

# APPENDICES



**APPENDIX 1**  
**QUESTIONNAIRE**

**Section I: Demographic Profile of the respondents**

Kindly provide the following information and Put a Tick (✓) in the box, with the most appropriate answer applicable to you and your family.

1. **Name** : \_\_\_\_\_
2. **Address:** : \_\_\_\_\_
3. **Phone Number** : \_\_\_\_\_
4. **Email ID** : \_\_\_\_\_
5. **Type of Family** :  Nuclear  
 Joint
6. **Number of Members in the Family** : 
  - Number of Children
  - Number of Adults
  - Number of Elderly
7. **Educational Qualification of the respondent** : \_\_\_\_\_
8. **Occupation of the respondent** :
  - Job
  - Business
  - Self Employed
  - Unemployed
  - Retired
9. **Monthly Family Income** : \_\_\_\_\_
10. **Type of House** :
  - Flat/ Apartment
  - Bungalow
  - Tenement
  - Duplex
  - Studio Apartment
  - Row House
11. **Size of House (in square feet)** :
  - Up to 400
  - 400 to 600

12. **Years of stay in this** : \_\_\_\_\_  
**House**

**Section II: Extent of problems experienced by the respondents residing in small houses related to their existing furniture.**

Following are the statements for the extent of problems experienced by the respondents residing in small house related to furniture in various areas of the house. Put a Tick (✓) against “Yes” and “No”, as per the most suitable answer applicable to you, in your opinion.

<b>Sr. No.</b>	<b>Problems experienced by the respondents residing in small houses related to their existing furniture</b>	<b>Yes</b>	<b>No</b>
	<b>Foyer</b>		
1.	There is Insufficient space for storing shoes.		
2.	Size of the shoe rack is small.		
3.	The height of seating, to sit and wear shoes is uncomfortable.		
4.	There is lack of seating space in foyer.		
5.	There is Insufficient clearance around the furniture.		
	<b>Living Room</b>		
6.	There is lack of space to accommodate guests.		
7.	The arrangement for furniture is compact.		
8.	There is lack of clearance space in the room.		
9.	There is inconvenience in cleaning the room due to improper furniture placement.		
10.	There is not sufficient space for TV unit.		
11.	Distance between TV and seating is improper.		

12.	There is not sufficient space for storage near TV.		
13.	There is improper clearance in front of storage cabinets.		
14.	There is improper clearance in front of drawer unit.		
15.	There is lack of additional storage units in Living room.		
16.	The height of Centre Table was low and therefore not comfortable to use.		
17.	There is difficulty in using centre table from seating unit due to congested arrangement.		
18.	Size of Centre Table is small, to accommodate necessary items.		
19.	Size of Centre table is too big as compared to room size.		
20.	There is no separate area for storing shoes.		
21.	There is lack of comfortable seat in living room.		
	<b>Kitchen</b>		
22.	There is insufficient space for meal preparation.		
23.	The height of the countertop is improper.		
24.	The depth of the countertop is uncomfortable to work.		
25.	Length of the countertop is inappropriate, which creates scarcity of space.		
26.	Cleaning countertop is difficult due to poor quality of countertop.		
27.	There is insufficient storage under the kitchen counter.		
28.	There are unorganized upper cabinets in the kitchen.		
29.	There is lack of space in upper cabinet for storing things.		

30.	There is lack of clearance space, to move to-and-fro in kitchen.		
31.	There is lack of cross ventilation inside the kitchen.		
32.	There is lack of storage for storing utility things.		
33.	The quality of material used in kitchen furniture is not good.		
34.	There is not sufficient space to access the refrigerator.		
35.	There is not sufficient space for multiple workers to work together in the kitchen.		
36.	Placement of sink is at an improper place, which creates difficulty during washing utensils.		
37.	Height of the sink centre is not comfortable to wash Utensils.		
38.	The depth of the sink is improper.		
39.	Size of the sink installed is too small.		
40.	There is lack of space near the sink centre to store washed utensils.		
41.	There is no space for storing drinking water near sink.		
42.	There is insufficient storage near the sink center.		
43.	There is no space for garbage bin inside the kitchen.		
44.	There is no space for water purifier near sink centre.		
45.	There is no space for storing gas cylinder inside kitchen.		
46.	There is lack of pre-preparation space on counter.		
47.	Lack of storage space for crockery in the kitchen.		

48.	There is lack of space for storing extra grains in kitchen.		
49.	There is no separate storeroom in the house.		
50.	There is lack of storage space for storing spices, flour, and other cooking ingredients.		
51.	There is lack of space to keep electrical appliances on countertop.		
52.	There is proper location of plug points.		
53.	There are insufficient organizers in cabinets for convenient storage.		
54.	The height of cooking counter is not proper, which food not properly visible during cooking.		
55.	There is improper clearance as the kitchen is small.		
	<b>Dining Room</b>		
56.	Is the dining area combined with living room.		
57.	Is the dining area combined with kitchen.		
58.	There is less clearance space, while dining.		
59.	The design of chair is uncomfortable.		
60.	The design of table is uncomfortable.		
61.	Size of Dining Table is too small.		
62.	The seat height of the chair is not convenient to sit and have meals.		
63.	Backrest of chair is not comfortable while having meals.		
64.	Clearance space around the dining table is too less.		
65.	There are no storage units in dining area.		

66.	The quality of material used in the dining table is not durable.		
67.	There is lack of space in existing dinning for extra members and guests.		
68.	The dining table is also used for study purpose.		
69.	Table and chairs occupy lot of floor space.		
	<b>Bedroom</b>		
70.	Bedroom is shared space in living room.		
71.	There is lack of clearance space due to more furniture items in small room.		
72.	Two bedrooms are interconnected.		
73.	There is inconvenience in opening and closing wardrobe.		
74.	It is difficult to clean the room, due to furniture design.		
75.	There are no doors in the Lofts of the bedroom.		
76.	The Bed is visible from common areas and other rooms.		
77.	Size of the bed is too small.		
78.	Size of the bed is too big as compared to the room size.		
79.	There is lack of floor space due to more furniture.		
80.	There is not enough space to use the furniture conveniently. (Pulling out drawers, opening doors).		
81.	The design of existing furniture is not comfortable to use.		
82.	There is no extra space to accommodate extra members in the bedroom.		
83.	It is difficult to move furniture outside the bedroom due to		

