, one large area of colour is often overlooked while deciding the colour scheme, which includes the tones of wood in tables, exposed chair frames, and other furniture pieces. The author also talks about creating comfort in furniture arrangement, through four solutions namely, establishing a focal point of interest, discovering traffic lanes, considering scale and balance, and planning room for multiple uses. (Bull, 1961).

1.4 Furniture materials

The most important thing in designing furniture is its material. There are many furniture materials available in today's market; selecting appropriate materials to design multipurpose furniture considering its cost is very crucial. The material should be selected considering its durability, resistance, and strength along with price, and affordability by the end-users. Various factors based on which one decides on the appropriate material for the furniture includes the location for which the furniture is designed, the period or era for which the furniture is designed if one wants to design a piece of furniture according to a particular theme or conceptualized with traditional, modern or contemporary design. Material selection also depends on the number of hours for which the furniture is going to be used and, the number of people by whom the furniture is going to be used. Thus, before selecting the material for the furniture, it is important to assess the space conditions for which the furniture is to be designed.

There are a variety of materials available in today's global market where transportation is playing a major role and products are made available across the globe (Estonia, 2017). There are multiple options for furniture materials for residential spaces, which include different kinds of natural and engineered woods like cedar, cherry, chestnut, chipboard, mahogany, maple, medium-density fibreboard (MDF), oak, pine plywood, redwood, rosewood, spruce, teak, and walnut. Apart from those other materials like steel, plastic, iron, and glass can also be used either in combination with some material or individually.²

1.5 Multipurpose furniture or transformable space-saving furniture:

Multifunctional furniture goes by several names: multipurpose furniture, space-saving furniture, and transformable furniture. As the name suggests, the basic idea of multifunctional furniture is to perform more than one function (Thøgersen, 2019). Numerous variables are required to be considered for planning multipurpose, space-saving, or transformable space-saving furniture. The plan of the furniture should be based on the concept of its visual appearance and use (Astonkar and Kherde, 2015)

According to Wang, transformable space-saving furniture which uses less space and provides dual functions is also called dual-function furniture. Large cities have many things in common like a huge population, the economic imbalance between the rich

and poor, and many small space apartments. This provides the scope for developing space-saving furniture. Transformable or space-saving furniture is furniture that is designed considering at least two forms in terms of appearance and function; a simple example of this is a sofa cum bed, which saves the owners space, and money. It also adds to aesthetics as the floor space occupied by the sofa cum bed is less as compared to two separate pieces of furniture namely sofa and bed (Wang, 2013).

The basic problems faced by the homeowners of small space houses are scarcity of space, lack of clearance, and floor space, which imposes designers to utilize whatever is there with thoughtfulness and utmost care. Designing multipurpose furniture can help in the efficient designing of small spaces, as the basic problem of the scarcity of space can be addressed by designing a single piece of furniture that accomplishes more than one purpose. A need was felt to design multipurpose furniture for small spaces, especially for residential areas, which will help address the issue of space scarcity.

JUSTIFICATION

The housing sector has a noteworthy imbalance in our country. This includes all different people living in luxurious villas, farmhouses, and grand mansions, as well as the ones living in townhouses, row houses, flats, slum houses, tenements, and many more. Few have all the luxuries in their house while few strive hard to have a functional house. People living in townhouses, row houses, flats, and tenements majorly face the issue of small space in their residences. Space is a scarce resource, which is creating a challenge for space planners, designers, architects, construction engineers, as well as city planners to provide a functional house in a limited space for the individuals of the country so that they can decide to opt for an affordable, useful, and convenient option. Using advanced technology and making optimum utilization of space are a few important ways to achieve the overall goal of effective space planning. The migration of people is leading to a space crunch, especially in big cities, which is forcing people to reside in small houses where space is less. Scarcity of space enforces the utilization of the available resource, in an optimum manner and makes wise usage of available space. It can be done by designing space-saving furniture, multipurpose furniture, and foldable furniture. Various international brands are selling such furniture items, but designing it in a customized way, considering the needs of people residing in small houses is very important. To design such furniture there are many material options available in the market with different peculiarities and benefits. Selecting the proper

material according to the climatic conditions in which the furniture is to be used, and the amount of care and maintenance involved in its upkeep is a challenge faced by most individuals.