	small entrance.		
84.	Lack of space for each member of the house in bedroom.		
85.	There is insufficient space to store seasonal cloths.		
86.	There is lack of clearance space in front of storage to access it.		
87.	There is lack of space to store folded clothes in wardrobe.		
88.	There are no lofts for storing extra things in the bedroom.		
89.	There is less space for hanging clothes in the storage.		
90.	There is no space for extra bedding.		
91.	There is no space to air dry, used cloths.		
92.	There is lack of additional storage unit in the bedroom.		
93.	There is no dressing unit.		
94.	There is no accessories storage.		
95.	There is no separate storage for each family member.		
96.	The existing side table does not have storage.		
97.	Depth of the wardrobe is less to store big clothes.		
98.	Study table is in the bedroom.		
99.	Height of the study table is not comfortable to work.		
100.	Depth of the study table is not comfortable to work.		
101.	Height of the study chair is not comfortable to sit and work.		
102.	Study chair is not comfortable to sit and work.		
103.	There is no side table in bedroom.		

104.	There is lack of space for locker in the bedroom.		
105.	There is no storage inside the bed.		
	<b>Bathroom</b>		
106.	There is no dressing vanity inside the bathroom.		
107.	There is no storage inside the bathroom for daily cloths.		
108.	There is no space to store extra utility things (like soaps and shampoo).		
109.	There is no space to hang and store extra towels.		
	<b>Other Problems</b>		
110.	There is lack of overall space in House.		
111.	The size of the rooms is small and number of family members residing house is more.		
112.	There is no separate space for washing clothes (chokadi/ washing machine).		
113.	The washing area is too small which creates difficulty during washing activity.		
114.	There is lack of space for drying clothes.		
115.	There is no space for storing gardening tools and equipment.		
116.	There is no storage near wash area.		
117.	There is no space for planting plants.		
118.	There is no storage unit near wash basin.		
119.	There is no space for placing swing/ outdoor furniture.		
120.	There is insufficient space for storing electronic gadgets.		

## APPENDIX 2

### Educational Material for Intervention Programme

#### (PowerPoint Presentation)

**Intervention Program**  
to enhance the knowledge regarding  
**Multipurpose Furniture, its use and benefits in**  
**interiors of Small Spaces**

Conducted by: Nidhi Desai  
Guided by: Dr. Sarjoo Patel

  
Department of Family and Community Resource Management  
Faculty of Family and Community Sciences  
The Maharaja Sayajirao University of Baroda, Vadodara

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Estd. 1949

#### SLIDE 1

**Small space houses**  
Most of the time have  
**limitations in resources** and options.  
That's why it is very important  
to  
**utilize the space one has,**  
**in an optimum way.**

#### SLIDE 2

## MULTIPURPOSE FURNITURE



- ❑ Also known as space saving furniture, foldable furniture and transformable furniture
- ❑ They have more than one function
- ❑ It saves storage as well as floor space, as more than 1 furniture is combined
- ❑ Saves money, as 1 furniture is designed to fulfil multiple purposes.

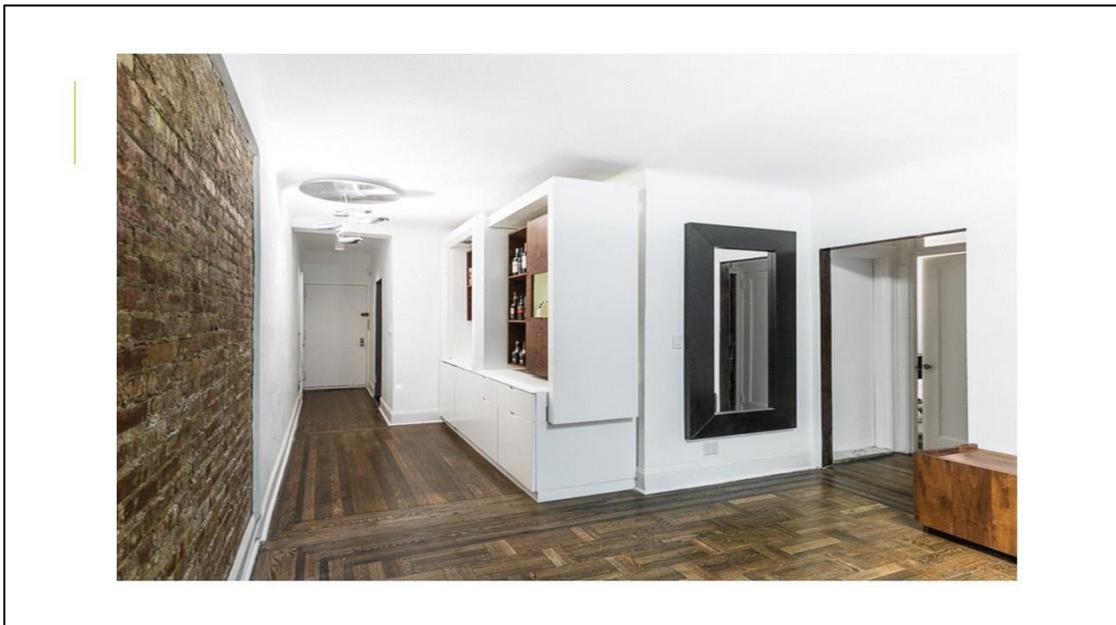
**SLIDE 3**

Few examples of  
Multipurpose furniture  
are shown in the following slides

**SLIDE 4**



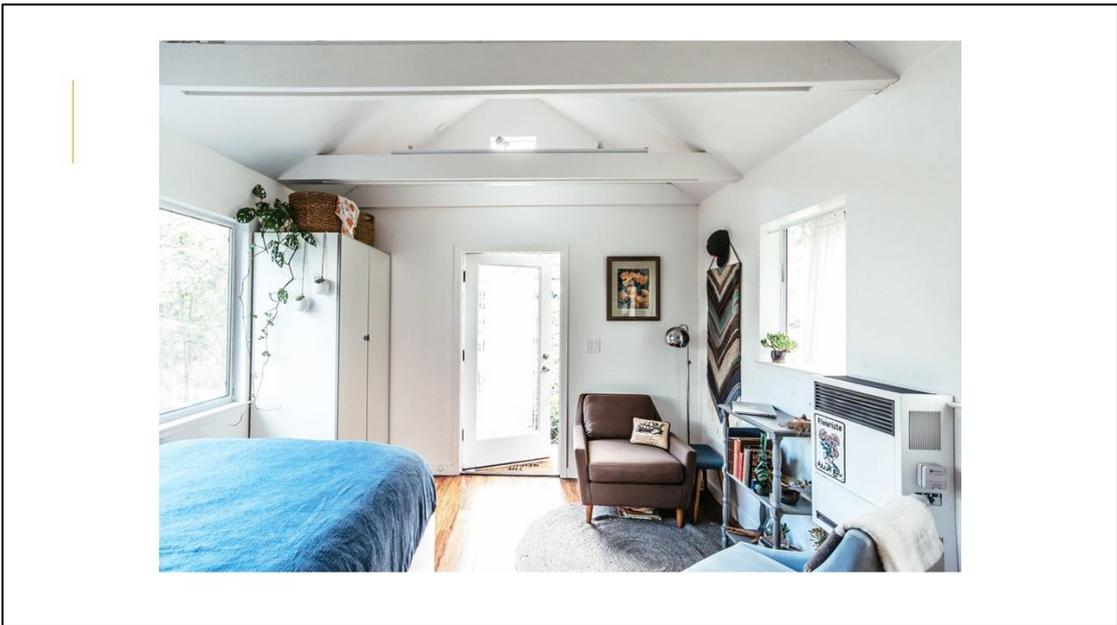
**SLIDE 5**



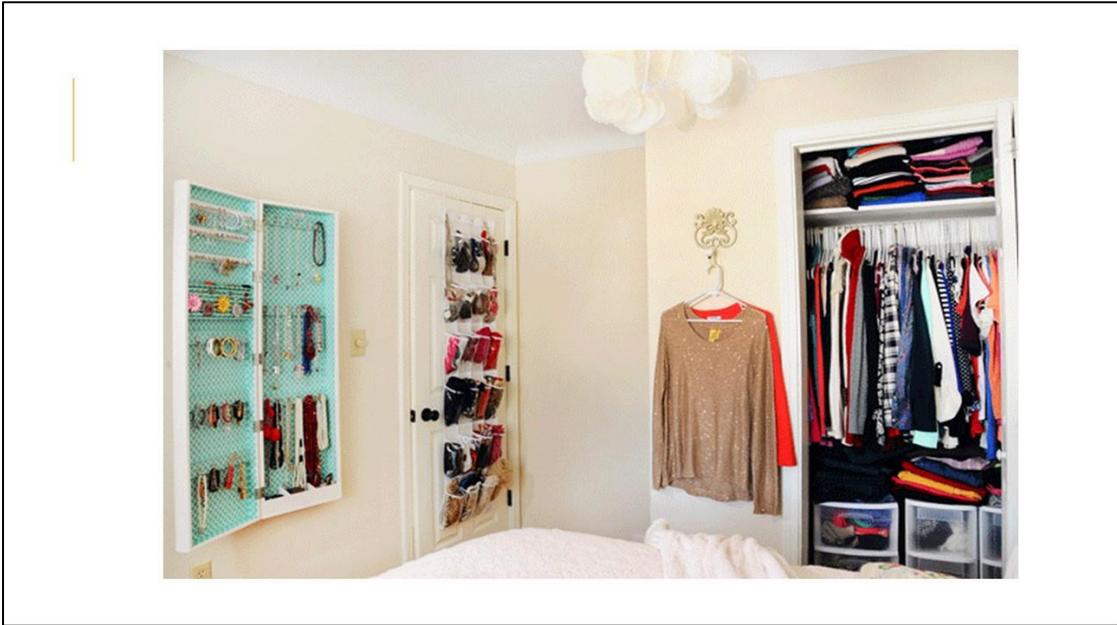
**SLIDE 6**



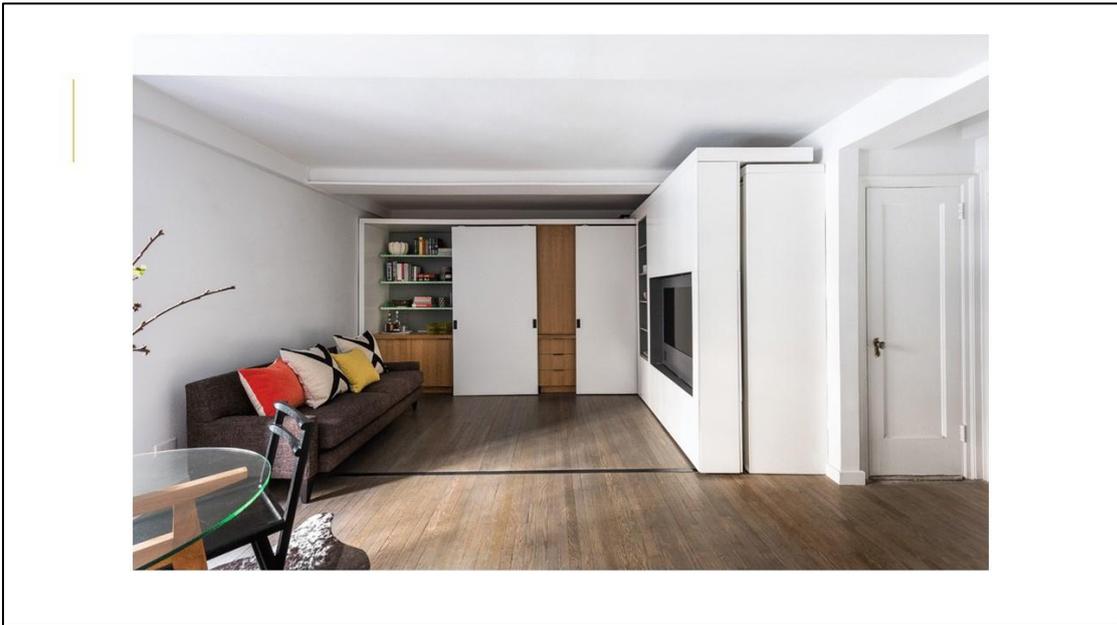
**SLIDE 7**



**SLIDE 8**

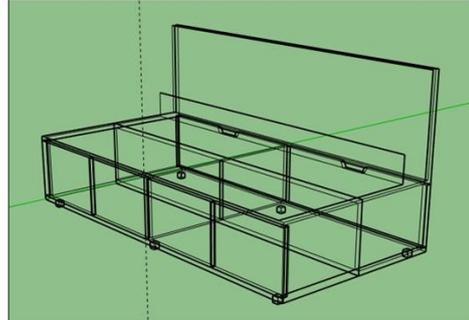
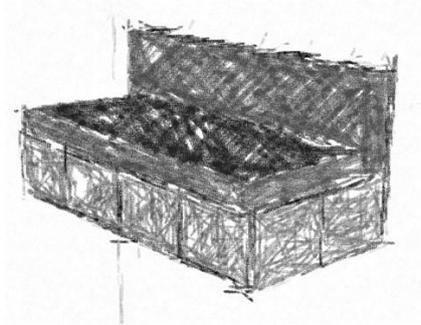


**SLIDE 9**



**SLIDE 10**

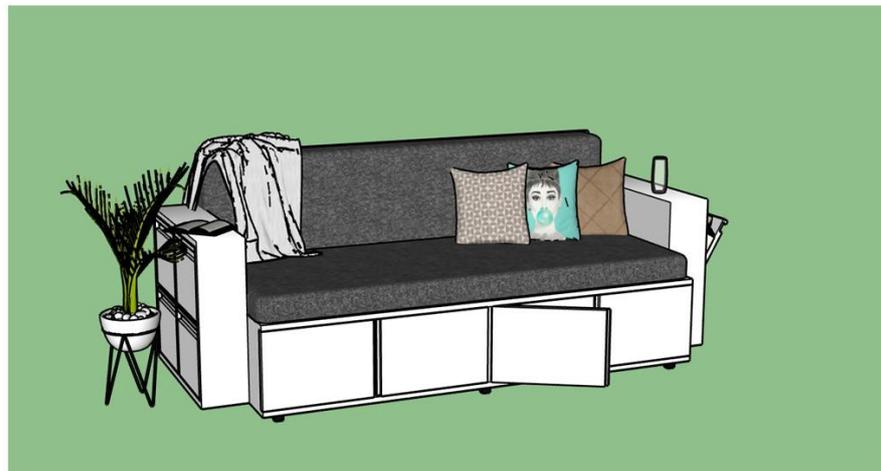
## SOFA + SHOE RACK + STORAGE



□ This furniture was conceptualized, sketched and then designed with the help of AutoCAD and SketchUp, design software.

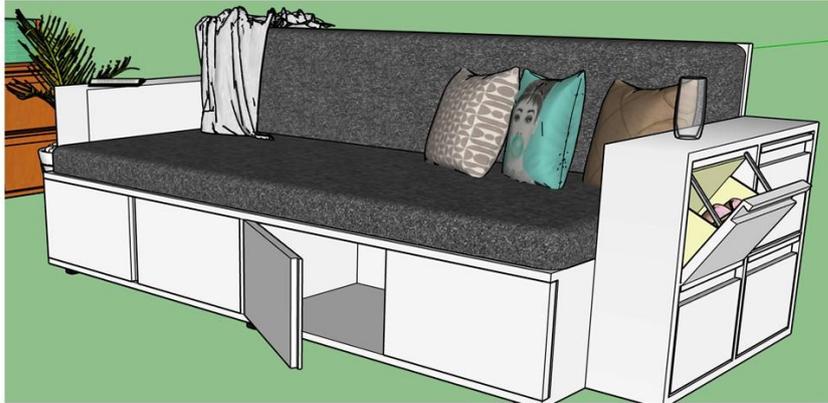