Space scarcity is affecting the real estate market, making housing expensive with the time. On the other hand, most people don't have enough purchasing power to afford those houses. Increased prices of goods and commodities and low wage rates act as an obstruction to fulfilling one's dream of owning a residential unit. Migration, lack of purchasing power, and increased real estate prices are a few key factors, leading to space scarcity, which is forcing people to reside in small houses where space is less. One can overcome the issue of space scarcity by designing multipurpose furniture. Space-saving furniture helps an individual to achieve multiple goals through one piece of furniture. It saves resources like labour engaged in constructing multiple pieces of furniture, the material cost involved in purchasing raw materials for building individual pieces of furniture, and saves time involved in the construction of each piece of furniture. Ultimately saving the overall man-machine energy involved in the construction of the furniture. Apart from this, multipurpose furniture occupies less floor space in comparison with individual furniture items. There is a need to design space-saving furniture, for all possible areas of residential as well as commercial units. This also helps create energy-efficient spaces, as the same space would be used for multiple activities and ultimately lower the biological footprint. One of the advantages of multipurpose furniture is also a reduction in maintenance costs and energy.

Several studies conducted in India focused on furniture types and the satisfaction experienced by the users, related to furniture design, designing study tables for hostel girls, design development of residential units, bank interiors, preschool furniture, and children's room furniture. Few researches were conducted on lighting design for residential, electrical design for schools, theme-based restaurant design, ergonomic assessment of existing furniture design, design development of space-saving ergonomic furniture were also undertaken. Thus, the literature collected by the researcher highlighted various studies focusing on furniture design, furniture analysis, commercial furniture design, material survey, residential and commercial space planning, and designing, and space optimization, but a dearth of studies on multipurpose furniture with different material options for small space houses in Indian location; motivated the researcher to take this less explored area.

The researcher aimed to design multipurpose furniture for small spaces, with the use of a variety of interior materials. The researcher was interested in identifying the problems experienced by homeowners of small houses, related to furniture concerning the foyer, living room, kitchen, dining, bedroom, bathroom, and other areas of the residence. Considering all this, the present study focused on designing multipurpose furniture for small spaces using a combination of furniture materials, according to the requirements of the people and the problems faced by the respondents residing in small houses.

This research is going to be beneficial to the students of the Department of Family and Community Resource Management, as Interior design is one of the specializations offered at the Graduate and Post Graduate level. It will also be beneficial to the students of the Post Graduate Diploma in Hotel Interiors and higher payment program offered in Interior Design specialization. It would also be helpful to professional Architects and Interior Designers for the development of multipurpose furniture in their projects.

The central thought of this research was to identify the problems faced by the residents of the small space houses related to furniture and design of multipurpose furniture, especially for small space houses of Vadodara city, with different material options, and different price ranges. The Multipurpose furniture was conceptualized, sketched, and then designed with the help of AutoCAD 2022 and Google 3D SketchUp 2022. The research also aimed at educating the homeowners of the small spaces regarding the importance of multipurpose furniture along with sharing designs of the proposed furniture options with the respondents of the study and the homeowners of small spaces. An intervention program was also conducted to enhance the knowledge of residents of small space houses regarding the use of multipurpose furniture. The catalogue designed by the researcher was shared with the beneficiaries of the intervention program which consisted of proposed designs of multipurpose furniture. The catalogue was designed to provide multipurpose furniture options along with material specification options which could be used as a ready reference by the residents of small houses to help solve their furniture-related problems.

STATEMENT OF PROBLEM

The present research aimed to design multi-purpose furniture for small spaces using a combination of Interior materials.

OBJECTIVES

1. To identify the extent of problems faced by the homeowners residing in small houses.
2. To propose designs of multi-purpose furniture using a combination of Interior materials for small houses.
3. To develop a catalogue of proposed multipurpose furniture with detailed specifications of its construction, materials, and cost.
4. To conduct an intervention program for homeowners to enhance their knowledge regarding multi-purpose furniture, its use, and its benefits in the interiors of small houses.

DELIMITATIONS OF THE STUDY

1. The study was limited to 270 respondents living in small houses in Vadodara city.
2. The built-up area of the respondent's residence considered for research was limited to 600 sq. ft.