**SLIDE 11**

## SOFA + SHOE RACK + STORAGE



**SLIDE 12**

## SOFA + SHOE RACK + STORAGE

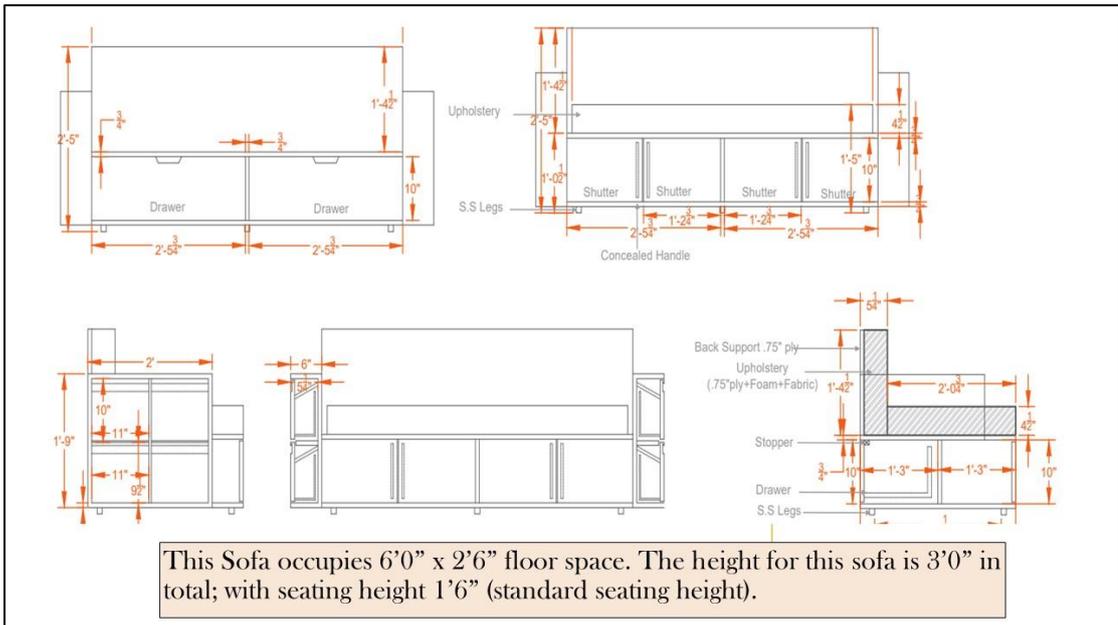


SLIDE 13

## SOFA + SHOE RACK + STORAGE

- ❑ This Furniture is designed for small space living room where there might not be a separate foyer for shoe rack, due to lack of space.
- ❑ It can be accessed as a shoe rack (from the side) , as a 3- seater sofa from front and as a storage from front and back.
- ❑ It has a storage underneath accessible from the front side, which can be used to store extra newspapers, magazines, laptop bags, purses, school bags of children and other such extra things which might not have space in bedroom storage.
- ❑ The handles for drawers and shutters are concealed so they won't hinder in the leg space to a seating person.

SLIDE 14



**SLIDE 15**

### MATERIAL SUGGESTED FOR THIS FURNITURE

#### For sofa base, shoe rack and storage

1. Plywood + laminate (low budget)
2. Plywood + Veneer (Medium budget)
3. MDF + Polyurethane polish (High Budget)



#### For Sofa Seat and Backrest:

1. Ply + Foam + Fabric (Foam of different density can be used and closely woven fabric with high resistance to wear and tear such as leather/velvet/jute/cotton + polyester can be used)

**SLIDE 16**

**UTILITY STORAGE WITH SHOE RACK AND PULL-OUT SEATING**

Size: 3'11" X 10-1/2" X 4'2"

Price: ₹ 5000 to ₹ 15000

**Drawers, shutters and shelves:**

Plywood+ Laminate/Veneer/ MDF-PU (Polyurethane polish)/Nitro Cellulose (NC) Lacquer finish/ Real wood +stained

**Hardware (Handles and Channels):**

Stainless steel

**Pull out bench seat:**

Ply + Foam + Fabric (Foam of different density can be used and closely woven fabric with high resistance to wear and tear such as leather/velvet/jute/cotton + polyester can be used)

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**SLIDE 17**

Utility storage with Shoe Rack and Pull-out Seating							
Parts of Furniture	Material						
	Plywood and Laminate	Plywood and Veneer	MDF and PU (Polyurethane polish) / Nitro Cellulose (NC) Lacquer	Real Wood finished with paint/stain	Plywood, Foam and Fabric	Stainless Steel	Any other metal
Drawers	•	•	•	•			
Shutters	•	•	•	•			
Shelves	•	•	•	•			
Pull out bench seat	•	•	•	•	•		
Handle						•	•
Drawer Channel						•	•

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**SLIDE 18**

**THREE-SEATER SOFA WITH SHOE RACK AND UTILITY STORAGE**

Size: 5'0" X 2'6" X 2'5"      Price: ₹ 8000 to ₹ 30000

**Hardware (Handles and Channels):**  
Stainless steel/ any other metal handles can be used. Also, the channels with reasonable strength of stainless steel or any other metal could be used.

**Drawers, shutters, shoe rack shutters, sofa base:** The base material can be constructed using Plywood Laminate/Veneer/ MDF with PU (Polyurethane polish)/ Nitro Cellulose (NC) Lacquer finish and can also be constructed using Real wood with painted/ stained finish.

**Sofa seat, Backrest:** Ply, Foam and Fabric (Foam of different density can be used and closely woven fabric with high resistance to wear and tear such as leather/velvet/jute/cotton or polyester can be used)

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**SLIDE 19**

<b>THREE-SEATER SOFA WITH SHOE RACK AND UTILITY STORAGE</b>	Parts of Furniture	Material						
		Plywood and Laminate	Plywood and Veneer	MDF and PU (Polyurethane polish)/ Nitro Cellulose (NC) Lacquer	Real Wood finished with paint/stain	Plywood, Foam and Fabric	Stainless Steel	Any other metal
Size: 5'0" X 2'6" X 2'5"	Drawers	•	•	•	•			
	Shutters	•	•	•	•			
	Shoe rack doors	•	•	•	•			
	Hardware (Handles and Channels)						•	•
	Drawer and shoe rack Channel						•	•

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**SLIDE 20**

## APPENDIX 3

### PAPER PUBLICATION CERTIFICATE

[Print](#)



**THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA**

**PUBLICATION CERTIFICATE**

**Name of Ph.D. Supervisor** Dr.Sarjoo Himanshu Patel

**Published Articles/Papers in Journals**

Sr No.	Author(s)	Paper Title	Journal Name & ISSN & Volume No.	Published Year	DOI	Index In Scopus/UGC CARE/Clarivate	Document Submitted?
1	Trivedi, K. and Patel, S.	EXTENT OF PROBLEMS EXPERIENCED BY HOMEMAKERS REGARDING THEIR OWN KITCHEN GARDENS IN VADODARA CITY.	Journal Name: The Indian Journal of HOME SCIENCE, ISSN: 0970 2733, Volume No.: 34	1-7-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
2	Desai, N. and Patel, S.	DESIGNING MULTIPURPOSE FURNITURE FOR LIVING ROOM OF SMALL HOUSES	Journal Name: International Journal of Early Childhood Special Education, ISSN: 1308 5581, Volume No.: 14	1-7-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
3	Sarjoo Patel and Astha Garg	Documentary Development: Assessment of Satisfaction and Visiting Intentions of the Viewers	Journal Name: Stochastic Modeling & Applications, ISSN: 0972 3641, Volume No.: 26	1-7-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
4	Sarjoo Patel and Kavita Shah	Eco-friendly products: Assessing and Enhancing the awareness of the Homemakers	Journal Name: Stochastic Modeling & Applications, ISSN: 0972 3641, Volume No.: 26	1-6-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
5	Agarwal, R. and Patel, S.	Assessing the work environment of Surat diamond polishing industry	Journal Name: Stochastic Modeling & Applications, ISSN: 0972 3641, Volume No.: 26	1-6-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
6	Smita and Patel, S.	Training the 12th Pass-out Girls on Hospitality Management Operations for providing them Employability.	Journal Name: Stochastic Modeling & Applications; ISSN: 0972 3641, Volume No.: 26	1-6-2022		In Scopus: No, In UGC CARE: Yes, In Clarivate: No	Submitted
7	Patel, S. and Dasgupta, R.	A STUDY ON PRECAUTIONS TAKEN BY THE HIRED PAID HELP TO MAINTAIN SANITATION AND HYGIENE DURING COVID TIMES	Journal Name: Turkish Journal of Physiotherapy and Rehabilitation, ISSN: 2651 4451 , Volume No.: 32	1-12-2021		In Scopus: Yes, In UGC CARE: Yes, In Clarivate: No	Submitted
8	Agarwal, R. and Patel, S.	Potential of Gastronomy as a Tool for Growth of Tourism in Gujarat (India)	Journal Name: International Journal of Trend in Scientific Research and	1-10-2021		In Scopus: No, In UGC CARE: No, In Clarivate: No	Submitted

**DESIGNING MULTIPURPOSE FURNITURE FOR LIVING ROOM OF  
SMALL HOUSES****Ms. Nidhi Chirag Desai<sup>1</sup> and Dr. Sarjoo Patel<sup>2</sup>****Ms. Nidhi Desai<sup>1</sup>**

Research Scholar

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Faculty of Family and Community Sciences,  
The Maharaja Sayajirao University of Baroda, Vadodara 390001**Dr. Sarjoo Patel<sup>2</sup>**Assistant Professor (Stage-III) and Associate Director, Post Graduate Diploma in Hotel Interiors,  
Department of Family and Community Resource Management, Faculty of Family and Community  
Sciences, The Maharaja Sayajirao University of Baroda, Vadodara 390001**Abstract**

*Furniture is a necessity and not a luxury, everybody needs. Furniture is generally taking almost 50 % of a normal floorspace. Therefore, living in a small space requires smart and space-saving furniture solutions to maintain the balance between available and used space. Multifunctional furniture goes by several names: multipurpose furniture, space-saving furniture, and transformable furniture. House consists of various areas amongst them the most important area is living room. Living room gives first impression of the entire house to the person entering in the house. Therefore, researcher was interested to find out problems faced by owners of small spaces specifically related to furniture in the living room. The research was conducted by identifying problems related to foyer and living room of small spaces. The sample for the study comprised of 270 residents of small spaces residing in Vadodara city with a built-up area of 600 sq. ft. Findings of the study highlighted the extent of problems faced by the respondents. The researcher suggested multipurpose furniture as a solution for the various problems, which were identified by the researcher. An intervention program was conducted to educate the residents of small spaces regarding the use of multipurpose furniture, who were facing problems related to furniture.*

**Keywords:** *Multipurpose, Furniture, Small spaces, living room***Introduction**

A house is a place where a person aspires to cherish quality time with family, creates memorable moments and spends most of the part of their life. So, it is very important to design a relaxing, pleasant, and aesthetically appealing house for an individual. Living room is the most important part of the house, because each member of the family spends their common time there, together, moreover guests' friends and relatives who visit their house, spend most of the time in living room. 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 forces to utilize the available resource, in an optimum manner and forces to make 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 Indian climatology, needs of people residing in small houses is very necessary. To design such furniture there is a wide range of interior materials available in the market with different peculiarities and benefits. Selecting proper material according to the climatic conditions, care and maintenance is a challenge faced by most people. There are different types of furniture, and each has its unique. Furniture can be a creation of the arrangement and can be designed considering, the function which it fulfils, using different materials with excellent craftsmanship. (Binag & Caranguian, 2015) 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 space-sparing or transformable space saving furniture, the plan of the furniture should be based on the concept of its visual appearance and use (Astonkar & Kherde, 2015).

Each house consists of different rooms, in small houses, the living room is often combined with foyer area. This room is the first area through which the family members or guests enter the house, and so design of living room is considered to be one of the most important aspect in the design of entire house. In the present study problems

faced by the residents of small houses related to furniture in living room were identified by the researcher and an intervention program was conducted to educate the respondents about the use of multipurpose furniture as a solution to optimize the space utilization of the available space to fulfil their needs.

**Objectives:**

1. To study the problems faced by the homeowners residing in small houses related to furniture in Living Room.
2. Proposing furniture for foyer and Living room for respondents residing in small houses.
3. To conduct an intervention program for homeowners to enhance their knowledge regarding multi-purpose furniture in living room, its use and benefits in interiors of small houses.

**Methodology**

The research design was descriptive. An in-depth study of the problems faced by the residents of the small houses especially related to furniture in living room, residing in the various parts of the Vadodara city was conducted. A questionnaire was used to collect the data related to various problems. The locale of the study was 270 small houses from Vadodara city whose built-up area was up to 600 sq. ft. Based on the objectives of the research questionnaire was prepared. While preparing the questionnaire, care was taken to include all such questions that would elicit the information necessary to attain the objectives of the study. The questionnaire had two sections. Section I dealt with the questions regarding the background information of the respondents, which included name, address, phone no, family income, type of house, area of the residential unit, number of family members residing in it, age group of each family member and family income. Section II dealt with the extent of problems faced by the homeowners residing in common areas. This section was further divided into 2 sub-sections. Problems Faced by the homeowners residing in small houses concerning Furniture in Foyer and in Living Room. The respondents were asked to respond to the problems experienced in terms of “Yes” and “No” the scores from 2 through 1 were given to the statements respectively. Further, the data were classified into a range of scores as “high” and “low” extent of problems. The data was analysed using descriptive statistics.

**Findings**

Following results were revealed through the study:

**Section 1- Demographic profile of the respondents:**

This section of the study dealt with background information of the respondents which consisted of education qualification, occupation, type of family, number of family members, composition of the family, monthly family income, type of house, ownership of property, size of house and duration of stay in house.

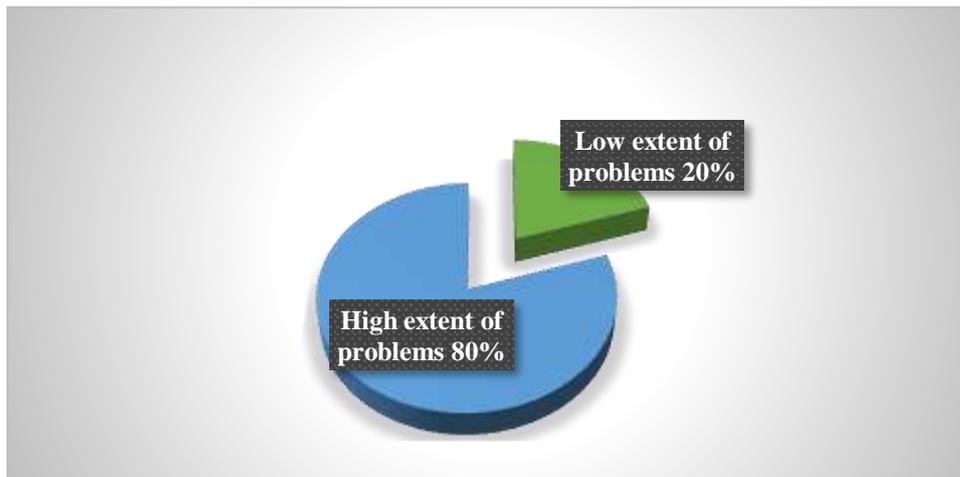
**Section 2- Problems experienced by the respondents related to furniture in the foyer area:** Various parameters such as insufficient space for storing shoes, lack of space for existing shoe rack, insufficient space to store all pairs of shoes, the improper height of the shoe rack which made it inconvenient to sit and wear shoes, lack of space to create a seating arrangement in the foyer and lack of clearance space in the foyer; were considered to identify the problems faced by the respondents living in a small house. The respondents were asked to respond to the problems experienced in terms of “Yes” and “No” the scores from 2 through 1 were given to the statements respectively. Further, the data were classified into a range of scores as “high” and “low” extent of problems.

**Table 1: Distribution of respondents according to the extent of problems faced related to furniture in the foyer area**

Sr. No.	Extent of Problems	Range of Scores	Respondents (n=270)	
			f	%
1	Low	5 – 7	54	20
2	High	8 – 10	216	80

The data revealed that 80 per cent of the respondents were facing high extent of problems related to furniture in the foyer area.

**Graph 1: Percentage distribution of respondents according to the extent of problems faced related to furniture in the foyer area**



**Section 3- Problems experienced by the respondents related to furniture in the Living room:**

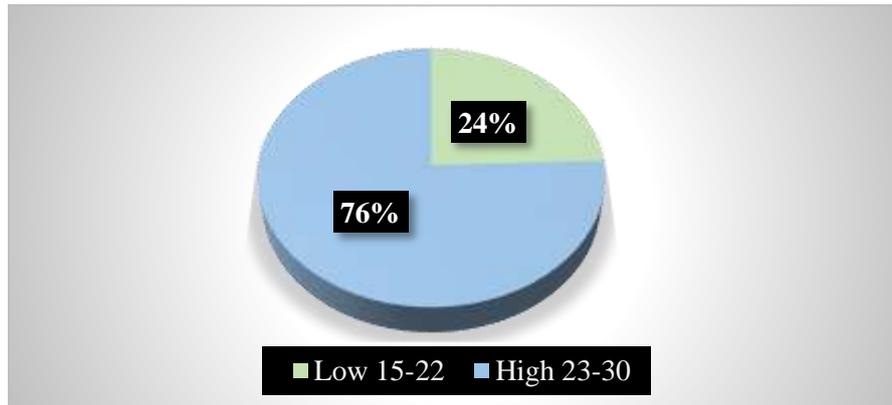
Various parameters considered to identify the problems in small space houses with respect to the living room were; difficulty to bring the furniture inside the house due to small entrance, scarcity of space to accommodate guests in the living room, serving food to the guests becomes difficult due to compact furniture arrangement, lack of clearance space which leads to difficulty in movement, lack of clearance space leading to difficulty in cleaning the room, no TV unit or existing TV unit does not provide enough storage space, the distance between TV and seating arrangement was less, which leads to discomfort in watching TV, lack of enough space to open the cabinet doors and access the inner things from the cabinet, insufficient space to open the furniture drawers and access the stored items, lack of additional storage units in Living room, difficulty in using the centre table from sofa or another seating unit due to congested arrangement, height of Centre table was very low and therefore not comfortable to use, the size of the Centre table was small, to accommodate necessary items, size of Centre table was too big as compared to room size, there was no separate area for storing shoes. The respondents were asked to respond to the problems experienced in terms of “Yes” and “No” the scores from 2 through 1 were given to the statements respectively. Further, the data were classified into a range of scores as “high” and “low” extent of problems.

**Table 2: Distribution of respondents according to the extent of problems faced related to furniture in the living room**

Sr. No.	Extent of Problems	Range of Scores	Respondents (n=270)	
			f	%
1	Low	15-22	66	24.44
2	High	23-30	204	75.56

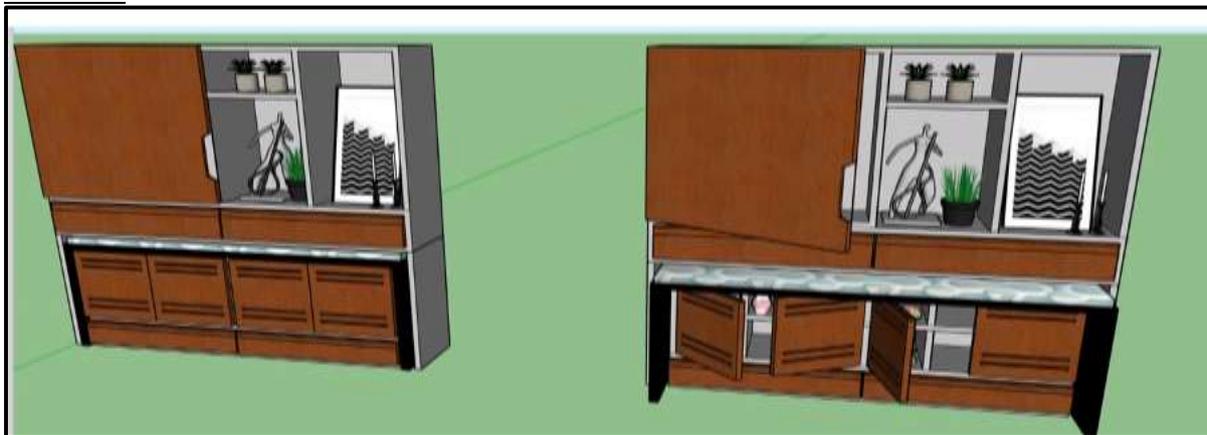
The data revealed that 75.5 per cent of the respondents were facing high extent of problems related to furniture in the living room

**Graph 2: Percentage distribution of respondents according to the extent of problems faced related to furniture in the living room**



**Proposed furniture for the foyer and living room:**

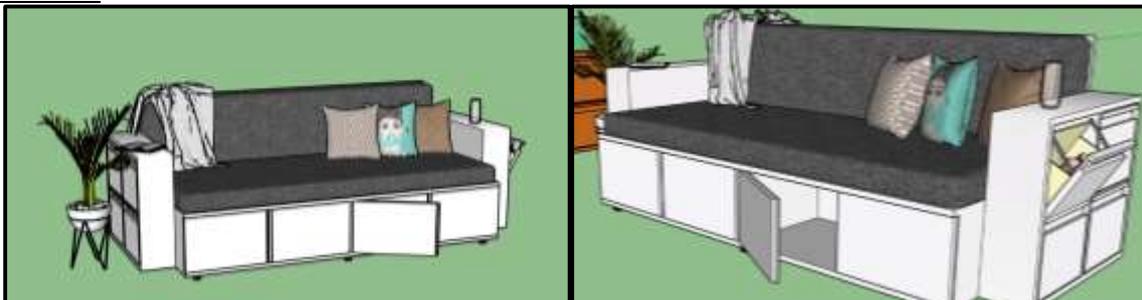
**Furniture 1:**



**Figure 1: Utility storage and shoe rack with pull out bench**

This furniture was designed specially for small houses to conceal the electric meters in the foyer area, and to have a utility storage in the two drawers, which can be used to store keys, watches, wallets, goggles and other things required at first use. Underneath is the shoe rack with the capacity of around 12 pairs designed with pull out bench, which can be pulled out to sit and wear shoes and slide in when not, providing more floor space. The bottom 2 drawers can be used to store read newspapers.

**Furniture 2:**



**Figure 2: 3-seater sofa with storage and shoe rack inside the hand-rest**

This piece of furniture is designed as a 3-seater sofa, providing maximum storage underneath to store extra furnishings, newspapers, magazines, purses in living room; along with the shoe rack designed inside the hand rest of the sofa to store more than 4-8 pairs of shoes.

### An intervention program:

An intervention program was conducted for the respondents of the study which was focused on enhancing the knowledge of the residents of small spaces regarding the use of multipurpose furniture. An intervention program was delivered in a Hindilanguage for better understanding by the audience. The major focus of the intervention program was to discuss the various design options of space saving, multipurpose furniture for living rooms of small houses, which were cost effective.

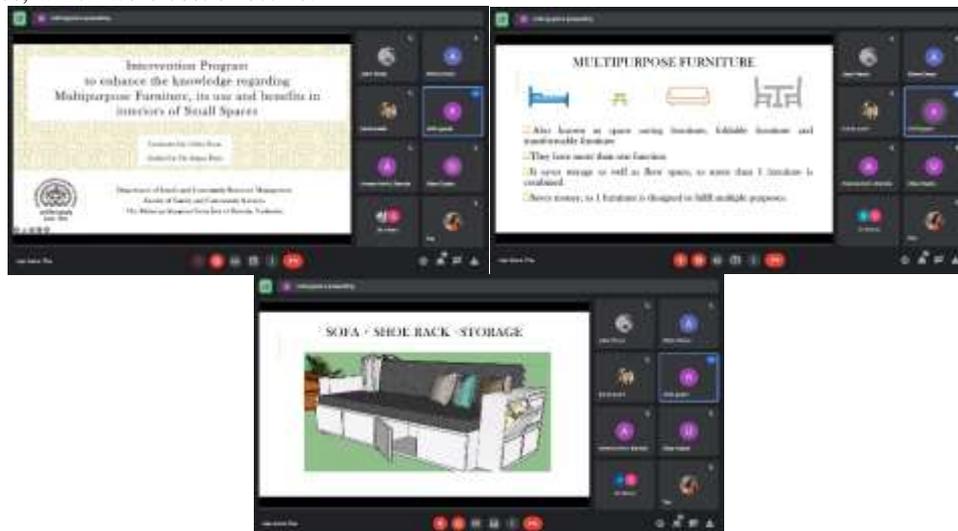


Figure3: Images of Intervention program conducted by the researcher

### Conclusion

The study revealed that the majority (86.6 percent) of the respondents had insufficient space to store the shoes, nearly four fifth of the respondents had small size of shoe rack, 73.3 per cent of the respondents had uncomfortable seat and 71.11 per cent lack of space in foyer and almost 61.11 per cent of the respondents faced the problem of insufficient clearance in the foyer area. And the biggest problem faced by the respondents in the living room was related to storage. 81.85 per cent of the respondents had insufficient space for storage near TV, followed by the congested arrangement leading to difficulty in using centre table from seating unit, which was faced by around 76.30 per cent of the respondents, where as there were 68.89 per cent of the respondents facing the problem of limited storage in living room and were willing to have more storage space and 64.44 per cent of the respondents had lack of space to accommodate guests, 67.41 per cent no separate area to store shoes and 64.44 per cent of the respondents had compact furniture arrangement. To overcome the identified problems. An intervention program was conducted to enhance the knowledge regarding multipurpose furniture its use and benefit in the interiors of small houses. The designs of multipurpose furniture were discussed with the beneficiaries of the intervention program. The designs comprised of utility storage and shoe rack with pull out bench and a 3-seater sofa with storage and shoe rack inside the hand-rest. The furniture was designed keeping in mind the small spaces; hence the dimensions of the furniture were considered as little as possible by the researcher. The Multipurpose furniture was conceptualized, sketched and then designed with the help of AutoCAD and SketchUp, design software.

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# Appendix 4

## Urkund Certificate

### Document Information

<b>Analyzed document</b>	Nidhi Desai.pdf (D159380144)
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<b>Similarity</b>	5%
<b>Analysis address</b>	sarjoo.patelfcrm.msub@analysis.orkund.com

### Sources included in the report

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## Entire Document

DESIGNING MULTIPURPOSE FURNITURE FOR SMALL SPACES USING COMBINATION OF INTERIOR MATERIALS Ph.D. THESIS NIDHI CHIRAG DESAI FEBRUARY 2023  
DESIGNING MULTIPURPOSE FURNITURE FOR SMALL SPACES USING COMBINATION OF INTERIOR MATERIALS A THESIS SUBMITTED TO THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA IN PARTIAL FULFILMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (FAMILY AND COMMUNITY RESOURCE MANAGEMENT) By NIDHI CHIRAG DESAI